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△

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References

[1] SOME/IP Protocol Specification
AUTOSAR_FO_PRS_SOMEIPProtocol

[2] ISO 10646:2012 – Information technology – Universal Coded Character Set (UCS)
https://www.iso.org

[3] ISO 14229-1 – Unified diagnostic services (UDS) – Part 1: Specification and requirements (Release 2006-12)
https://www.iso.org

[4] ISO 13400 – Road vehicles – Diagnostic communication over Internet Protocol (DoIP)
https://www.iso.org

[5] Specification of Execution Management
AUTOSAR_AP_SWS_ExecutionManagement

1 Document Information and Content

This auxiliary document provides a collection of constraints for AUTOSAR models. All constraints are copied from template specification from the AUTOSAR Adaptive Platform, so this document does not introduce any new constraints.

A list of the documents that the constraints originate from can be found in the table of contents. Chapter 2 contains the collected constraints, grouped by source documents. All constraints from the same source document are contained within a single section.

2 Autosar Model Constraints

2.1 AP_TPS_MachineConfiguration

[constr_9322] `ApmcFunctionalClusterDef` category restriction

Imposition time: `IT_CfgFcd`

⌈The following values for the attribute `category` of `ApmcFunctionalClusterDef` are reserved by the AUTOSAR Standard:

- `STANDARDIZED_CLUSTER_DEFINITION`
- `VENDOR_SPECIFIC_CLUSTER_DEFINITION`

⌋

[constr_10579] Existence of `definition`

Imposition time: `IT_CfgFcd`

⌈In the context of an `ApmcAbstractValue`, the reference in the role `definition` shall exist.⌋

[constr_10580] Restriction regarding the value of `ApmcDefinitionElement.lowerMultiplicity` vs. `ApmcDefinitionElement.lowerMultiplicity`

Imposition time: `IT_CfgFcd`

⌈In the context of any given `ApmcDefinitionElement`, if attribute `upperMultiplicity` exists, then its value shall be greater than or equal to the value of the attribute `lowerMultiplicity` in the same context.⌋

[constr_10581] Existence of reference in the role `ApmcFunctionalClusterValue.definition`

Imposition time: `IT_CfgFcd`

⌈For each `ApmcFunctionalClusterValue`, the reference in the role `definition` shall exist.⌋

[constr_10582] Existence of reference in the role `ApmcContainerValue.definition`

Imposition time: `IT_CfgFcd`

⌈For each `ApmcContainerValue`, the reference in the role `definition` shall exist.⌋

[constr_10583] Existence of reference in the role `ApmcContainerElementValue.definition`

Imposition time: `IT_CfgFcd`

⌈For each `ApmcContainerElementValue`, the reference in the role `definition` shall exist.⌋

[constr_10584] Allowed `value` for a `ApmcNumericalParamValue` that implements a boolean-style parameter

Imposition time: IT_CfgFcd

⌈For any ApmcNumericalParamValue that refers to an ApmcBooleanParamDef in the role definition, the content of the ApmcNumericalParamValue.value shall be either 0 or 1.⌋

[constr_10585] Allowed `value` for a `ApmcTextualParamValue` that implements an enumeration-style parameter

Imposition time: IT_CfgFcd

⌈For any ApmcTextualParamValue that refers to an ApmcEnumerationParamDef in the role definition, the content of the ApmcTextualParamValue.value shall only be identical to the shortName of one of the ApmcEnumerationLiteralDefs that are aggregated by the applicable ApmcEnumerationParamDef in the role literal.⌋

[constr_10635] Allowed target type of the reference in the role `ApmcRevisionLabelParamValue.definition`

Imposition time: IT_CfgFcd

⌈The reference in the role ApmcRevisionLabelParamValue.definition shall **only** refer to an ApmcRevisionLabelParamDef.⌋

[constr_10636] Allowed target type of the reference in the role `ApmcStrongRevisionLabelParamValue.definition`

Imposition time: IT_CfgFcd

⌈The reference in the role ApmcStrongRevisionLabelParamValue.definition shall **only** refer to an ApmcStrongRevisionLabelParamDef.⌋

[constr_10637] Allowed target type of the reference in the role `ApmcIpV4AddressParamValue.definition`

Imposition time: IT_CfgFcd

⌈The reference in the role ApmcIpV4AddressParamValue.definition shall **only** refer to an ApmcIpV4AddressParamDef.⌋

[constr_10638] Allowed target type of the reference in the role `ApmcIpV6AddressParamValue.definition`

Imposition time: IT_CfgFcd

⌈The reference in the role ApmcIpV6AddressParamValue.definition shall **only** refer to an ApmcIpV6AddressParamDef.⌋

[constr_10639] Allowed target type of the reference in the role ApmcMacAddressParamValue.definition

Imposition time: IT_CfgFcd

⌈The reference in the role ApmcMacAddressParamValue.definition shall **only** refer to an ApmcMacAddressParamDef.⌋

[constr_10640] Allowed target type of the reference in the role ApmcUriParamValue.definition

Imposition time: IT_CfgFcd

⌈The reference in the role ApmcUriParamValue.definition shall **only** refer to an ApmcUriParamDef.⌋

[constr_10643] Existence of attributes ApmcDefinitionElement.upperMultiplicity and ApmcDefinitionElement.upperMultiplicityIsInfinite

Imposition time: IT_CfgFcd

⌈For each ApmcDefinitionElement, **either** the attribute upperMultiplicity or upperMultiplicityIsInfinite shall exist.⌋

[constr_10644] Target of a ApmcReferenceValue where definition.isFuncClusterEndpointRef is set to true

Imposition time: IT_CfgFcd

⌈If an ApmcContainerValue is referenced from an ApmcReferenceValue where definition.isFuncClusterEndpointRef is set to true, then the referenced ApmcContainerValue shall refer in the role definition to an ApmcParamConfContainerDef where attribute isFuncClusterEndpoint is also set to true.⌋

[constr_10756] Multiplicity of ApmcParamConfContainerDefs aggregated in the role ApmcChoiceContainerDef.choice

Imposition time: IT_CfgFcd

⌈The multiplicity of each ApmcParamConfContainerDef aggregated in the role ApmcChoiceContainerDef.choice shall be set to 0..1.⌋

[constr_10757] Existence of the aggregation in the role ApmcEnumerationParamDef.literal

Imposition time: IT_CfgFcd

⌈For each ApmcEnumerationParamDef, at least one ApmcEnumerationParamDef.literal shall exist.⌋

[constr_10758] Restriction for Attributes ApmcIntegerParamDef.min and max

Imposition time: IT_CfgFcd

⌈For each ApmcIntegerParamDef, the value of attribute min shall be smaller than max.⌋

[constr_10759] Restriction for Attributes ApmcFloatParamDef.min and max

Imposition time: IT_CfgFcd

⌈For each ApmcFloatParamDef, the *numerical* (no consideration of interval type) value of attribute min shall be less than or equal to the *numerical* (no consideration of interval type) value of max.⌋

[constr_10760] Existence of attribute ApmcAbstractForeignReferenceDef.destinationType

Imposition time: IT_CfgFcd

⌈For each ApmcAbstractForeignReferenceDef, the attribute destinationType shall exist.⌋

[constr_10761] Existence of attribute ApmcAbstractInstanceReferenceDef.destinationContext

Imposition time: IT_CfgFcd

⌈For each ApmcAbstractInstanceReferenceDef, the attribute destinationContext shall exist.⌋

[constr_10762] Existence of attribute ApmcAbstractInstanceReferenceDef.destinationType

Imposition time: IT_CfgFcd

⌈For each ApmcAbstractInstanceReferenceDef, the attribute destinationType shall exist.⌋

[constr_10763] Existence of attribute ApmcNumericalParamValue.value

Imposition time: IT_CfgFcd

⌈For each ApmcNumericalParamValue, the attribute ApmcNumericalParamValue.value shall exist.⌋

[constr_10764] Existence of attribute ApmcTextualParamValue.value

Imposition time: IT_CfgFcd

⌈For each ApmcTextualParamValue, the attribute ApmcTextualParamValue.value shall exist.⌋

[constr_10765] Existence of attribute ApmcRevisionLabelParamValue.value

Imposition time: IT_CfgFcd

⌈For each ApmcRevisionLabelParamValue, the attribute ApmcRevisionLabelParamValue.value shall exist.⌋

[constr_10766] Existence of attribute `ApmcStrongRevisionLabelParamValue.value`

Imposition time: `IT_CfgFcd`

⌈For each `ApmcStrongRevisionLabelParamValue`, the attribute `ApmcStrongRevisionLabelParamValue.value` shall exist.⌋

[constr_10767] Existence of attribute `ApmcIpV4AddressParamValue.value`

Imposition time: `IT_CfgFcd`

⌈For each `ApmcIpV4AddressParamValue`, the attribute `ApmcIpV4AddressParamValue.value` shall exist.⌋

[constr_10768] Existence of attribute `ApmcIpV6AddressParamValue.value`

Imposition time: `IT_CfgFcd`

⌈For each `ApmcIpV6AddressParamValue`, the attribute `ApmcIpV6AddressParamValue.value` shall exist.⌋

[constr_10769] Existence of attribute `ApmcMacAddressParamValue.value`

Imposition time: `IT_CfgFcd`

⌈For each `ApmcMacAddressParamValue`, the attribute `ApmcMacAddressParamValue.value` shall exist.⌋

[constr_10770] Existence of attribute `ApmcUriParamValue.value`

Imposition time: `IT_CfgFcd`

⌈For each `ApmcUriParamValue`, the attribute `ApmcUriParamValue.value` shall exist.⌋

[constr_10771] Consistency of `ApmcContainerReferenceValue`

Imposition time: `IT_CfgFcd`

⌈For any given `ApmcContainerReferenceValue`, the `ApmcContainerDef` that is referenced in the role `ApmcContainerReferenceValue.value.definition` shall be identical to the `ApmcContainerDef` referenced in the role `ApmcReferenceValue.definition.destination`.⌋

[constr_10772] Existence of attribute `ApmcContainerReferenceValue.value`

Status: DRAFT
Imposition time: `IT_CfgFcd`

⌈For each `ApmcContainerReferenceValue`, the attribute `ApmcContainerReferenceValue.value` shall exist.⌋

[constr_10773] Existence of attribute `ApmcForeignReferenceValue.value`

Status: DRAFT
Imposition time: `IT_CfgFcd`

⌈For each `ApmcForeignReferenceValue`, the attribute `ApmcForeignReferenceValue.value` shall exist.⌋

[constr_10774] Existence of attribute `ApmcUriForeignReferenceValue.value`

Imposition time: `IT_CfgFcd`

⌈For each `ApmcUriForeignReferenceValue`, the attribute `ApmcUriForeignReferenceValue.value` shall exist.⌋

[constr_10775] Existence of attribute `ApmcUpstreamDocForeignReferenceValue.value`

Imposition time: `IT_CfgFcd`

⌈For each `ApmcUpstreamDocForeignReferenceValue`, the attribute `ApmcUpstreamDocForeignReferenceValue.value` shall exist.⌋

[constr_10776] Existence of attribute `ApmcInstanceReferenceValue.value`

Imposition time: `IT_CfgFcd`

⌈For each `ApmcInstanceReferenceValue`, the attribute `ApmcInstanceReferenceValue.value` shall exist.⌋

[constr_10777] Existence of attribute `ApmcUriInstanceReferenceValue.value`

Imposition time: `IT_CfgFcd`

⌈For each `ApmcUriInstanceReferenceValue`, the attribute `ApmcUriInstanceReferenceValue.value` shall exist.⌋

[constr_10778] Existence of attribute `ApmcUpstreamDocInstanceReferenceValue.value`

Imposition time: `IT_CfgFcd`

⌈For each `ApmcUpstreamDocInstanceReferenceValue`, the attribute `ApmcUpstreamDocInstanceReferenceValue.value` shall exist.⌋

2.2 AP_TPS_ManifestSpecification

[constr_1473] No support for `PRPortPrototype`

Imposition time: `IT_BefAraApiGen`

⌈A `ServiceInterface` shall not be referenced by a `PRPortPrototype` in the role `providedRequiredInterface`.⌋

[constr_1478] SwDataDefProps applicable to ApplicationDataTypes exclusive to the *AUTOSAR adaptive platform*

Imposition time: IT_BefAraApiGen

⌈

Attributes of SwDataDefProps	Root Elem.		Attribute Existence per Category
	ApplicationAssocMapDataType	ApplicationAssocMapElement	ASSOCIATIVE_MAP
additionalNativeTypeQualifier			
annotation	x	x	*
baseType			
compuMethod			
dataConstr			
displayFormat	x	x	0..1
implementationDataType			
invalidValue			
stepSize			
swAddrMethod			
swAlignment			
swBitRepresentation			
swCalibrationAccess			
swCalprmAxisSet			
swComparisonVariable			
swDataDependency			
swHostVariable			
swImplPolicy			
swIntendedResolution			
swInterpolationMethod			
swIsVirtual			
swPointerTargetProps			
swRecordLayout			
swRefreshTiming			
swTextProps			
swValueBlockSize			
unit			
valueAxisDataType			

⌋

[constr_1482] Mapping of service interfaces vs. mapping of service interface elements

Imposition time: IT_BefAraApiGen

⌈In order to establish a mapping between a given pair of ServiceInterfaces, at most **one of** the following alternatives can exist:

- the given pair of ServiceInterfaces is referenced by a ServiceInterfaceMapping, where one ServiceInterface is referenced in the role sourceServiceInterface and the other ServiceInterface is referenced in the role compositeServiceInterface.
- an arbitrary mixture of the following options exists:
  - an event aggregated by one of the given ServiceInterfaces is referenced by a ServiceInterfaceEventMapping in the role sourceEvent and one events aggregated by the other given ServiceInterface is referenced by the same ServiceInterfaceEventMapping in the role targetEvent.
  - a trigger aggregated by one of the given ServiceInterfaces is referenced by a ServiceInterfaceTriggerMapping in the role sourceTrigger and one trigger aggregated by the other given ServiceInterface is referenced by the same ServiceInterfaceTriggerMapping in the role targetTrigger.
  - a field aggregated by one of the given ServiceInterfaces is referenced by a ServiceInterfaceFieldMapping in the role sourceField and one fields aggregated by the other given ServiceInterface is referenced by the same ServiceInterfaceFieldMapping in the role targetField.
  - a method aggregated by one of the given ServiceInterfaces is referenced by a ServiceInterfaceMethodMapping in the role sourceMethod and one methods aggregated by the other given ServiceInterface is referenced by the same ServiceInterfaceMethodMapping in the role targetMethod.

⌋

[constr_1483] Applicability of a ServiceInterface

Imposition time: IT_BefAraApiGen

⌈The applicability of a ServiceInterface shall be limited to the *AUTOSAR adaptive platform*, i.e. a ServiceInterface shall only be taken to type a PortPrototype if the latter is aggregated by an AdaptiveApplicationSwComponentType or by a CompositionSwComponentType defined in the context of an Executable.⌋

[constr_1488] Initialization of a DataPrototype typed by an ApplicationAssocMapDataType

Imposition time: IT_BefAraApiGen

⌈A DataPrototype typed by an ApplicationAssocMapDataType shall only be initialized by an ApplicationAssocMapValueSpecification.⌋

[constr_1489] Uniqueness of ApplicationAssocMapValueSpecification.mapElementTuple.key

Imposition time: IT_BefAraApiGen

⌈The value of all mapElementTuple.key elements in the context of a given ApplicationAssocMapValueSpecification shall be unique.⌋

[constr_1490] Allowed value for Executable.category if ProcessToMachineMapping references a NonOsModuleInstantiation

Imposition time: IT_Mani

⌈If a ProcessToMachineMapping references a NonOsModuleInstantiation, then the Process referenced in the role ProcessToMachineMapping.process shall only refer (in the role Process.executable) to an Executable where attribute Executable.category is set to PLATFORM_LEVEL (see [constr_1605]).⌋

[constr_1492] SwComponentType referenced in the role Executable.rootSwComponentPrototype.applicationType

Imposition time: IT_BefAraApiGen

⌈Any SwComponentType referenced in the role Executable.rootSwComponentPrototype.applicationType, or used to type a SwComponentPrototype nested inside the SwComponentType referenced in the role Executable.rootSwComponentPrototype.applicationType shall **only** be either a CompositionSwComponentType or an AdaptiveApplicationSwComponentType.⌋

[constr_1494] Initial value for event

Imposition time: IT_BefAraApiGen

⌈A ServiceInterface.event shall **not** have an initValue.⌋

[constr_1507] PortInterfaceToDataTypeMapping is only applicable to PortInterfaces that contain modeled data types

Imposition time: IT_BefAraApiGen

⌈PortInterfaceToDataTypeMapping.portInterface shall only refer to **any** of the following sub-classes of PortInterface:

- ServiceInterface
- PersistencyKeyValueStorageInterface
- DiagnosticRoutineInterface
- DiagnosticDataIdentifierInterface

- DiagnosticDataElementInterface
- DiagnosticSovdContentInterface
- DiagnosticSovdContentElementInterface
- DiagnosticSovdOperationInterface

⌋

[constr_01523] Existence of the role IdsmModuleInstantiationToCryptoKeySlotMapping.idsmModuleInstantiation

Imposition time: IT_Mani

⌈For each IdsmModuleInstantiationToCryptoKeySlotMapping, the reference in the role idsmModuleInstantiation shall exist.⌋

[constr_01524] Existence of the role IdsmModuleInstantiationToCryptoKeySlotMapping.cryptoKeySlot

Imposition time: IT_Mani

⌈For each IdsmModuleInstantiationToCryptoKeySlotMapping, the reference in the role cryptoKeySlot shall exist.⌋

[constr_1536] Definition of SoftwareCluster applies for a single Machine

Imposition time: IT_Mani

⌈Within the scope of a SoftwareCluster, each Process referenced in the role containedProcess shall be mapped (e.g. by means of the existence of a ProcessToMachineMapping) to the same Machine.⌋

[constr_1549] Value of ProcessorCore.coreId

Imposition time: IT_SysDes

⌈The value of ProcessorCore.coreId shall be unique in the context of the enclosing Processor.⌋

[constr_1550] Reference from Process to ProcessDesign

Imposition time: IT_Mani

⌈Each ProcessDesign shall only be referenced from a single Process.⌋

[constr_1551] Existence of DataPrototypeInServiceInterfaceRef.dataPrototype vs. DataPrototypeInServiceInterfaceRef.elementInImplDatatype

Imposition time: IT_BefAraApiGen

⌈For every given DataPrototypeInServiceInterfaceRef, either the aggregation DataPrototypeInServiceInterfaceRef.dataPrototype or DataPrototypeInServiceInterfaceRef.elementInImplDatatype shall exist.⌋

[constr_1553] Restriction for `ProcessToMachineMapping`

Imposition time: IT_Mani

⌈The following restrictions apply for the usage of ProcessToMachineMapping:

1. Each combination of Process and Machine shall only be referenced by one ProcessToMachineMapping in the role process or machine.
2. Each Process shall only be referenced by a single ProcessToMachine-Mapping in the role process.

⌋

[constr_1554] Restriction regarding the value of attribute `PersistencyKeyValuePair.initValue`

Imposition time: IT_Mani

⌈The concrete sub-class of meta-class ValueSpecification aggregated in the role PersistencyKeyValuePair.initValue shall not (after resolving a possible redirection by means of meta-class ConstantReference) be a ReferenceValue-Specification.⌋

[constr_1555] Restriction applicable for `PersistencyPortPrototypeToKeyValueStorageMapping.portPrototype`

Imposition time: IT_Mani

⌈The reference in the role PersistencyPortPrototypeToKeyValueStorage-Mapping.portPrototype shall only be used for a PortPrototype typed by a PersistencyKeyValueStorageInterface.⌋

[constr_1556] Restriction applicable for `PersistencyPortPrototypeToFileStorageMapping.portPrototype`

Imposition time: IT_Mani

⌈The reference PersistencyPortPrototypeToFileStorageMapping.port-Prototype shall only be used for a PortPrototype typed by a Persistency-FileStorageInterface.⌋

[constr_1560] Usage of `SoftwareClusterDesign.requiredARElement`

Imposition time: IT_SubSysDes

⌈The reference SoftwareClusterDesign.requiredARElement shall not be used to refer to another SoftwareClusterDesign or even SoftwareCluster.⌋

[constr_1566] Usage of `SoftwareCluster.containedARElement`

Imposition time: IT_Mani

⌈The reference SoftwareCluster.containedARElement shall not be used to refer to a SoftwareCluster or a SoftwareClusterDesign.⌋

[constr_1570] Restriction for `UserDefinedServiceInterfaceDeployment` of `category` `SERVICE_INTERFACE_DEPLOYMENT_IPC`

Imposition time: IT_Mani

⌈An AdaptivePlatformServiceInstance that references a UserDefinedServiceInterfaceDeployment where attribute category is set to SERVICE_INTERFACE_DEPLOYMENT_IPC shall **only** be referenced by a UserDefinedServiceInstanceToMachineMapping in the role serviceInstance that in turn references a UserDefinedCommunicationConnector.⌋

[constr_1571] `CppImplementationDataType` is limited

Imposition time: IT_BefAraApiGen

⌈The usage of a CppImplementationDataType is limited to the context of AdaptiveApplicationSwComponentTypes and CompositionSwComponentTypes defined in the context of an Executable.⌋

[constr_1576] Existence of `CppTemplateArgument.templateType` vs. `CppTemplateArgument.allocator`

Imposition time: IT_BefAraApiGen

⌈For any given CppTemplateArgument, **at most one of** the references

- CppTemplateArgument.templateType or
- CppTemplateArgument.allocator

shall exist.⌋

[constr_1578] Applicable data categories

Imposition time: IT_BefAraApiGen

⌈

Category	Applicable to ...								Description
	ApplicationArrayDataType	ApplicationRecordDataType	ApplicationPrimitiveDataType	ApplicationRecordElement	ApplicationArrayElement	ApplicationValueSpecification	StdCppImplementationDataType	CustomCppImplementationDataType	
VALUE			x	x	x	x	x		Contains a single value. See also [TPS_MANI_03192].
TYPE_REFERENCE							x		The element is defined via reference to another data type (via CppImplementationDataType.typeReference).
STRUCTURE		x		x	x		x		Holds one or several further elements which can have different AutosarDataTypes. See also [TPS_MANI_03180].
VARIANT							x	x	Can hold values of different data types. It is similar to STRUCTURE except that all of its members start at the same location in memory. A VARIANT data prototype can contain only one of its elements at a time and represents a type-safe union. The size of the VARIANT is at least the size of the largest member. See also [TPS_MANI_03189].
ARRAY	x			x	x		x	x	A fixed-sized array of sub-elements of the same data type. See also [TPS_MANI_03169].
VECTOR							x	x	An array of elements of the same data type that is able to grow at run-time. See also [TPS_MANI_03174].
ASSOCIA-TIVE_MAP							x	x	An associative array of key-value pairs. See also [TPS_MANI_03183].
STRING			x	x	x	x	x		Contains a text string. See also [TPS_MANI_03178].
BOOLEAN			x	x	x	x			Contains one boolean state. Depending on the CPU direct addressing of single bits may not be available. So a byte or a word can be used to store only one logical state.

⌋

[constr_1579] SwDataDefProps applicable to CppImplementationDataTypes exclusive to the *AUTOSAR adaptive platform*

Imposition time: IT_BefAraApiGen

⌈

Attributes of SwDataDefProps	Root Element		Attribute Existence per Category							
	CppImplementationDataType	CppImplementationDataTypeElement	VALUE	TYPE_REFERENCE	STRUCTURE	VARIANT	ARRAY	VECTOR	ASSOCIATIVE_MAP	STRING
additionalNativeTypeQualifier										
annotation	x	x	*	*	*	*	*	*	*	*
baseType										
compuMethod	x	x		0..1						
dataConstr.dataConstrRule.physConstrs	x	x		d/c			d/c	d/c		
dataConstr.dataConstrRule.internalConstrs	x	x		0..1			0..1	0..1		
displayFormat	x	x	0..1	0..1	0..1	0..1	0..1	0..1	0..1	0..1
implementationDataType										
invalidValue	x	x		0..1						0..1
stepSize										
swAddrMethod										
swAlignment										
swBitRepresentation										
swCalibrationAccess										
swCalprmAxisSet										
swComparisonVariable										
swDataDependency										
swHostVariable										
swImplPolicy										
swIntendedResolution										
swInterpolationMethod										
swIsVirtual										
swPointerTargetProps										
swPointerTargetProps.swDataDefProps										
swRecordLayout										
swRefreshTiming	x		0..1	0..1	0..1	0..1	0..1	0..1	0..1	0..1
swTextProps										
swValueBlockSize										
unit										
valueAxisDataType										

⌋

[constr_1581] Value of `fileElement.fileName`

Imposition time: IT_BefAraApiGen

⌈Within the scope of any given PersistencyFileStorageInterface, the value of all fileElement.fileName shall be unique.⌋

[constr_1582] The value of attribute `PersistencyKeyValuePair.valueDataType` shall match to `AbstractImplementationDataType` for the corresponding `PersistencyDataElement`

Imposition time: IT_Mani

⌈Each PersistencyKeyValuePair.valueDataType shall match the AbstractImplementationDataType that either directly or indirectly (via the applicable DataTypeMap) types the corresponding (based on identical values of the respective shortName) PersistencyDataElement.⌋

[constr_1589] Value of `file.fileName`

Imposition time: IT_Mani

⌈Within the scope of any given PersistencyFileStorage, the value of all file.fileName shall be unique.

A fileName is considered unique if there are no other fileNames with **exactly** the same sequence of characters[1].⌋

[constr_1593] Completeness of the existence of a set of `TlvDataIdDefinition.tlvArgument`s

Imposition time: IT_BefAraApiGen

⌈If the reference TlvDataIdDefinition.tlvArgument exists for one argument of a given ClientServerOperation then further TlvDataIdDefinition.tlvArgument shall exist **for all** arguments of the given ClientServerOperation and all affected TlvDataIdDefinition shall be aggregated by the same TransformationPropsToServiceInterfaceElementMapping.⌋

[constr_1594] Consistent assignment of TLV data IDs to `ApplicationRecordDataType`

Imposition time: IT_BefAraApiGen

⌈For every ApplicationRecordDataType where direct members set the attribute ApplicationRecordElement.isOptional to the value true references to **all direct members** of this ApplicationRecordDataType shall be created on the basis of the definition of TlvDataIdDefinition.⌋

[1] The characters “x” and “X” are not considered as identical characters for this purpose.

[constr_1595] Consistent assignment of TLV data IDs to CppImplementationDataType or CppImplementationDataTypeElement

Imposition time: IT_BefAraApiGen

⌈For every CppImplementationDataType of category STRUCTURE where direct members set the attribute CppImplementationDataTypeElement.isOptional to the value true references to **all direct members** of this CppImplementationDataType shall be created on the basis of the definition of TlvDataIdDefinition.⌋

[constr_1596] Scope of the uniqueness of the value of TlvDataIdDefinition.id for references to ArgumentDataPrototype

Imposition time: IT_BefAraApiGen

⌈For all TlvDataIdDefinition that are referencing ArgumentDataPrototypes of a given ClientServerOperation in the role tlvArgument, the attribute TlvDataIdDefinition.id **shall exist and have a unique value per communication direction**, i.e. in the context of the collection of all

- arguments where attribute direction is set to either in or inout
- arguments where attribute direction is set to either out or inout
- arguments where attribute direction is set to inout (if the method **only** has arguments where attribute direction is set to inout)

of the respective enclosing ClientServerOperation.⌋

[constr_1597] Scope of the uniqueness of the value of TlvDataIdDefinition.id for references to ApplicationRecordElement

Imposition time: IT_BefAraApiGen

⌈For all TlvDataIdDefinition that are referencing ApplicationRecordElements of a given ApplicationDataType in the role tlvRecordElement the attribute TlvDataIdDefinition.id **shall exist and have a unique value** in the context of respective enclosing ApplicationRecordDataType.⌋

[constr_1598] Scope of the uniqueness of the value of TlvDataIdDefinition.id for references to CppImplementationDataTypeElement

Imposition time: IT_BefAraApiGen

⌈For all TlvDataIdDefinition that are referencing CppImplementationDataTypeElements of a given CppImplementationDataType/CppImplementationDataTypeElement in the role tlvImplementationDataTypeElement the attribute TlvDataIdDefinition.id **shall exist and have a unique value** in the context of respective enclosing CppImplementationDataType or CppImplementationDataTypeElement.⌋

[constr_1599] `TlvDataIdDefinition` referencing `ArgumentDataPrototype`

Imposition time: IT_BefAraApiGen

⌈Each ArgumentDataPrototype shall be referenced **at most once** in the role tlvArgument in the context of the same TransformationPropsToServiceInterfaceElementMapping.⌋

[constr_1600] `TlvDataIdDefinition` referencing `ApplicationRecordElement`

Imposition time: IT_BefAraApiGen

⌈Each ApplicationRecordElement shall be referenced **at most once** in the role tlvRecordElement in the context of the same TransformationPropsToServiceInterfaceElementMapping.⌋

[constr_1601] `TlvDataIdDefinition` referencing `CppImplementationDataTypeElement`

Imposition time: IT_BefAraApiGen

⌈Each CppImplementationDataTypeElement shall be referenced **at most once** in the role tlvImplementationDataTypeElement in the context of the same TransformationPropsToServiceInterfaceElementMapping.⌋

[constr_1603] Completeness of the existence of a set of `TlvDataIdDefinition.tlvRecordElement`s

Imposition time: IT_BefAraApiGen

⌈If the reference TlvDataIdDefinition.tlvRecordElement exists for one element of a given ApplicationRecordDataType then further TlvDataIdDefinition.tlvRecordElement shall exist **for all** elements of the given ApplicationRecordDataType and all affected TlvDataIdDefinition shall be aggregated by the same TransformationPropsToServiceInterfaceElementMapping.⌋

[constr_1604] Completeness of the existence of a set of `TlvDataIdDefinition.tlvImplementationDataTypeElement`s

Imposition time: IT_BefAraApiGen

⌈If the reference TlvDataIdDefinition.tlvImplementationDataTypeElement exists for one subElement of a given CppImplementationDataType or CppImplementationDataTypeElement then further TlvDataIdDefinition.tlvImplementationDataTypeElement shall exist **for all** subElements of the given CppImplementationDataType or CppImplementationDataTypeElement and all affected TlvDataIdDefinition shall be aggregated by the same TlvDataIdDefinitionSet.⌋

[constr_1605] Standardized values of attribute Executable.category

Imposition time: IT_BefAraApiGen

⌈The following values for attribute Executable.category are standardized by AUTOSAR:

- PLATFORM_LEVEL: the Executable represents software on the platform level (i.e. conceptually located *on the level of* the middleware).
- APPLICATION_LEVEL: the Executable represents software on the application level (i.e. conceptually located *above* the middleware).

⌋

[constr_1606] Processes with mutual ExecutionDependencys

Imposition time: IT_Mani

⌈A Process.stateDependentStartupConfig.executionDependency shall not refer to any ModeDeclaration owned by a second Process that in turn refers via stateDependentStartupConfig.executionDependency to any ModeDeclaration owned by the first Process.⌋

[constr_1613] File name of matching pairs of PersistencyFileElement and PersistencyFile

Imposition time: IT_Mani

⌈The value of attributes PersistencyFileElement.fileName and PersistencyFile.fileName shall be identical for matching pairs (as identified by the application of [TPS_MANI_01187]) of PersistencyFileStorage and PersistencyFile.⌋

[constr_1618] Ability to shut down

Imposition time: IT_Mani

⌈In the context of one Machine, at least one Process shall have a stateDependentStartupConfig.functionGroupState that has the shortName Shutdown.⌋

[constr_1619] Ability to restart

Imposition time: IT_Mani

⌈In the context of one Machine, at least one Process shall have a stateDependentStartupConfig.functionGroupState that has the shortName Restart.⌋

[constr_1625] Existence of reference ApApplicationError.errorDomain

Imposition time: IT_BefAraApiGen

⌈For each ApApplicationError, the reference errorDomain shall exist.

In other words, the association of an ApApplicationError with a corresponding ApApplicationErrorDomain is mandatory.⌋

[constr_1628] Definition of static length field sizes in the case of TLV usage

Imposition time: IT_BefAraApiGen

⌈If the aggregation tlvDataIdDefinition exists for a given TransformationPropsToServiceInterfaceElementMapping then attributes

- sizeOfArrayLengthField,
- sizeOfStringLengthField,
- sizeOfStructLengthField, and
- sizeOfUnionLengthField

⌋

[constr_1629] Identical sizes of length fields in the case of TLV usage

Imposition time: IT_BefAraApiGen

⌈If the aggregation tlvDataIdDefinition exists for a given TransformationPropsToServiceInterfaceElementMapping then attributes

- sizeOfArrayLengthField,
- sizeOfStringLengthField,
- sizeOfStructLengthField, and
- sizeOfUnionLengthField

⌋

[constr_1630] No definition of length field sizes on DataPrototype level in the case of TLV usage

Imposition time: IT_BefAraApiGen

⌈If the reference in the role tlvDataIdDefinition exists for a given TransformationPropsToServiceInterfaceElementMapping then attributes

- sizeOfArrayLengthField,
- sizeOfStringLengthField,
- sizeOfStructLengthField, and
- sizeOfUnionLengthField

shall not be individually defined on the level of a DataPrototype (i.e. by means of the reference SomeipDataPrototypeTransformationProps.someipTransformationProps) but only on the level of a ServiceInterface (i.e. by means of the reference TransformationPropsToServiceInterfaceElementMapping.transformationProps).⌋

[constr_1658] Number of DiagnosticTroubleCodeUdsToClearConditionGroupMapping elements per DiagnosticTroubleCodeUds

Imposition time: IT_DiagDes

⌈The mapping element DiagnosticTroubleCodeUdsToClearConditionGroupMapping shall be created no more than once per DiagnosticTroubleCodeUds.

If several DiagnosticTroubleCodeUdsToClearConditionGroupMapping elements referring to the same DiagnosticTroubleCodeUds are defined, then the Clear Condition Group mapping shall be regarded as defective.⌋

[constr_1659] Restriction for the usage of CppImplementationDataTypeElementQualifier.inplace

Imposition time: IT_BefAraApiGen

⌈The attribute CppImplementationDataTypeElementQualifier.inplace shall only exist if the target referenced in the role CppImplementationDataTypeElementQualifier.typeReference is an StdCppImplementationDataType that has the attribute category set to either of the values

- ARRAY
- VECTOR
- ASSOCIATIVE_MAP
- VARIANT
- STRUCTURE
- STRING
- TYPE_REFERENCE, if the CppImplementationDataType refers to a CompuMethod of category TEXTTABLE

⌋

[constr_1660] Restriction for the usage of CppTemplateArgument.inplace

Imposition time: IT_BefAraApiGen

⌈The attribute CppTemplateArgument.inplace shall only exist if the target referenced in the role CppTemplateArgument.templateType is an StdCppImplementationDataType that has the attribute category set to either of the values

- ARRAY
- VECTOR
- ASSOCIATIVE_MAP
- VARIANT
- STRUCTURE

- STRING

⌋

[constr_1661] Multiplicity of OsModuleInstantiation.resourceGroup

Imposition time: IT_Mani

⌈Any given OsModuleInstantiation shall always define at least one resourceGroup.⌋

[constr_1664] Unique ApApplicationError.shortName

Imposition time: IT_BefAraApiGen

⌈Within the collection of all ApApplicationErrors that reference a given ApApplicationErrorDomain in the role errorDomain, the attribute ApApplicationError.shortName shall have a unique value.⌋

[constr_1665] Unique ApApplicationError.errorCode

Imposition time: IT_BefAraApiGen

⌈Within the collection of all ApApplicationErrors that reference a given ApApplicationErrorDomain in the role errorDomain, the attribute ApApplicationError.errorCode shall have a unique value.⌋

[constr_1666] References from meta-class PersistencyPortPrototypeToKeyValueStorageMapping to PersistencyKeyValueStorage

Imposition time: IT_Mani

⌈Each PersistencyKeyValueStorage shall only be referenced by at most one PersistencyPortPrototypeToKeyValueStorageMapping.⌋

[constr_1667] References from PersistencyPortPrototypeToFileStorageMapping to PersistencyFileStorage

Imposition time: IT_Mani

⌈Each PersistencyFileStorage shall only be referenced by at most one PersistencyPortPrototypeToFileStorageMapping.⌋

[constr_1668] Allowed combinations of PersistencyRedundancyChecksum.length and algorithmFamily

Imposition time: IT_BefAraApiGen

⌈

	8	16	32	64
CRC_J1850	x			
CRC_CCITT_FALSE		x		
CRC_ETHERNET			x	
CRC_0x42F0E1EBA9EA3693				x

▽

△

	8	16	32	64
CRC_8H2F	x			
CRC_16ARC		x		
CRC_32P4			x	

⌋

[constr_1673] Existence of attributes hasGetter, hasSetter, and hasNotifier

Imposition time: IT_BefAraApiGen

⌈For any given Field, all of the attributes

- hasGetter
- hasSetter
- hasNotifier

shall exist and at least one of the attributes shall be set to true.⌋

[constr_1675] Existence of attribute ApSomeipTransformationProps.stringEncoding

Imposition time: IT_BefAraApiGen

⌈The attribute TransformationPropsToServiceInterfaceElementMapping.transformationProps.stringEncoding shall only exist for a event, methodCall, methodReturn, or field (referenced by the same TransformationPropsToServiceInterfaceElementMapping) that consists of or contains a DataPrototype typed by a CppImplementationDataType of category STRING.⌋

[constr_1676] Consistency of references shallRunOn and shallNotRunOn

Imposition time: IT_Mani

⌈Within the context of one ProcessToMachineMapping, all ProcessorCores referenced in the role shallRunOn or shallNotRunOn shall be aggregated by the same Processor.⌋

[constr_1677] Mutual exclusive existence of references shallRunOn and shallNotRunOn

Imposition time: IT_Mani

⌈For any given ProcessToMachineMapping, either the reference in the role shallRunOn or the reference in the role shallNotRunOn may exist.⌋

[constr_1678] Allowed values for attribute ApSomeipTransformationProps.stringEncoding

Imposition time: IT_BefAraApiGen

⌈Imposed by technical restrictions in the definition of the SOME/IP message format [1, PRS SOME/IP Protocol], only two possible values of attribute ApSomeipTransformationProps.stringEncoding are allowed:

- UTF-8: UCS Transformation Format 8
- UTF-16: Character encoding for Unicode *code points* based on 16 bit *code units* [2, ISO 10646]

⌋

[constr_1688] StateDependentStartupConfig shall only refer to Function Group States of the same Function Group

Imposition time: IT_Mani

⌈For all StateDependentStartupConfigs aggregated in the role Process.stateDependentStartupConfig, references in the role functionGroupState to ModeDeclaration shall only refer to ModeDeclarations aggregated by the same ModeDeclarationGroup in the context of the same ModeDeclarationGroupPrototype (that represents the actual Function Group).⌋

[constr_1689] Modeling of a startup dependency between different Processes

Imposition time: IT_Mani

⌈The existence of the aggregation in the role Process.stateDependentStartupConfig.executionDependency is only valid if

- the owner of the stateDependentStartupConfig.executionDependency (in other words: the **referencing** Process) and
- the owner of the ModeDeclarationGroupPrototype referenced in the role contextModeDeclarationGroupPrototype within the reference stateDependentStartupConfig.executionDependency.processState (i.e. the **referenced** Process)

refer to the **identical Function Group State** formalized as ModeDeclaration.⌋

[constr_1691] UcmModuleInstantiation.identifier shall be unique

Imposition time: IT_Mani

⌈The value of attribute UcmModuleInstantiation.identifier shall be unique for each Machine in a given vehicle.⌋

[constr_1692] Value of schedulingPriority

Imposition time: IT_Mani

⌈The value of attribute StateDependentStartupConfig.schedulingPriority shall be set to a positive integer value.⌋

[constr_1693] Relation of `Executable`, `ProcessDesign`, and `Process`

Imposition time: `IT_SysDes`

⌈Any `Executable` that is referenced by a `ProcessDesign` shall also be referenced by every `Process` that references the `ProcessDesign`.⌋

[constr_1695] Semantics of a `Grant` depends on the existence of `CmModuleInstantiation`

Imposition time: `IT_Mani`

⌈The existence of `Grant`s shall only be enforced if in the context of the enclosing `Machine` an `CmModuleInstantiation` has been defined and is referencing the `Grant`.⌋

[constr_1696] `ClientServerOperation` aggregated by `DiagnosticRoutineInterface`

Imposition time: `IT_BefAraApiGen`

⌈Any `ClientServerOperation` aggregated by a `DiagnosticRoutineInterface` shall not define the following attributes:

- `fireAndForget`
- `possibleApError`
- `possibleApErrorSet`

⌋

[constr_1697] Restriction for `ClientServerOperation` aggregated by a `DiagnosticDataIdentifierInterface`

Imposition time: `IT_BefAraApiGen`

⌈If meta-class `DiagnosticDataIdentifierInterface` aggregates two `ClientServerOperation`s, then

- The two `ClientServerOperation`s shall have the same number of `argument`s.
- The `argument`s on the nth position in the collection of `argument`s shall have identical properties, except the `direction`. In particular, the following conditions shall be fulfilled with respect to attribute `direction`:
  - Any `ArgumentDataPrototype` aggregated by a `ClientServerOperation` that is itself aggregated in the role `DiagnosticDataIdentifierInterface.read` shall set attribute `direction` to `out`.
  - Any `ArgumentDataPrototype` aggregated by a `ClientServerOperation` that is itself aggregated in the role `DiagnosticDataIdentifierInterface.write` shall set attribute `direction` to `in`.

⌋

[constr_1708] Combination of CppImplementationDataTypeElement.isOptional and CppImplementationDataTypeElementQualifier.inplace

Imposition time: IT_BefAraApiGen

⌈If a CppImplementationDataTypeElement is typed by a CppImplementationDataType of category STRUCTURE then the combination of attribute CppImplementationDataTypeElement.isOptional set to true and CppImplementationDataTypeElement.typeReference.inplace set to true is not allowed.⌋

[constr_1710] Consistency of values of attributes PersistencyInterface.redundancy and PersistencyRedundancyHandling.scope

Imposition time: IT_Mani

⌈If attributePersistencyInterface.redundancy is set to value PersistencyRedundancyEnum.redundantPerElement, then the attribute PersistencyRedundancyHandling.scope shall be set to value PersistencyRedundancyHandlingScopeEnum.persistencyRedundancyHandlingScopeElement for at least one PersistencyRedundancyHandling aggregated by the corresponding PersistencyDeployment.⌋

[constr_1723] ProvidedSomeipServiceInstance shall be unique in respect of serviceInstanceId, serviceInterfaceId and majorVersion on a VLAN

Imposition time: IT_Mani

⌈On a VLAN, each ProvidedSomeipServiceInstance shall have a different serviceInstanceId, serviceInterfaceId and majorVersion value combination.

In other words, no two ProvidedSomeipServiceInstances shall have the same serviceInstanceId, serviceInterfaceId and majorVersion value combination during runtime on the same VLAN.⌋

[constr_1727] Qualified combinations of PortPrototypes and PhmSupervisedEntityInterface on application software level

Imposition time: IT_BefAraApiGen

⌈Within the context of an Executable of category APPLICATION_LEVEL the usage of PhmSupervisedEntityInterface is **only** supported for an RPortPrototype.⌋

[constr_1729] PhmSupervisionRecoveryNotificationInterface only allowed for PPortPrototype on State Management software level

Imposition time: IT_BefAraApiGen

⌈Within the context of an Executable of category APPLICATION_LEVEL, the usage of PhmSupervisionRecoveryNotificationInterface is **only** supported for a PPortPrototype.⌋

[constr_1731] Value of attribute `UcmDescription.identifier` in the scope of a `VehiclePackage`

Imposition time: IT_Mani

⌈Within the scope of any given VehiclePackage, no two UcmDescriptions shall define the same value of attribute identifier.⌋

[constr_1736] Multiplicity of the reference in the role `LogicalSupervision.initialCheckpoint`

Imposition time: IT_Mani

⌈At the time of target-configuration of a LogicalSupervision, at least one reference to meta-class SupervisionCheckpoint in the role initialCheckpoint shall exist.⌋

[constr_1737] Multiplicity of the reference in the role `LogicalSupervision.finalCheckpoint`

Imposition time: IT_Mani

⌈At the time of target-configuration of a LogicalSupervision, at least one reference to meta-class SupervisionCheckpoint in the role finalCheckpoint shall exist.⌋

[constr_1740] Multiplicity of the reference in the role `LogicalSupervision.transition`

Imposition time: IT_Mani

⌈At the time of target-configuration of a LogicalSupervision, at least one reference to meta-class CheckpointTransition in the role LogicalSupervision.transition shall exist.⌋

[constr_1742] Multiplicity of reference in the role `SupervisionCheckpoint.phmCheckpoint`

Imposition time: IT_Mani

⌈At the time of target-configuration of a SupervisionCheckpoint, one reference to meta-class PhmCheckpoint in the role phmCheckpoint shall exist.⌋

[constr_1743] Attribute `CppImplementationDataType.headerFile` vs. `CppImplementationDataType.typeEmitter`

Imposition time: IT_BefAraApiGen

⌈The two attributes CppImplementationDataType.headerFile and CppImplementationDataType.typeEmitter shall always be used mutually exclusively.

In other words, a subclass of CppImplementationDataType shall either use headerFile or typeEmitter. The simultaneous usage of both attributes is not supported.⌋

[constr_1746] Mutual exclusive existence of PersistencyInterface.redundancy and PersistencyInterface.redundancyHandling

Imposition time: IT_BefAraApiGen

⌈For each PersistencyInterface, either the attribute redundancy or the aggregation of PersistencyRedundancyHandling in the role redundancyHandling may exist.⌋

[constr_1747] Completeness of the SoftwareCluster.version

Imposition time: IT_Mani

⌈The SoftwareCluster.version shall contain all the following parts:

- Major version
- Minor version
- Patch version
- Additional labels for pre-release version and build metadata

⌋

[constr_1748] Existence of references TlvDataIdDefinition.tlvArgument, TlvDataIdDefinition.tlvRecordElement, and TlvDataIdDefinition.tlvImplementationDataTypeElement

Imposition time: IT_BefAraApiGen

⌈For each TlvDataIdDefinition, only one out of the following references shall exist:

- reference to an ArgumentDataPrototype in the role tlvArgument
- reference to an ApplicationRecordElement in the role tlvRecordElement
- reference to an AbstractImplementationDataTypeElement in the role tlvImplementationDataTypeElement.

⌋

[constr_1751] Value of PersistencyRedundancyMOutOfN.m

Imposition time: IT_BefAraApiGen

⌈The value of attribute PersistencyRedundancyMOutOfN.m shall be set at least to 1 and at most to the value of attribute PersistencyRedundancyMOutOfN.n, i.e. the allowed interval is [1..PersistencyRedundancyMOutOfN.n].⌋

[constr_1764] Counterpart of PhmCheckpoint

Imposition time: IT_Mani

⌈Each PhmCheckpoint shall be referenced once and only once in the role targetPhmCheckpoint by a PhmCheckpointInExecutableInstanceRef with the same Executable and chain of contextComponentPrototype and contextRPort-

Prototype that is aggregated by a SupervisionCheckpoint in combination with a specific Process. This reference shall exist.⌋

[constr_1769] Existence of ProcessArgument.argument

Imposition time: IT_Mani

⌈For each ProcessArgument, attribute argument shall exist.⌋

[constr_1770] Restriction for the value of attribute ProvidedSomeipServiceInstance.serviceInstanceId

Imposition time: IT_Mani

⌈For each ProvidedSomeipServiceInstance.serviceInstanceId, the value shall be in the range 0..65534.⌋

[constr_1784] Restriction for the reference to UploadableExclusivePackageElement

Imposition time: IT_Mani

⌈A reference to an UploadableExclusivePackageElement shall not cross the boundary of the enclosing SoftwareCluster, i.e. the target UploadableExclusivePackageElement of such a reference shall not be located in a different SoftwareCluster than the owner of the reference.⌋

[constr_1785] Restriction regarding the reference into another SoftwareCluster

Imposition time: IT_Mani

⌈A reference from an element in one SoftwareCluster to an element located in another SoftwareCluster shall only exist if the design of the SoftwareCluster that owns the referenced element is referenced by a SoftwareClusterDependencyCompareCondition in the context of the mentioned SoftwareClusterDependencyFormula in the role part.softwareClusterDesign.

[constr_1784] applies.⌋

[constr_1786] Restriction to use functionGroup in terms of SoftwareCluster

Imposition time: IT_Mani

⌈Each functionGroup shall only be referenced in the role claimedFunctionGroup by **at most one** SoftwareCluster.⌋

[constr_1787] Restricted use of Function Groups in the context of a SoftwareCluster

Imposition time: IT_Mani

⌈All Processes referenced by a SoftwareCluster in the role containedProcess shall only aggregate StateDependentStartupConfigs where the reference functionGroupState refers to a ModeDeclarationGroupPrototype (as

context) that is also referenced by the same SoftwareCluster in the role claimed-FunctionGroup.⌋

[constr_1788] Restriction to SoftwareCluster of category PLATFORM_CORE

Imposition time: IT_Mani

⌈On each Machine, exactly one SoftwareCluster of category PLATFORM_CORE shall be deployed.⌋

[constr_3287] Mandatory information of a ProvidedSomeipServiceInstance

Imposition time: IT_Mani

⌈The ProvidedSomeipServiceInstance shall always define the attribute serviceInstanceId.⌋

[constr_3288] IP configuration restriction for unicastNetworkEndpoints

Imposition time: IT_Mani

⌈Any NetworkEndpoint that is referenced by a EthernetCommunication-Connector in the role unicastNetworkEndpoint shall have either

- one Ipv4Configuration or
- one Ipv6Configuration

as networkEndpointAddress that is defined in the unicast IP range according to the rules defined in [TPS_MANI_03005] and [TPS_MANI_03006].⌋

[constr_3290] Transport Protocol attributes defined for a ProvidedSomeip-ServiceInstance

Imposition time: IT_Mani

⌈Each SomeipServiceInstanceToMachineMapping that is defined for a ProvidedSomeipServiceInstance shall define either

- a udpPort or
- a tcpPort or
- a udpPort and a tcpPort.

⌋

[constr_3300] Allowed ServiceMethodDeployment.method references

Imposition time: IT_Mani

⌈The ClientServerOperation that is referenced by ServiceMethod-Deployment in the role method shall be defined in the context of a Service-Interface that is referenced by the ServiceInterfaceDeployment in the role serviceInterface that contains the ServiceMethodDeployment.⌋

[constr_3301] Allowed ServiceEventDeployment.event references

Imposition time: IT_Mani

⌈The VariableDataPrototype that is referenced by ServiceEventDeployment in the role event shall be defined in the context of a ServiceInterface that is referenced by the ServiceInterfaceDeployment in the role serviceInterface that contains the ServiceEventDeployment.⌋

[constr_3302] Allowed ServiceFieldDeployment.field references

Imposition time: IT_Mani

⌈The Field that is referenced by ServiceFieldDeployment in the role field shall be defined in the context of a ServiceInterface that is referenced by the ServiceInterfaceDeployment in the role serviceInterface that contains the ServiceFieldDeployment.⌋

[constr_3304] Value of attribute SomeipEventGroup.eventGroupId shall be unique

Imposition time: IT_Mani

⌈The value of attribute eventGroupId shall be unique in the context of the enclosing SomeipServiceInterfaceDeployment.⌋

[constr_3305] Value of attribute SomeipEventDeployment.eventId shall be unique

Imposition time: IT_Mani

⌈The value of eventId shall be unique in the context of the enclosing SomeipServiceInterfaceDeployment, unless SomeipEventDeployment.serializer is set to SerializationTechnologyEnum.signalBased.⌋

[constr_3306] Value of attribute methodId shall be unique per SomeipServiceInterfaceDeployment

Imposition time: IT_Mani

⌈The value of methodId shall be unique in the context of the enclosing SomeipServiceInterfaceDeployment.⌋

[constr_3308] SomeipEventDeployment.transportProtocol setting to tcp and the impact on ProvidedSomeipServiceInstances

Imposition time: IT_Mani

⌈If SomeipEventDeployment.transportProtocol is set to tcp then each ProvidedSomeipServiceInstance that refers the SomeipServiceInterfaceDeployment in the role serviceInterfaceDeployment shall only be mapped to a MachineDesign with a SomeipServiceInstanceToMachineMapping with a configured tcpPort.⌋

[constr_3309] SomeipMethodDeployment.transportProtocol setting to udp and the impact on ProvidedSomeipServiceInstances

Imposition time: IT_Mani

⌈If SomeipMethodDeployment.transportProtocol is set to udp then each ProvidedSomeipServiceInstance that refers the SomeipServiceInterface-Deployment in the role serviceInterfaceDeployment shall only be mapped to a MachineDesign with a SomeipServiceInstanceToMachineMapping with a configured udpPort.⌋

[constr_3310] SomeipMethodDeployment.transportProtocol setting to tcp and the impact on ProvidedSomeipServiceInstances

Imposition time: IT_Mani

⌈If SomeipMethodDeployment.transportProtocol is set to tcp then each ProvidedSomeipServiceInstance that refers the SomeipServiceInterface-Deployment in the role serviceInterfaceDeployment shall only be mapped to a MachineDesign with a SomeipServiceInstanceToMachineMapping with a configured tcpPort.⌋

[constr_3320] Aggregation of CommunicationConnector by MachineDesign

Imposition time: IT_MachDes

⌈Meta-class MachineDesign shall only aggregate EthernetCommunication-Connectors in the role communicationConnector. No other subclass of CommunicationConnector shall appear in this aggregation.⌋

[constr_3349] Usage of ApplicationAssocMapDataType is limited

Imposition time: IT_BefAraApiGen

⌈The usage of an ApplicationAssocMapDataType is limited to the context of AdaptiveApplicationSwComponentTypes and CompositionSwComponent-Types defined in the context of an Executable, i.e. such a data type shall not be used on the *AUTOSAR classic platform*.⌋

[constr_3351] SOME/IP segmentation is allowed for udp SomeipEvent-Deployments

Imposition time: IT_Mani

⌈Attribute SomeipEventDeployment.maximumSegmentLength shall only be used if the value of attribute SomeipEventDeployment.transportProtocol is set to udp.⌋

[constr_3352] SOME/IP segmentation allowed for udp SomeipMethod-Deployments

Imposition time: IT_Mani

⌈SomeipMethodDeployment.maximumSegmentLengthRequest and Someip-MethodDeployment.maximumSegmentLengthResponse shall only be used if SomeipMethodDeployment.transportProtocol is set to udp.⌋

[constr_3353] Restriction in usage of ApSomeipTransformationProps.sizeOfArrayLengthField

Imposition time: IT_BefAraApiGen

⌈The value of the attribute sizeOfArrayLengthField shall be either 0, 1, 2 or 4.⌋

[constr_3354] Restriction in usage of ApSomeipTransformationProps.sizeOfStructLengthField

Imposition time: IT_BefAraApiGen

⌈The value of the attribute sizeOfStructLengthField shall be either 0, 1, 2 or 4.⌋

[constr_3355] Restriction in usage of ApSomeipTransformationProps.sizeOfUnionLengthField

Imposition time: IT_BefAraApiGen

⌈The value of the attribute sizeOfUnionLengthField shall be either 0, 1, 2 or 4.⌋

[constr_3356] Restriction in usage of ApSomeipTransformationProps.alignment

Imposition time: IT_BefAraApiGen

⌈The value of the attribute alignment shall be either 8, 16, 32, 64, 128, or 256.⌋

[constr_3357] Restriction in usage of ApSomeipTransformationProps.sizeOfUnionTypeSelectorField

Imposition time: IT_BefAraApiGen

⌈The value of the attribute sizeOfUnionTypeSelectorField shall be either 1, 2 or 4.⌋

[constr_3359] RPortPrototypeProps are related only to RPortPrototypes

Imposition time: IT_BefAraApiGen

⌈The RPortPrototypeProps shall be aggregated only by a RPortPrototype in the role portPrototypeProps.⌋

[constr_3361] Selective definition of serialization settings

Imposition time: IT_BefAraApiGen

⌈If a SomeipDataPrototypeTransformationProps is defined for a composite DataPrototype of an element of a ServiceInterface (method, field, event) and if the reference someipTransformationProps exists then SomeipDataPrototypeTransformationProps that define the reference someipTransformationProps shall be defined for all other composite DataPrototypes of the ServiceInterface element as well.⌋

[constr_3362] SomeipEventDeployments aggregated by a SomeipFieldDeployment

Imposition time: IT_Mani

⌈A SomeipEventDeployment that is aggregated by a SomeipFieldDeployment in the role notifier shall not reference a VariableDataPrototype in the role event.⌋

[constr_3363] SomeipMethodDeployments aggregated by a SomeipFieldDeployment

Imposition time: IT_Mani

⌈A SomeipMethodDeployment that is aggregated by a SomeipFieldDeployment in the role get or set shall not reference a ClientServerOperation in the role method.⌋

[constr_3367] FieldMapping.notifierDataElement reference

Imposition time: IT_SysDes

⌈The FieldMapping shall only contain the notifierDataElement reference if the hasNotifier attribute in the referenced field is set to true.⌋

[constr_3368] FieldMapping.getterOperation reference

Imposition time: IT_SysDes

⌈The FieldMapping shall only contain the getterOperation reference if the hasGetter attribute in the referenced field is set to true.⌋

[constr_3369] FieldMapping.setterOperation reference

Imposition time: IT_SysDes

⌈The FieldMapping shall only contain the setterOperation reference if the hasSetter attribute in the referenced field is set to true.⌋

[constr_3370] InterfaceMapping shall map all elements of a single ServiceInterface

Imposition time: IT_SysDes

⌈The mappings that are included in an InterfaceMapping shall map all elements of a single ServiceInterface (i.e. fields, events, methods) to PortInterface elements of the classic platform.⌋

[constr_3371] Mutually exclusive existence of FireAndForgetMethodMapping.dataElement reference and FireAndForgetMethodMapping.trigger reference

Imposition time: IT_SysDes

⌈A FireAndForgetMethodMapping shall never reference a dataElement and a trigger at the same time.⌋

[constr_3372] Restriction in usage of ApSomeipTransformationProps.sizeOfStringLengthField

Imposition time: IT_BefAraApiGen

⌈The value of the attribute sizeOfStringLengthField shall be either 0, 1, 2 or 4.⌋

[constr_3374] method with attribute fireAndForget set to true shall not have any inout or out arguments

Imposition time: IT_BefAraApiGen

⌈A method that has the value of attribute fireAndForget set to true is not allowed to have any arguments with direction inout or out.⌋

[constr_3375] method with attribute fireAndForget set to true shall not reference an ApApplicationError

Imposition time: IT_BefAraApiGen

⌈A method that has the value of attribute fireAndForget set to true is not allowed to reference

- an ApApplicationError in role possibleApError and/or
- an ApApplicationErrorSet in the role possibleApErrorSet.

⌋

[constr_3376] FireAndForgetMethodMapping shall reference only fire and forget methods

Imposition time: IT_SysDes

⌈A FireAndForgetMethodMapping is only allowed to reference a ClientServerOperation in role method for which the value of attribute method.fireAndForget is set to true.⌋

[constr_3391] ServiceInterfaceElementSecureComConfig references to ServiceInterfaceDeployment elements

Imposition time: IT_Mani

⌈ServiceInterfaceElementSecureComConfig element shall be defined for exactly one ServiceInterface element and shall therefore contain only a single reference to an element defined in the scope of a ServiceInterfaceDeployment.⌋

[constr_3392] ServiceInterfaceElementSecureComConfig.dataId and ServiceInterfaceElementSecureComConfig.freshnessValueId are mandatory in the case of SecOC communication

Imposition time: IT_Mani

⌈The attributes ServiceInterfaceElementSecureComConfig.dataId and ServiceInterfaceElementSecureComConfig.freshnessValueId are mandatory in the case of SecOC communication.⌋

[constr_3393] Usage of `shallRunOn` and `shallNotRunOn` references

Imposition time: IT_Mani

⌈The ProcessorCore that is referenced by a ProcessToMachineMapping in the role shallRunOn or shallNotRunOn shall be aggregated by the Machine that is referenced in the role machine by the same ProcessToMachineMapping.⌋

[constr_3395] `TransformationPropsToServiceInterfaceElementMapping` is restricted to one single `ServiceInterface`

Imposition time: IT_BefAraApiGen

⌈All ServiceInterface elements that are referenced by the TransformationPropsToServiceInterfaceElementMapping in the role event, trigger, methodCall, methodReturn, or field shall be aggregated by the same ServiceInterface in the role event, trigger, method or field.⌋

[constr_3396] Number of `Process.stateDependentStartupConfig` that refer to the same `functionGroupState`

Imposition time: IT_Mani

⌈Within the context of a given Process, no two StateDependentStartupConfigs shall refer to the same ModeDeclaration in the role functionGroupState.⌋

[constr_3408] Value range of `SomeipEventDeployment.eventId`

Imposition time: IT_Mani

⌈The value of eventId shall be in the range of 0..32767.⌋

[constr_3409] Value range of `SomeipMethodDeployment.methodId`

Imposition time: IT_Mani

⌈The value of methodId shall be in the range of 0..32767.⌋

[constr_3410] Value range of `SomeipServiceInterfaceDeployment.serviceInterfaceId`

Imposition time: IT_Mani

⌈The value of serviceInterfaceId shall be in the range of 0..65535.⌋

[constr_3413] `StateDependentStartupConfig` of a `Process` is mapped to exactly one `ResourceGroup`

Imposition time: IT_Mani

⌈Each StateDependentStartupConfig of a Process shall be assigned to exactly one ResourceGroup that is defined in the Machine Manifest.⌋

[constr_3414] Allowed use of attributes of meta-class PlatformModuleEthernetEndpointConfiguration for the configuration of network communication in the Functional Cluster Design.

Status: DRAFT
Imposition time: IT_Mani

⌈

	Element		
PlatformModuleEthernetEndpointConfiguration attributes	**Usage in DoIpFunctionalClusterDesign**	**Usage in IdsFunctionalClusterDesign**	**Usage in DltLogSink**
tcpPort	Optional	Optional	Optional
udpPort	Optional	Optional	Optional
communicationConnector	Mandatory	Mandatory	Mandatory
remoteConfig	N/A	Mandatory	Optional
secureComPropsForUdp	N/A	Optional	Optional
secureComPropsForTcp	Optional	Optional	Optional

⌋

[constr_3415] Value range of attribute ProvidedSomeipServiceInstance.loadBalancingPriority

Imposition time: IT_Mani

⌈The value of attribute ProvidedSomeipServiceInstance.loadBalancingPriority shall be in the range of 0..65535.⌋

[constr_3416] Value range of attribute ProvidedSomeipServiceInstance.loadBalancingWeight

Imposition time: IT_Mani

⌈The value of attribute ProvidedSomeipServiceInstance.loadBalancingWeight shall be in the range of 0..65535.⌋

[constr_3417] UserDefinedEventDeployments aggregated by a UserDefinedFieldDeployment

Imposition time: IT_Mani

⌈A UserDefinedEventDeployment that is aggregated by a UserDefinedFieldDeployment in the role notifier shall not reference a VariableDataPrototype in the role event.⌋

[constr_3418] UserDefinedMethodDeployments aggregated by a UserDefinedFieldDeployment

Imposition time: IT_Mani

⌈A UserDefinedMethodDeployment that is aggregated by a UserDefinedFieldDeployment in the role get or set shall not reference a ClientServerOperation in the role method.⌋

[constr_3419] Allowed usage of `UdpNmNetworkConfiguration` attributes

Imposition time: IT_Mani

⌈The UdpNmNetworkConfiguration that is aggregated by UdpNmCluster in the role networkConfiguration shall have either

- ipv4MulticastIpAddress or
- ipv6MulticastIpAddress.

⌋

[constr_3421] Fibex elements applicable for a `System` of `category` MACHINE_DESIGN_EXTRACT

Imposition time: IT_SysDes

⌈A System with the category MACHINE_DESIGN_EXTRACT is allowed to reference the following fibexElements:

- CommunicationCluster
- MachineDesign
- GlobalTimeDomain
- NmConfig

⌋

[constr_3423] `StateDependentStartupConfig` of a `Process` shall reference a `functionGroupState`

Imposition time: IT_Mani

⌈Each StateDependentStartupConfig of a Process shall reference at least one ModeDeclaration in the role functionGroupState.⌋

[constr_3424] `StateDependentStartupConfig` shall never reference the `functionGroupState` Off

Imposition time: IT_Mani

⌈A StateDependentStartupConfig shall never reference the ModeDeclaration that has the shortName Off in the role functionGroupState. The Off ModeDeclaration is a special state in a Function Group as defined by [TPS_MANI_03195].⌋

[constr_3425] Restriction of `DoIpInstantiation`s on a `Machine`

Imposition time: IT_Mani

⌈Each Machine shall aggregate at most one DoIpInstantiation in the role moduleInstantiation.⌋

[constr_3429] No allocator usage for CppImplementationDataTypes of category VARIANT

Imposition time: IT_BefAraApiGen

⌈CppImplementationDataType of category VARIANT is not allowed to aggregate a templateArgument that points to an Allocator in the role allocator.⌋

[constr_3433] Aggregation of templateArguments for an ARRAY

Imposition time: IT_BefAraApiGen

⌈CppImplementationDataType of category ARRAY that boils down to ara::core::Array shall aggregate exactly one templateArgument that defines the type of elements contained in the CppImplementationDataType of category ARRAY.⌋

[constr_3434] Aggregation of templateArguments for a VECTOR

Imposition time: IT_BefAraApiGen

⌈A CppImplementationDataType of category VECTOR that boils down to ara::core::Vector shall aggregate at least one and at most two templateArgument where the first one shall define the type of elements contained in the CppImplementationDataType of category VECTOR with the templateType reference.⌋

[constr_3443] Specification of a namespace for a StdCppImplementationDataType

Imposition time: IT_BefAraApiGen

⌈The definition of a namespace for a StdCppImplementationDataType of category VALUE is not allowed.

For this value of category the std namespace is already assumed by the usage of the StdCppImplementationDataType.⌋

[constr_3446] CppTemplateArgument with allocator reference and the inplace flag

Imposition time: IT_BefAraApiGen

⌈A CppTemplateArgument that points with an allocator reference to an Allocator shall not have the inplace flag set to a value.⌋

[constr_3447] ApSomeipTransformationProps.sizeOfArrayLengthField that equals 0

Imposition time: IT_BefAraApiGen

⌈The sizeOfArrayLengthField value of 0 is only allowed to be used if a fixed size array for which the SomeipDataPrototypeTransformationProps is defined is referenced within the aggregated DataPrototypeInServiceInterfaceRef.⌋

[constr_3462] `CppTemplateArgument.templateType` reference to `StdCppImplementationDataType` of `category STRUCTURE` and the `inplace` flag

Imposition time: IT_BefAraApiGen

⌈CppTemplateArgument.templateType that points to a StdCppImplementationDataType of category STRUCTURE shall have the inplace attribute set to **false**.⌋

[constr_3485] UDP endpoint using DTLS SERVER role can only serve provided service instances

Imposition time: IT_Mani

⌈A ServiceInstanceToMachineMapping that refers to TlsSecureComProps in the role secureComPropsForUdp is only allowed to reference ProvidedApServiceInstances in the role serviceInstance if the TlsSecureComProps has the category TLS_SERVER.⌋

[constr_3486] TCP endpoint using TLS SERVER role can only serve provided service instances

Imposition time: IT_Mani

⌈A ServiceInstanceToMachineMapping that refers to TlsSecureComProps in the role secureComPropsForTcp is only allowed to reference ProvidedApServiceInstances in the role serviceInstance if the TlsSecureComProps has the category TLS_SERVER.⌋

[constr_3487] TCP endpoint can only serve provided or required service instances exclusively

Imposition time: IT_Mani

⌈ServiceInstanceToMachineMapping is not allowed to refer to a ProvidedApServiceInstance and at the same time a RequiredApServiceInstance in the role serviceInstance if

- the ServiceInterfaceDeployment that is referenced by the ProvidedApServiceInstance in the role serviceInterfaceDeployment and
- the ServiceInterfaceDeployment that is referenced by the RequiredApServiceInstance in the role serviceInterfaceDeployment

both contain defined tcp content that is described by the transportProtocol attribute in the deployment elements of SOME/IP or DDS.

In other words, a TCP endpoint can only serve provided or required service instances exclusively.⌋

[constr_3493] Applicable attributes for standardized E2E Profiles

Imposition time: IT_Mani

⌈

E2E Attributes	Root Element			Attribute Existence per Profile												
	End2EndEventProtectionProps	End2EndMethodProtectionProps	E2EProfileConfiguration	PROFILE_04	PROFILE_05	PROFILE_06	PROFILE_07	PROFILE_08	PROFILE_11	PROFILE_22	PROFILE_04m	PROFILE_07m	PROFILE_44	PROFILE_08m	PROFILE_44m
dataId	x	x		1	1	1	1	1	1	n	1	1	1	1	1
dataLength	x	x			x				x	x					
minDataLength	x	x		x		x	x	x			x	x	x	x	x
maxDataLength	x	x		x		x	x	x			x	x	x	x	x
dataUpdatePeriod	x	x		x	x	x	x	x	x	x	x	x	x	x	x
sourceId		x									x	x		x	x
dataIdMode			x						x						
maxDeltaCounter			x	x	x	x	x	x	x	x	x	x	x	x	x
maxErrorStateInit			x	x	x	x	x	x	x	x	x	x	x	x	x
maxErrorStateInvalid			x	x	x	x	x	x	x	x	x	x	x	x	x
maxErrorStateValid			x	x	x	x	x	x	x	x	x	x	x	x	x
minOkStateInit			x	x	x	x	x	x	x	x	x	x	x	x	x
minOkStateInvalid			x	x	x	x	x	x	x	x	x	x	x	x	x
minOkStateValid			x	x	x	x	x	x	x	x	x	x	x	x	x
windowSizeValid			x	x	x	x	x	x	x	x	x	x	x	x	x
windowSizeInvalid			x	x	x	x	x	x	x	x	x	x	x	x	x
windowSizeInit			x	x	x	x	x	x	x	x	x	x	x	x	x
clearFromValidToInvalid			x	x	x	x	x	x	x	x	x	x	x	x	x

⌋

[constr_3495] Supported value range for attribute DoIpFunctionalClusterDesign.eid

Imposition time: IT_SysDes

⌈The supported value range of attribute DoIpFunctionalClusterDesign.eid is limited to the interval [0..281474976710655].⌋

[constr_3496] Supported value range for attribute DoIpInstantiation.gid

Imposition time: IT_Mani

⌈The supported value range of attribute DoIpInstantiation.gid is limited to the interval [0..281474976710655].⌋

[constr_3497] Supported value range for attribute DoIpFunctionalClusterDesign.maxRequestBytes

Imposition time: IT_SysDes

⌈The supported value range of attribute DoIpFunctionalClusterDesign.maxRequestBytes is limited to the interval [0..4294967295].⌋

[constr_3499] Supported value range for the primitive attribute DoIpRequestConfigurationDesign.startAddress

Imposition time: IT_MachDes

⌈The supported value range of primitive attribute DoIpRequestConfigurationDesign.startAddress is limited to the interval [0..65535].⌋

[constr_3528] Value range of DdsServiceInstanceProps.domainId

Imposition time: IT_Mani

⌈The value of attribute DdsServiceInstanceProps.domainId at DdsProvidedServiceInstance and domainId at DdsRequiredServiceInstance shall be in the range of a signed 32-bit integer.⌋

[constr_3529] Value range of DdsProvidedServiceInstance.serviceInstanceId

Imposition time: IT_Mani

⌈The value of attribute DdsProvidedServiceInstance.serviceInstanceId shall be in the range of 0..65535.⌋

[constr_3530] Mandatory definition of checkpointId

Imposition time: IT_BefAraApiGen

⌈The checkpointId shall be defined for every PhmCheckpoint element.⌋

[constr_3538] Only one ServiceInstanceToMachineMapping per technology and CommunicationConnector

Imposition time: IT_Mani

⌈Each AdaptivePlatformServiceInstance shall only be referenced up to once by a specific ServiceInstanceToMachineMapping subclass in the role serviceInstance where the ServiceInstanceToMachineMapping refer to the same CommunicationConnector.⌋

[constr_3539] Only one AliveSupervision per SupervisionCheckpoint

Imposition time: IT_Mani

⌈A SupervisionCheckpoint shall only be referenced up to once by an AliveSupervision in the role checkpoint in the context of an identical SupervisionMode.⌋

[constr_3540] `SupervisionCheckpoint` in supervision graph

Imposition time: IT_Mani

⌈Each SupervisionCheckpoint shall only be part of one supervision graph in the context of an identical SupervisionMode.⌋

[constr_3541] `qosProfile` mandatory for `DdsProvidedServiceInstance`

Imposition time: IT_Mani

⌈The attribute qosProfile shall be defined for every DdsProvidedServiceInstance.⌋

[constr_3542] `qosProfile` mandatory for `DdsRequiredServiceInstance`

Imposition time: IT_Mani

⌈The attribute qosProfile shall be defined for every DdsRequiredServiceInstance.⌋

[constr_3550] Existence of `ServiceInstanceToSignalMapping` for an `event` with `signalBased` serialization

Imposition time: IT_Mani

⌈If

- an event is referenced by a SomeipEventDeployment in the role event and
- the attribute SomeipEventDeployment.serializer is set to signalBased,

then a ServiceInstanceToSignalMapping shall exist with eventElementMapping referring to the event in the role dataPrototypeInServiceInterfaceRef.⌋

[constr_3551] Full mapping of target `ISignalGroup`

Imposition time: IT_Mani

⌈If

- an ISignalTriggering is part of a ServiceInstanceToSignalMapping and
- the ISignalTriggering refers to an ISignalPort with communicationDirection equals out and
- the ISignalTriggering refers to an ISignalGroup in the role iSignalGroup,

then a SignalBasedEventElementToISignalTriggeringMapping shall exist for every ISignal referenced by the ISignalGroup in the role iSignal.⌋

[constr_3552] Full mapping of target `event`

Imposition time: IT_Mani

⌈If

- the ServiceInstanceToSignalMapping refers to a ProvidedSomeipServiceInstance and
- the dataPrototypeInServiceInterfaceRef refers to a DataPrototype which is part of a composite data type,

then a SignalBasedEventElementToISignalTriggeringMapping shall exist for every DataPrototype that is part of the composite data type.⌋

[constr_3553] Existence of ServiceInstanceToSignalMapping for an field with signalBased serialization

Imposition time: IT_Mani

⌈If a field is referenced by a SomeipFieldDeployment in the role field and that SomeipFieldDeployment aggregates a SomeipEventDeployment in the role notifier and the SomeipEventDeployment has an attribute SomeipEventDeployment.serializer set to signalBased then there shall exist a ServiceInstanceToSignalMapping with a fieldMapping referring to the field in the role dataPrototypeInServiceInterfaceRef and the SignalBasedFieldToISignalTriggeringMapping shall refer to a ISignalTriggering in the role notifierSignalTriggering.⌋

[constr_3554] E2E protection configuration check

Imposition time: IT_Mani

⌈If the SignalServiceTranslationEventProps.safeTranslation equals true then the signal-based payload shall have an EndToEnd profile defined.⌋

[constr_3555] No support for SecuredIPdu.useAsCryptographicIPdu set to true

Imposition time: IT_Mani

⌈If a PduTriggering is referencing a SecuredIPdu where the attribute useAsCryptographicIPdu is set to the value true, then no subclass of AbstractSignalBasedToISignalTriggeringMapping shall refer to an ISignalTriggering that in turn refers to an ISignal that is referenced in the role iSignal by any ISignalToIPduMapping that is owned by the ISignalIPdu referenced by the SecuredIPdu in the role payload.⌋

[constr_3557] Mandatory majorVersion at SomeipServiceInterfaceDeployment.serviceInterfaceVersion

Imposition time: IT_Mani

⌈If the SomeipServiceVersion is aggregated at the SomeipServiceInterfaceDeployment in the role serviceInterfaceVersion then the attribute SomeipServiceVersion.majorVersion shall be defined.⌋

[constr_3558] RequiredSomeipServiceInstance.blocklistedVersion is restricted to the usage of minorVersion

Imposition time: IT_Mani

⌈The majorVersion attribute shall not be used in the SomeipServiceVersion that is aggregated by the RequiredSomeipServiceInstance in the role blocklistedVersion.⌋

[constr_3561] Restriction to minimumMinorVersion and RequiredSomeipServiceInstance.requiredMinorVersion value

Imposition time: IT_Mani

⌈The RequiredSomeipServiceInstance.requiredMinorVersion shall not have the value *ANY* if versionDrivenFindBehavior = minimumMinorVersion.⌋

[constr_3563] Mandatory topic name values

Imposition time: IT_Mani

⌈The attributes methodRequestTopicName, methodReplyTopicName, fieldRequestTopicName, fieldReplyTopicName, topicName shall specify string values, each of them unique within the service interface.⌋

[constr_3564] Consistency between DDS Service Interface Deployment and Provided DDS Service Instance

Imposition time: IT_Mani

⌈Transport attributes DdsServiceInterfaceDeployment.transportProtocol and DdsEventDeployment.transportProtocol shall be consistent with DDS profiles generated and selected by the DdsQosProps component of DdsProvidedServiceInstance, DdsFieldQosProps, and DdsEventQosProps.⌋

[constr_3565] Consistency between DDS Service Interface Deployment and Required DDS Service Instance

Imposition time: IT_Mani

⌈Transport attributes DdsServiceInterfaceDeployment.transportProtocol and DdsEventDeployment.transportProtocol shall be consistent with DDS profiles generated and selected by the DdsQosProps component of DdsRequiredServiceInstance, DdsFieldQosProps, and DdsEventQosProps.⌋

[constr_3568] No support for references across PlatformHealthManagementContribution

Imposition time: IT_Mani

⌈All references originating on elements aggregated by one PlatformHealthManagementContribution shall only refer to elements that are part of the same PlatformHealthManagementContribution aggregation chain.⌋

[constr_3569] Applicability of attribute `invalidValue` on `CppImplementationDataType` of `category` `TYPE_REFERENCE`

Imposition time: IT_BefAraApiGen

⌈If a CppImplementationDataType of category TYPE_REFERENCE has an invalidValue defined, then the referenced CppImplementationDataType (via typeReference) shall eventually be of category.⌋

[constr_3612] Multiplicity of references `recoveryNotification`, `recoveryAction`, and `process` at `RecoveryNotificationToPPortPrototypeMapping`

Imposition time: IT_Mani

⌈The references recoveryNotification, recoveryAction, and process shall be defined for each RecoveryNotificationToPPortPrototypeMapping.⌋

[constr_3613] Reference to a `PhmSupervisionRecoveryNotificationInterface` in the context of a `HealthChannelSupervision`

Imposition time: IT_Mani

⌈If the RecoveryNotification is aggregated by a HealthChannelSupervision then the RecoveryNotificationToPPortPrototypeMapping shall refer to a PPortPrototype in the role recoveryAction typed by PhmSupervisionRecoveryNotificationInterface.⌋

[constr_3619] Mandatory references of `TimeBaseProviderToPersistencyMapping`

Imposition time: IT_Mani

⌈The references TimeBaseProviderToPersistencyMapping.persistencyDeploymentElement and TimeBaseProviderToPersistencyMapping.timeBaseProvider shall exist.⌋

[constr_3623] Restriction for `SupervisionCheckpoint`s in the context of a `GlobalSupervision`

Imposition time: IT_Mani

⌈All SupervisionCheckpoints belonging to the same PhmSupervisedEntityInterface instance (SupervisionCheckpoints with identical PhmCheckpointInExecutableInstanceRef.contextRootSwComponentPrototype, contextComponentPrototype, contextRPortPrototype, and process references) shall only be referenced by PhmSupervisions which are aggregated by the same GlobalSupervision.⌋

[constr_3624] At least one Supervision defined in the context of a `GlobalSupervision`

Imposition time: IT_Mani

⌈At least one AliveSupervision, LogicalSupervision, or DeadlineSupervision shall be defined in the scope of a GlobalSupervision.⌋

[constr_3625] `DeadlineSupervision` referencing `CheckpointTransition` in the context of a `GlobalSupervision`

Imposition time: IT_Mani

⌈`DeadlineSupervision` aggregated in a `GlobalSupervision` shall only refer to a `CheckpointTransition` which is aggregated by the same `GlobalSupervision`.⌋

[constr_3626] `LogicalSupervision` referencing `CheckpointTransition` in the context of a `GlobalSupervision`

Imposition time: IT_Mani

⌈`LogicalSupervision` aggregated in a `GlobalSupervision` shall only refer to `CheckpointTransition`s that are aggregated by the same `GlobalSupervision`.⌋

[constr_3627] Existence of `SupervisionModeCondition.stateReference`

Imposition time: IT_Mani

⌈At the time of target-configuration of `SupervisionModeCondition`, at least one aggregation of `PhmStateReference` in the role `SupervisionModeCondition.stateReference` shall exist.⌋

[constr_3628] Reference to `Function Group State` from a `SupervisionModeCondition`

Imposition time: IT_Mani

⌈If a `Function Group State` is referenced by a `SupervisionModeCondition` in the scope of one `GlobalSupervision`, then that same `Function Group State` shall NOT be referenced by any other `SupervisionModeCondition` in the scope of the same `GlobalSupervision`.⌋

[constr_3629] Identical `Function Group` in the scope of a `GlobalSupervision`

Imposition time: IT_Mani

⌈Within the context of one `GlobalSupervision`, all `SupervisionMode.modeCondition` shall only aggregate `FunctionGroupPhmStateReference`s in the role `stateReference` where the reference `FunctionGroupPhmStateReference.functionGroupState.contextModeDeclarationGroupPrototype` refers to the identical `ModeDeclarationGroupPrototype` (that implements the `Function Group`, as far as state management is concerned).⌋

[constr_3630] `GlobalSupervision` and `Process` relation

Imposition time: IT_Mani

⌈Within the context of one `GlobalSupervision`, all aggregated `PhmSupervision`s shall refer to `SupervisionCheckpoint`s where the referenced `Process` aggregates a `stateDependentStartupConfig` that in turn refers to a `functionGroupState` where the `contextModeDeclarationGroupPrototype` refers to the identical `ModeDeclarationGroupPrototype` (that implements the `Function Group`, as far as state management is concerned).⌋

[constr_3631] Global supervision restricted to one `Function Group`

Imposition time: IT_Mani

⌈The Function Group (ModeDeclarationGroupPrototype) referenced in [constr_3629] and [constr_3630] shall be identical for one particular GlobalSupervision.⌋

[constr_3632] Supervision of a Supervised Entity Instance in the scope of a `Function Group State`

Imposition time: IT_Mani

⌈A Supervised Entity Instance shall be configured with checkpoint supervision (all SupervisionCheckpoints of the Supervised Entity Instance are covered by AliveSupervision, DeadlineSupervision, LogicalSupervision, NoCheckpointSupervision) or NoSupervision in all Function Group States in which the corresponding Process is configured to be executed.⌋

[constr_3633] Mandatory attributes of `AliveSupervision`

Imposition time: IT_Mani

⌈The following attributes of AliveSupervision shall be defined:

- aliveReferenceCycle
- checkpoint
- expectedAliveIndications
- failedReferenceCyclesTolerance
- minMargin
- maxMargin

⌋

[constr_3634] Multiplicity of `CheckpointTransition.source` and `CheckpointTransition.target`

Imposition time: IT_Mani

⌈Each CheckpointTransition shall define exactly one source reference and one target reference.⌋

[constr_3635] Mandatory attributes of `DeadlineSupervision`

Imposition time: IT_Mani

⌈The following attributes of DeadlineSupervision shall be defined:

- transition
- minDeadline
- maxDeadline

⌋

[constr_3636] Consistent `ISignal` communication direction `in` and `RequiredApServiceInstance`

Imposition time: IT_Mani

⌈If the ServiceInstanceToSignalMapping.serviceInstance refers to a RequiredApServiceInstance then any ServiceInstanceToSignalMapping.eventElementMapping (respectively ServiceInstanceToSignalMapping.fieldMapping) shall refer to an ISignalTriggering which in turn refers to an ISignalPort with communicationDirection equal to in.⌋

[constr_3637] Consistent `ISignal` communication direction `out` and `ProvidedApServiceInstance`

Imposition time: IT_Mani

⌈If the ServiceInstanceToSignalMapping.serviceInstance refers to a ProvidedApServiceInstance then any ServiceInstanceToSignalMapping.eventElementMapping (respectively ServiceInstanceToSignalMapping.fieldMapping) shall refer to an ISignalTriggering which in turn refers to an ISignalPort with communicationDirection equal to out.⌋

[constr_3640] Existence of `SupervisionMode.modeCondition`

Imposition time: IT_Mani

⌈For each SupervisionMode the attribute modeCondition shall exist.⌋

[constr_3641] Allowed combinations of ServiceInterfaceDeployment, AdaptivePlatformServiceInstance, ServiceInstanceToMachineMapping

Imposition time: IT_Mani

⌈

	DdsProvidedServiceInstance	ProvidedSomeipServiceInstance	ProvidedUserDefinedServiceInstance	DdsRequiredServiceInstance	RequiredSomeipServiceInstance	RequiredUserDefinedServiceInstance
DdsServiceInterfaceDeployment	Yes	No	Yes	Yes	No	Yes
SomeipServiceInterfaceDeployment	No	Yes	Yes	No	Yes	Yes
UserDefinedServiceInterfaceDeployment	No	No	Yes	No	No	Yes
DdsServiceInstanceToMachineMapping	Yes	No	No	Yes	No	No
SomeipServiceInstanceToMachineMapping	No	Yes	No	No	Yes	No
UserDefinedServiceInstanceToMachineMapping	No	Yes	Yes	No	Yes	Yes

⌋

[constr_3642] Restriction of aggregation of PortPrototypeProps to the Adaptive Platform

Imposition time: IT_BefAraApiGen

⌈The aggregation of PortPrototypeProps is only supported in the context of a SwComponentType that is (transitively) referenced by rootSwComponentPrototype.⌋

[constr_3643] No filter support for service-signal-translation direction

Imposition time: IT_Mani

⌈If a ServiceInstanceToSignalMapping.serviceInstance refers to a ProvidedApServiceInstance then

- every SignalBasedEventElementToISignalTriggeringMapping aggregated in the role eventElementMapping and
- every SignalBasedFieldToISignalTriggeringMapping aggregated in the role fieldMapping

shall not have a SignalBasedEventElementToISignalTriggeringMapping.filter (resp. SignalBasedFieldToISignalTriggeringMapping.filter) defined.⌋

[constr_3644] No `transmissionTrigger` support for `service-signal-translation` direction

Imposition time: IT_Mani

⌈If a ServiceInstanceToSignalMapping.serviceInstance refers to a ProvidedApServiceInstance then

- every SignalBasedEventElementToISignalTriggeringMapping aggregated in the role eventElementMapping and
- every SignalBasedFieldToISignalTriggeringMapping aggregated in the role fieldMapping

shall not have a SignalBasedEventElementToISignalTriggering-Mapping.transmissionTrigger (respectively SignalBasedFieldToISignal-TriggeringMapping.transmissionTrigger) defined.⌋

[constr_3645] `discoveryType` mandatory for `DdsProvidedServiceInstance`

Imposition time: IT_Mani

⌈The attribute discoveryType shall be defined for every DdsProvidedService-Instance.⌋

[constr_3646] `resourceIdentifierType` mandatory for `DdsProvided-ServiceInstance`

Imposition time: IT_Mani

⌈The attribute resourceIdentifierType shall be defined for every Dds-ProvidedServiceInstance.⌋

[constr_3647] `resourceIdentifierType` value for USER_DATA QoS-based discovery

Imposition time: IT_Mani

⌈If the value of discoveryType is domainParticipantUserDataQos, for a given DdsProvidedServiceInstance, the only valid value for attribute resource-IdentifierType is partition.⌋

[constr_3648] `discoveryType` mandatory for `DdsRequiredServiceInstance`

Imposition time: IT_Mani

⌈The attribute discoveryType shall be defined for every DdsRequiredService-Instance.⌋

[constr_3649] Consistent `SupervisionCheckpoint.process` reference

Imposition time: IT_Mani

⌈If a SupervisionCheckpoint refers to a Process in the role process, then

- the SupervisionCheckpoint shall refer to a PhmCheckpoint which is defined in a PhmSupervisedEntityInterface and

- that PhmSupervisedEntityInterface types an RPortPrototype of an AdaptiveApplicationSwComponentType and
- that AdaptiveApplicationSwComponentType is used in the scope of an Executable and
- that Executable is referenced by the same Process as SupervisionCheckpoint.process.

⌋

[constr_3650] headerId required in the case of Arbitrary Message Header

Status: DRAFT
Imposition time: IT_Mani

⌈If [TPS_MANI_03577] applies, then the respective SoConIPduIdentifier.headerId shall be defined.⌋

[constr_3674] Existence of NoSupervision.targetPhmSupervisedEntity

Imposition time: IT_Mani

⌈For each NoSupervision the attribute targetPhmSupervisedEntity shall exist.⌋

[constr_3675] Existence of NoSupervision.process

Imposition time: IT_Mani

⌈For each NoSupervision the attribute process shall exist.⌋

[constr_3676] Exclusive usage of NoSupervision

Imposition time: IT_Mani

⌈For a Supervised Entity Instance, in a given SupervisionMode, either a checkpoint supervision (AliveSupervision, DeadlineSupervision, LogicalSupervision, and/or NoCheckpointSupervision referencing all SupervisionCheckpoints corresponding to the Supervised Entity Instance) or NoSupervision shall be configured, but not both.⌋

[constr_3677] ComGrants referencing DDS Service Instances

Imposition time: IT_Mani

⌈ComGrants associated with DdsProvidedServiceInstances or DdsRequiredServiceInstances via the serviceInstance attribute shall not be referenced by CmModuleInstantiation.grant.⌋

[constr_3678] Existence of attributes for DdsSecureComProps

Status: DRAFT
Imposition time: IT_Mani

⌈The following attributes of DdsSecureComProps shall exist:

- identity

- governance

⌋

[constr_3679] Existence of attributes for DdsSecureGovernance

Status: DRAFT
Imposition time: IT_Mani

⌈The following attributes of DdsSecureGovernance shall exist:

- at least one domainId
- identityCertificateAuthority
- permissionCertificateAuthority
- allowUnauthenticatedParticipants
- enableJoinAccessControl
- discoveryProtectionKind
- livelinessProtectionKind
- rtpsProtectionKind

⌋

[constr_3680] Existence of attributes for DdsTopicAccessRule

Imposition time: IT_Mani

⌈The following attributes of DdsTopicAccessRule shall exist:

- enableDiscoveryProtection
- enableLivelinessProtection
- enableReadAccessControl
- enableWriteAccessControl
- metadataProtectionKind
- dataProtectionKind

⌋

[constr_3681] Supported values of DdsTopicAccessRule.dataProtectionKind

Imposition time: IT_Mani

⌈Only values none, sign, or encryptAndSign from DdsProtectionKindEnum shall be used when setting DdsTopicAccessRule.dataProtectionKind.⌋

[constr_3682] Values of DdsDomainRange.min and DdsDomainRange.max

Imposition time: IT_Mani

⌈The value of DdsDomainRange.min shall be less than or equal to the value of DdsDomainRange.max.⌋

[constr_3683] Attributes referencing DdsTopicAccessRule

Imposition time: IT_Mani

⌈DdsServiceInterfaceDeployment.fieldTopicsAccessRule, DdsServiceInterfaceDeployment.methodTopicsAccessRule, and DdsEventDeployment.eventTopicAccessRule shall be set if the Service Interface Deployment is to be used by Service Instances relying on DDS Security (meaning DdsServiceInstanceToMachineMapping.secureComPropsForDds is defined).⌋

[constr_3684] Mutual exclusivity of Secure Communication Properties

Imposition time: IT_Mani

⌈The attributes ServiceInstanceToMachineMapping.secOcComPropsForMulticast and DdsServiceInstanceToMachineMapping.secureComPropsForDds are mutually exclusive, meaning zero or just one of them shall be set depending on whether no security, SecOC, or DDS Security is chosen as data-level security (optionally) above transport-level security.⌋

[constr_3690] DdsServiceInterfaceDeployment.serviceInterfaceId value shall not conflict with topic-based service discovery

Imposition time: IT_SysDes

⌈The value "discovery" for DdsServiceInterfaceDeployment.serviceInterfaceId is reserved and shall not be used for modeled DdsServiceInterfaceDeployments in the context of the *AUTOSAR adaptive platform*.⌋

[constr_3691] Existence of ServiceInterfaceElementSecureComConfig.securedRxVerification

Imposition time: IT_Mani

⌈The attribute ServiceInterfaceElementSecureComConfig.securedRxVerification shall only be defined for a ServiceInterfaceElementSecureComConfig with the following definitions:

- The ServiceInterfaceElementSecureComConfig is aggregated by a RequiredApServiceInstance and defines at least one of the following roles:
  - ServiceInterfaceElementSecureComConfig.event
  - ServiceInterfaceElementSecureComConfig.fieldNotifier
  - ServiceInterfaceElementSecureComConfig.getterReturn
  - ServiceInterfaceElementSecureComConfig.setterReturn

  - ServiceInterfaceElementSecureComConfig.methodReturn

- The ServiceInterfaceElementSecureComConfig is aggregated by a ProvidedApServiceInstance and defines at least one of the following roles:
  - ServiceInterfaceElementSecureComConfig.getterCall
  - ServiceInterfaceElementSecureComConfig.setterCall
  - ServiceInterfaceElementSecureComConfig.methodCall

⌋

[constr_3692] DataPrototypeInServiceInterfaceInstanceRef.targetDataPrototype in the context of a SignalBasedFireAndForgetMethodToISignalTriggeringMapping

Imposition time: IT_Mani

⌈If a DataPrototypeInServiceInterfaceInstanceRef is aggregated by a SignalBasedFireAndForgetMethodToISignalTriggeringMapping in the role dataPrototypeInMethodArgumentInstanceRef, then the reference DataPrototypeInServiceInterfaceInstanceRef.targetDataPrototype shall refer to an ArgumentDataPrototype.⌋

[constr_3693] EthernetCommunicationConnector.category is set to CAN_XL

Imposition time: IT_SysDes

⌈If a EthernetCommunicationConnector is aggregated by the MachineDesign where attribute category is set to CAN_XL, then a reference from the EthernetCommunicationConnector to a CanXlProps in the role canXlProps shall exist.⌋

[constr_3694] Existence of canXlConfig vs. canXlConfigReqs

Imposition time: IT_SysDes

⌈For each CanXlProps, one of

- canXlConfig or
- canXlConfigReqs

shall exist.⌋

[constr_3709] AliveSupervision.terminatingCheckpoint required for self terminating Processes

Imposition time: IT_Mani

⌈Only if a Process

- aggregates a StateDependentStartupConfig, and that StateDependentStartupConfig has the attribute StateDependentStartupConfig.terminationBehavior set to the value TerminationBehaviorEnum.processIsSelfTerminating, and

- the StateDependentStartupConfig.functionGroupState is identical to the respective GlobalSupervision.supervisionMode.modeCondition.stateReference.functionGroupState and
- there exists an AliveSupervision which refers to a SupervisionCheckpoint in the role checkpoint, and that SupervisionCheckpoint refers to that Process, then

there shall exist an AliveSupervision.terminatingCheckpoint reference from the AliveSupervision.⌋

[constr_3710] Process referenced by AliveSupervision.terminatingCheckpoint

Imposition time: IT_Mani

⌈The SupervisionCheckpoint that is referenced in the role AliveSupervision.terminatingCheckpoint shall refer to the same Process as the SupervisionCheckpoint that is referenced by the AliveSupervision.checkpoint.⌋

[constr_3711] AliveSupervision.terminatingCheckpointTimeoutUntilTermination

Imposition time: IT_Mani

⌈If an AliveSupervision has the reference AliveSupervision.terminatingCheckpoint defined, then the attribute AliveSupervision.terminatingCheckpointTimeoutUntilTermination shall be defined.⌋

[constr_3712] Exclusive usage of NoCheckpointSupervision

Imposition time: IT_Mani

⌈If a SupervisionCheckpoint is referenced by a NoCheckpointSupervision in the role checkpoint, then that SupervisionCheckpoint shall not be referenced by any other checkpoint supervision (AliveSupervision, DeadlineSupervision (via CheckpointTransition), LogicalSupervision (also via or CheckpointTransition)) in the scope of one SupervisionMode.⌋

[constr_3715] Reference in the role SomeipEventGroup.event

Imposition time: IT_Mani

⌈In the context of a given SomeipServiceInterfaceDeployment, all aggregated SomeipEventDeployments shall be referenced at least once in the role event by SomeipEventGroups that in turn are aggregated at the same SomeipServiceInterfaceDeployment.⌋

[constr_3720] Upper multiplicity of reference in the role ComGrantDesign.remoteSubject

Imposition time: IT_GraDes

⌈In the context of ComGrantDesign, the reference in the role remoteSubject shall exist at most once.⌋

[constr_3721] Existence of reference in the role EthernetCommunicationConnector.unicastNetworkEndpoint

Imposition time: IT_Mani

⌈In the context of EthernetCommunicationConnector, the reference in the role unicastNetworkEndpoint shall exist at most once.⌋

[constr_3722] Existence of reference in the role EthernetCommunicationConnector.canXlProps

Imposition time: IT_Mani

⌈In the context of EthernetCommunicationConnector, the reference in the role canXlProps shall exist at most once.⌋

[constr_3723] Upper multiplicity of reference in the role MachineDesign.tcpIpProps

Imposition time: IT_SysDes

⌈In the context of MachineDesign, the reference in the role tcpIpProps shall exist at most once.⌋

[constr_3724] Upper multiplicity of reference in the role MachineDesign.tcpIpIcmpProps

Imposition time: IT_SysDes

⌈In the context of MachineDesign, the reference in the role tcpIpIcmpProps shall exist at most once.⌋

[constr_3725] Upper multiplicity of reference in the role MachineDesign.ethIpProps

Imposition time: IT_SysDes

⌈In the context of MachineDesign, the reference in the role ethIpProps shall exist at most once.⌋

[constr_3727] Upper multiplicity of reference in the role SoftwareClusterDesign.intendedTargetMachine

Imposition time: IT_SubSysDes

⌈In the context of SoftwareClusterDesign, the reference in the role intendedTargetMachine shall exist at most once.⌋

[constr_3729] Upper multiplicity of reference in the role LogAndTraceInstantiation.timeBaseResource

Imposition time: IT_Mani

⌈In the context of LogAndTraceInstantiation, the reference in the role timeBaseResource shall exist at most once.⌋

[constr_3730] Upper multiplicity of reference in the role HealthChannel.recoveryNotification

Imposition time: IT_Mani

⌈In the context of HealthChannel, the reference in the role recoveryNotification shall exist at most once.⌋

[constr_3731] Upper multiplicity of reference in the role ProcessDesign.executable

Imposition time: IT_SubSysDes

⌈In the context of ProcessDesign, the reference in the role executable shall exist at most once.⌋

[constr_3732] Upper multiplicity of reference in the role Process.executable

Imposition time: IT_Mani

⌈In the context of Process, the reference in the role executable shall exist at most once.⌋

[constr_3772] Range of ApApplicationError.errorCode for interoperability with the AUTOSAR classic platform

Imposition time: IT_SysDes

⌈If a SOME/IP service instance interacts with a classic platform according to [TPS_MANI_03674], then the value of attribute ApApplicationError.errorCode used according to [TPS_MANI_01191] shall not exceed the closed interval [1..63].⌋

[constr_3773] Uniqueness of ApApplicationError.errorCode for interoperability with the AUTOSAR classic platform

Imposition time: IT_BefAraApiGen

⌈If a SOME/IP service instance interacts with a classic platform according to [TPS_MANI_03674], then the set of ApApplicationErrors configured for a ClientServerOperation according to [TPS_MANI_01191] shall all have unique ApApplicationError.errorCode values defined.⌋

[constr_3774] Existence of EthernetMacRawDataStreamMapping.localCommConnector

Status: DRAFT
Imposition time: IT_Mani

⌈The reference EthernetMacRawDataStreamMapping.localCommConnector shall exist.⌋

[constr_3775] Existence of IEEE1722RawDataStreamConsumerMapping.ieee1722Stream

Status: DRAFT
Imposition time: IT_Mani

⌈The reference IEEE1722RawDataStreamConsumerMapping.ieee1722Stream shall exist.⌋

[constr_3776] Existence of IEEE1722RawDataStreamProducerMapping.ieee1722Stream

Status: DRAFT
Imposition time: IT_Mani

⌈The reference IEEE1722RawDataStreamProducerMapping.ieee1722Stream shall exist.⌋

[constr_3777] Existence of IEEE1722AcfBusRawDataStreamConsumerMapping.acfBus

Status: DRAFT
Imposition time: IT_Mani

⌈At least one reference IEEE1722AcfBusRawDataStreamConsumerMapping.acfBus shall exist.⌋

[constr_3778] Existence of IEEE1722AcfBusPartRawDataStreamConsumerMapping.acfBusPart

Status: DRAFT
Imposition time: IT_Mani

⌈At least one reference IEEE1722AcfBusPartRawDataStreamConsumerMapping.acfBusPart shall exist.⌋

[constr_3795] No Platform Health Management supervision for non-reporting Executables

Imposition time: IT_BefAraApiGen

⌈If an Executable has Executable.reportingBehavior set to ExecutionStateReportingBehaviorEnum.doesNotReportExecutionState, then none of the SwComponentTypes that are used to type SwComponentPrototype used in the composition definition of the rootSwComponentPrototype shall define an RPortPrototype typed by a PhmSupervisedEntityInterface.⌋

[constr_3798] Applicable attributes for an Ethernet node on the adaptive platform

Imposition time: IT_SysDes

⌈If a CouplingPort is aggregated by an EthernetCommunicationController and that EthernetCommunicationController is in turn aggregated by a MachineDesign, then the attributes defined in the column “Endpoint” of [TPS_SYST_02422] are applicable.⌋

[constr_3823] Existence of primitive attribute `GlobalSupervision.expiredSupervisionTolerance`

Imposition time: `IT_Mani`

⌈For each `GlobalSupervision` the attribute `expiredSupervisionTolerance` shall exist.⌋

[constr_3825] `ProvidedSomeipServiceInstance`s with `SomeipEventDeployment.serializer` = `signalBased` shall be unique with respect to Message ID on one VLAN

Imposition time: `IT_Mani`

⌈Every `SomeipEventDeployment` with `SomeipEventDeployment.serializer` = `SerializationTechnologyEnum.signalBased` aggregated by `SomeipServiceInterfaceDeployment` where the `SomeipServiceInterfaceDeployment.serviceInterfaceId` is identical, shall have a unique `SomeipEventDeployment.eventId` defined in the scope of one VLAN.⌋

[constr_5000] Supported value range for the primitive attribute `DoIpRequestConfigurationDesign.endAddress`

Imposition time: `IT_MachDes`

⌈The supported value range of primitive attribute `DoIpRequestConfigurationDesign.endAddress` is limited to the interval [0..65535].⌋

[constr_5004] Mapping of a `Process` to a `Machine` is mandatory in the Execution Manifest

Imposition time: `IT_Mani`

⌈Each `Process` shall be mapped by a `ProcessToMachineMapping` to one `Machine`.⌋

[constr_5033] Compatibility of data types with `category VALUE`

Imposition time: `IT_BefAraApiGen`

⌈An `ApplicationDataType` of `category VALUE` can only be mapped to a `CppImplementationDataType` which also has `category VALUE`.⌋

[constr_5034] Compatibility of data types with `category BOOLEAN`

Imposition time: `IT_BefAraApiGen`

⌈An `ApplicationDataType` of `category BOOLEAN` can only be mapped to a `CppImplementationDataType` of `category VALUE`.⌋

[constr_5035] Compatibility of data types with `category STRING`

Imposition time: `IT_BefAraApiGen`

⌈A `CppImplementationDataType` where attribute `category` is set to the value `STRING` can only be mapped to an `ApplicationDataType`

- where attribute `category` is set to the value `STRING` **and**

- where attribute swDataDefProps.swTextProps.baseType.baseTypeDefinition.baseTypeEncoding is set to the value UTF-8.

⌋

[constr_5036] Compatibility of data types with category ARRAY

Imposition time: IT_BefAraApiGen

⌈An ApplicationDataType of category ARRAY can only be mapped to

- a CppImplementationDataType of category ARRAY **or**
- a CppImplementationDataType of category VECTOR.

⌋

[constr_5037] Compatibility of data types with category ARRAY with variableSize

Imposition time: IT_BefAraApiGen

⌈An ApplicationDataType of category ARRAY that includes one ApplicationArrayElement with arraySizeSemantics set to variableSize in one of the defined dimensions shall be mapped to

- a CppImplementationDataType of category VECTOR

⌋

[constr_5038] Compatibility of data types with category ARRAY with fixedSize

Imposition time: IT_BefAraApiGen

⌈An ApplicationDataType of category ARRAY that includes only ApplicationArrayElements with arraySizeSemantics set to fixedSize in all defined dimensions shall be mapped to

- a CppImplementationDataType of category ARRAY

⌋

[constr_5039] Compatibility of data types with category STRUCTURE

Imposition time: IT_BefAraApiGen

⌈An ApplicationDataType of category STRUCTURE can only be mapped to a CppImplementationDataType of category STRUCTURE.⌋

[constr_5040] Compatibility of ApplicationRecordDataType and CppImplementationDataType that both represent an Optional Element Structure

Imposition time: IT_BefAraApiGen

⌈An ApplicationRecordDataType that represents an Optional Element Structure can only be mapped to a CppImplementationDataType of category

STRUCTURE that represents an Optional Element Structure if corresponding pairs of elements have the same value of the attribute isOptional.⌋

[constr_5041] Compatibility of data types with category ASSOCIATIVE_MAP

Imposition time: IT_BefAraApiGen

⌈An ApplicationDataType of category ASSOCIATIVE_MAP can only be mapped to a CppImplementationDataType of category ASSOCIATIVE_MAP.⌋

[constr_5042] No data type mapping for CppImplementationDataType of category VARIANT

Imposition time: IT_BefAraApiGen

⌈An ApplicationDataType shall never be mapped to a CppImplementationDataType of category VARIANT.⌋

[constr_5043] Forbidden mappings to CppImplementationDataType

Imposition time: IT_BefAraApiGen

⌈An ApplicationDataType of category COM_AXIS, RES_AXIS, CURVE, MAP, CUBOID, CUBE_4, CUBE_5 is not supported by the Adaptive Platform and can therefore not be mapped to a CppImplementationDataType.⌋

[constr_5044] DataTypeMap for composite data types

Imposition time: IT_BefAraApiGen

⌈In the context of a given ServiceInterface, all pairs of ApplicationDataType and CppImplementationDataType used in the context of the definition of an ApplicationCompositeDataType used in the context of an event, field, method shall be described in a DataTypeMap that is contained in one of the DataTypeMappingSets that are referenced in a PortInterfaceToDataTypeMapping that also references the mentioned ServiceInterface.⌋

[constr_5045] Only one SomeipServiceDiscovery configuration per VLAN is allowed

Imposition time: IT_SysDes

⌈Only a single NetworkEndpoint on an EthernetPhysicalChannel (VLAN) is allowed to be referenced by a SomeipServiceDiscovery element in the role multicastSdIpAddress.⌋

[constr_5047] Supported values of TlsSecureComProps.category

Imposition time: IT_Mani

⌈The only supported values of attribute TlsSecureComProps.category are:

- **TLS_SERVER**: the TlsSecureComProps assumes the role of the *server* in the TLS connection.
- **TLS_CLIENT**: the TlsSecureComProps assumes the role of the *client* in the TLS connection.

⌋

[constr_5048] Existence of `TlsCryptoCipherSuite.certificate` and `TlsCryptoCipherSuite.pskIdentity` in the *server* role

Imposition time: IT_Mani

⌈**Either**

- the reference to CryptoServiceCertificate in the role TlsCryptoCipherSuite.certificate
- the aggregation of TlsPskIdentity in the role TlsCryptoCipherSuite.pskIdentity

shall exist if the TlsCryptoCipherSuite is aggregated by TlsSecureComProps that has the attribute category set to the value TLS_SERVER.⌋

[constr_5052] `ProvidedSomeipServiceInstance`s of the same serviceInterface on one Machine

Imposition time: IT_Mani

⌈ProvidedSomeipServiceInstances that are referring to the same SomeipServiceInterfaceDeployment element or to several SomeipServiceInterfaceDeployments that all have the same SOME/IP credentials (SomeipServiceInterfaceDeployment.serviceInterfaceId and SomeipServiceInterfaceDeployment.serviceInterfaceVersion.majorVersion) shall not be mapped to the same combination of:

- IP address that is assigned by the SomeipServiceInstanceToMachineMapping with the reference to the EthernetCommunicationConnector that in turn references the NetworkEndpoint and
- UDP Port or TCP Port number that are defined by the SomeipServiceInstanceToMachineMapping.udpPort and SomeipServiceInstanceToMachineMapping.tcpPort references to the ApApplicationEndpoint.

⌋

[constr_5056] Restriction of sub-class of `CompositionSwComponentType.connector`

Imposition time: IT_BefAraApiGen

⌈In the context of a CompositionSwComponentType.connector (transitively) referenced by a Executable.rootSwComponentPrototype, the only supported subclass of SwConnector is PassThroughSwConnector.⌋

[constr_5057] `PassThroughSwConnector` and `ServiceInterfaceMapping`

Imposition time: IT_BefAraApiGen

⌈If a PassThroughSwConnector is defined between two Ports in a CompositionSwComponentType either:

- a ServiceInterfaceMapping between the ServiceInterfaces of these two Ports shall be defined and the PassThroughSwConnector shall reference the relevant ServiceInterfaceMapping in the role mapping or
- ServiceInterfaceElementMappings for elements of ServiceInterfaces of the two Ports shall be defined and the PassThroughSwConnector shall reference the relevant ServiceInterfaceElementMappings in the role serviceInterfaceElementMapping.

⌋

[constr_5102] Usage of remote port ranges in IPSecRule is not allowed

Imposition time: IT_SysDes

⌈IPSecRule.remotePortRangeStart and IPSecRule.remotePortRangeEnd shall always be set to the same value.⌋

[constr_5103] Usage of local port ranges in IPSecRule is not allowed

Imposition time: IT_SysDes

⌈IPSecRule.localPortRangeStart and IPSecRule.localPortRangeEnd shall always be set to the same value.⌋

[constr_5115] Search for a specific SOME/IP ServiceInstance and for all SOME/IP ServiceInstances over the same RPortPrototype

Imposition time: IT_Mani

⌈A RequiredSomeipServiceInstance that configures the search for a specific ServiceInstance on SOME/IP (with concrete requiredServiceInstanceId) and a RequiredSomeipServiceInstance that configures the search for ALL ServiceInstances on SOME/IP (with requiredServiceInstanceId = ALL) that are mapped using ServiceInstanceToMachineMapping to the same EthernetCommunicationConnector (and therefore are searching for SOME/IP ServiceInstances on the same VLAN) are not allowed to be mapped by ServiceInstanceToPortPrototypeMappings to the same RPortPrototype.⌋

[constr_5155] SomeipServiceInstanceToMachineMapping only supports a single Address Family

Imposition time: IT_Mani

⌈A SomeipServiceInstanceToMachineMapping shall only support a single Address Family, i.e. either IPv4 or IPv6. If IPv4 is defined for IP unicast communication according to [constr_3288] then the SomeipProvidedEventGroups in ProvidedSomeipServiceInstances that are referenced by the SomeipServiceInstanceToMachineMapping shall only define an ipv4MulticastIpAddress.

If IPv6 is defined for IP unicast communication according to [constr_3288] then the SomeipProvidedEventGroups in ProvidedSomeipServiceInstances that are referenced by the SomeipServiceInstanceToMachineMapping shall only define an ipv6MulticastIpAddress.⌋

[constr_5156] SomeipEventDeployment.transportProtocol setting to udp and the impact on ProvidedSomeipServiceInstances

Imposition time: IT_Mani

⌈If SomeipEventDeployment.transportProtocol is set to udp then each ProvidedSomeipServiceInstance that refers the SomeipServiceInterfaceDeployment in the role serviceInterfaceDeployment shall only be mapped to a MachineDesign with a SomeipServiceInstanceToMachineMapping with a configured udpPort.⌋

[constr_5161] RequiredSomeipServiceInstance that is mapped by a SomeipServiceInstanceToMachineMapping without a configured tcpPort and udpPort

Imposition time: IT_Mani

⌈A RequiredSomeipServiceInstance that is mapped to an EthernetCommunicationConnector by a SomeipServiceInstanceToMachineMapping that has no references in the roles

- udpPort or
- tcpPort

is not allowed to reference a SomeipServiceInterfaceDeployment that includes SomeipMethodDeployments and/or ServiceFieldDeployments.⌋

[constr_5227] Mandatory elements of UdpNmCluster

Imposition time: IT_Mani

⌈The following attributes shall always be defined for the UdpNmCluster:

- nmMsgCycleTime
- nmNetworkTimeout
- nmRepeatMessageTime
- nmWaitBusSleepTime
- communicationCluster

⌋

[constr_5228] Partial Networking timing constraint

Imposition time: IT_Mani

⌈For Partial Networking the following timing constraints shall be ensured: (MachineDesign.pnResetTimer + MachineDesign.pncPrepareSleepTimer) < UdpNmCluster.nmNetworkTimeout.⌋

[constr_5230] The attribute E2EProfileCompatibilityProps.transitToInvalidExtended shall exist for each E2EProfileConfiguration

Imposition time: IT_Mani

⌈For each E2EProfileConfiguration, a reference to meta-class E2EProfileCompatibilityProps in the role e2eProfileCompatibilityProps shall exist and the referenced E2EProfileCompatibilityProps shall define a value for the attribute transitToInvalidExtended.⌋

[constr_5240] Restriction applicable for CryptoProviderToPortPrototypeMapping.portPrototype

Status: DRAFT
Imposition time: IT_Mani

⌈The reference CryptoProviderToPortPrototypeMapping.portPrototype shall only be used for an RPortPrototype typed by a CryptoProviderInterface.⌋

[constr_5242] Restriction applicable for the reference CryptoCertificateToPortPrototypeMapping.portPrototype

Status: DRAFT
Imposition time: IT_Mani

⌈The reference in the role CryptoCertificateToPortPrototypeMapping.portPrototype shall only be used for an RPortPrototype typed by a CryptoCertificateInterface.⌋

[constr_5250] Protection of AdaptivePlatformServiceInstances of the same ServiceInterfaceDeployment

Imposition time: IT_Mani

⌈If several AdaptivePlatformServiceInstances exist that are referencing the same ServiceInterfaceDeployment and these AdaptivePlatformServiceInstances contain aggregated End2EndMethodProtectionProps and/or End2EndEventProtectionProps then the E2EProfileConfigurations that are referenced by the End2EndMethodProtectionProps and End2EndEventProtectionProps shall have the same profileName defined.⌋

[constr_5260] UDP endpoint using DTLS CLIENT role can only serve required service instances

Imposition time: IT_Mani

⌈A ServiceInstanceToMachineMapping that refers to TlsSecureComProps in the role secureComPropsForUdp is only allowed to reference RequiredApServiceInstances in the role serviceInstance if the TlsSecureComProps has the category TLS_CLIENT.⌋

[constr_5261] TCP endpoint using TLS CLIENT role can only serve required service instances

Imposition time: IT_Mani

⌈A ServiceInstanceToMachineMapping that refers to TlsSecureComProps in the role secureComPropsForTcp is only allowed to reference RequiredAp-ServiceInstances in the role serviceInstance if the TlsSecureComProps has the category TLS_CLIENT.⌋

[constr_5275] Existence of LogAndTraceInstantiation.dltEcu

Imposition time: IT_Mani

⌈For each LogAndTraceInstantiation the reference to DltEcu in the role dlt-Ecu shall exist.⌋

[constr_5276] Existence of LogAndTraceInstantiation.logSink

Imposition time: IT_Mani

⌈Each LogAndTraceInstantiation shall reference at least one DltLogSink in the role logSink.⌋

[constr_5277] Applicable values of DltLogSink.category vs. DltLogSink attributes

Imposition time: IT_Mani

⌈

Category	Applicable to ...					
	DltLogSink.logChannelId	DltLogSink.endpointConfiguration	DltLogSink.path	DltLogSink.bufferOutput	DltLogSink.nonVerboseMode	DltLogSink.segmentationSupported
DLT_LOGSINK_REMOTE	x					
DLT_LOGSINK_DLT	x	x			x	x
DLT_LOGSINK_FILE			x			
DLT_LOGSINK_CONSOLE				x		
DLT_LOGSINK_ARTI						

⌋

[constr_5278] `DltLogSink` with `category` `DLT_LOGSINK_REMOTE` is only allowed to be referenced by `DltLogSinkToPortPrototypeMapping`

Imposition time: IT_Mani

⌈DltLogSink with category DLT_LOGSINK_REMOTE shall not be referenced by LogAndTraceInstantiation in the role logSink.⌋

[constr_5279] `DltLogSink` with `category` `DLT_LOGSINK_DLT` is only allowed to be referenced by `LogAndTraceInstantiation`

Imposition time: IT_Mani

⌈DltLogSink with category DLT_LOGSINK_DLT shall not be referenced by DltLogSinkToPortPrototypeMapping in the role dltLogSink.⌋

[constr_5281] Existence of `DltLogSink.defaultTraceState`

Imposition time: IT_Mani

⌈For each DltLogSink, attribute defaultTraceState shall exist.⌋

[constr_5282] Existence of `DltLogSinkToPortPrototypeMapping.process`

Imposition time: IT_Mani

⌈Each DltLogSinkToPortPrototypeMapping shall reference a Process in the role process.⌋

[constr_5283] Existence of `DltLogSinkToPortPrototypeMapping.dltLogSink`

Imposition time: IT_Mani

⌈Each DltLogSinkToPortPrototypeMapping shall reference at least one DltLogSink in the role dltLogSink.⌋

[constr_5284] Existence of `DltLogSinkToPortPrototypeMapping.dltContext`

Imposition time: IT_Mani

⌈Each DltLogSinkToPortPrototypeMapping shall reference a DltContext in the role dltContext.⌋

[constr_5285] Existence of `PortPrototype` references in `DltLogSinkToPortPrototypeMapping`

Imposition time: IT_Mani

⌈Each DltLogSinkToPortPrototypeMapping shall reference exactly one PortPrototype in the role rPortPrototype or pPortPrototype.⌋

[constr_5286] Restriction applicable for DltLogSinkToPortPrototypeMapping.rPortPrototype

Imposition time: IT_Mani

⌈The reference DltLogSinkToPortPrototypeMapping.rPortPrototype shall only be used for a RPortPrototype typed by a LogAndTraceInterface or by a ServiceInterface.⌋

[constr_5287] Restriction applicable for DltLogSinkToPortPrototypeMapping.pPortPrototype

Imposition time: IT_Mani

⌈The reference DltLogSinkToPortPrototypeMapping.pPortPrototype shall only be used for a PPortPrototype typed by a ServiceInterface.⌋

[constr_5288] Existence of process reference in DltApplicationToProcessMapping

Imposition time: IT_Mani

⌈Each DltApplicationToProcessMapping shall reference a Process in the role process.⌋

[constr_5289] Existence of dltApplication reference in DltApplicationToProcessMapping

Imposition time: IT_Mani

⌈Each DltApplicationToProcessMapping shall reference a DltApplication in the role dltApplication.⌋

[constr_5290] PPortPrototype is not allowed to be typed by LogAndTraceInterface

Imposition time: IT_BefAraApiGen

⌈A PPortPrototype is not allowed to reference a LogAndTraceInterface in the role providedInterface.⌋

[constr_5291] Allowed usage of LTMessageCollectionToPortPrototypeMapping.rPort

Imposition time: IT_BefAraApiGen

⌈An LTMessageCollectionToPortPrototypeMapping shall (in the role rPort) only refer to a RPortPrototype that is typed by a LogAndTraceInterface.⌋

[constr_5292] Assigned dltSessionId shall be consistent for the same PortPrototype

Imposition time: IT_Mani

⌈If several DltLogSinkToPortPrototypeMappings are referencing the same PortPrototype in the role rPortPrototype or pPortPrototype then the value

for the dltSessionId in all these DltLogSinkToPortPrototypeMappings shall be the same.⌋

[constr_5316] Allowed ServiceEventDeployment.trigger references

Imposition time: IT_Mani

⌈The Trigger that is referenced by ServiceEventDeployment in the role trigger shall be defined in the context of a ServiceInterface that is referenced by the ServiceInterfaceDeployment in the role serviceInterface that contains the ServiceEventDeployment.⌋

[constr_5317] ServiceEventDeployment not allowed to reference an event and a trigger at the same time

Imposition time: IT_Mani

⌈The ServiceEventDeployment element shall reference either:

- a VariableDataPrototype in the role event or
- a Trigger in the role trigger,

but not both at the same time.⌋

[constr_5318] Existence of ServiceInstanceToSignalMapping for an trigger with signalBased serialization

Imposition time: IT_Mani

⌈If a trigger is referenced by a SomeipEventDeployment in the role trigger and the attribute SomeipEventDeployment.serializer is set to signalBased then a ServiceInstanceToSignalMapping shall exist with triggerMapping referring to the trigger in the role trigger.⌋

[constr_5324] MachineDesign.communicationController aggregation restriction

Imposition time: IT_MachDes

⌈MachineDesign is only allowed to aggregate an EthernetCommunicationController in the role communicationController.⌋

[constr_5332] Mandatory multicast endpoint if multicastThreshold is different from 0

Imposition time: IT_Mani

⌈If SomeipProvidedEventGroup.multicastThreshold is configured to a value different from 0, then

- SomeipProvidedEventGroup.eventMulticastUdpPort

and either

- SomeipProvidedEventGroup.ipv4MulticastIpAddress or

- SomeipProvidedEventGroup.ipv6MulticastIpAddress

⌋

[constr_5333] No multicast if TCP is used

Imposition time: IT_Mani

⌈If a SomeipProvidedEventGroup references only SomeipEventDeployments that have the attribute transportProtocol set to tcp (via SomeipProvidedEventGroup.eventGroup.event) then this SomeipProvidedEventGroup shall not have a SomeipProvidedEventGroup.multicastThreshold attribute or shall have the SomeipProvidedEventGroup.multicastThreshold set to 0.⌋

[constr_5338] ProvidedSomeipServiceInstance shall offer all SomeipEventGroups for subscription

Imposition time: IT_Mani

⌈In the scope of a ProvidedSomeipServiceInstance, SomeipProvidedEventGroups shall be defined such that

- every aggregated ProvidedSomeipServiceInstance.providedEventGroup references a SomeipEventGroup in the context of the SomeipServiceInterfaceDeployment referenced from the enclosing ProvidedSomeipServiceInstance in the role serviceInterfaceDeployment
- each SomeipEventGroup defined in the scope of the SomeipServiceInterfaceDeployment referenced from the enclosing ProvidedSomeipServiceInstance in the role serviceInterfaceDeployment shall be referenced from exactly one SomeipProvidedEventGroup aggregated in the role providedEventGroup in the scope of the enclosing ProvidedSomeipServiceInstance.

⌋

[constr_5339] Restriction for SomeipEventGroups of a SomeipServiceInterfaceDeployment shall be referenced at most once from a RequiredSomeipServiceInstance that instantiates the SomeipServiceInterfaceDeployment

Imposition time: IT_Mani

⌈Each SomeipEventGroup that is defined in a SomeipServiceInterfaceDeployment shall be referenced at most once from a SomeipRequiredEventGroup that is aggregated by the RequiredSomeipServiceInstance that is referencing the SomeipServiceInterfaceDeployment in the role serviceInterfaceDeployment.⌋

[constr_5343] Usage of `DoIpNetworkConfigurationDesign.eidRetrieval`

Imposition time: IT_Mani

⌈If `DoIpNetworkConfigurationDesign.eidRetrieval` is set to `eidUseConfigValue` then `DoIpFunctionalClusterDesign.eid` shall exist and a value shall be assigned to it.⌋

[constr_5347] Supported value range for attribute `SecOcSecureComProps.authenticationVerifyAttempts`

Imposition time: IT_Mani

⌈The supported value range of the primitive attribute `SecOcSecureComProps.authenticationVerifyAttempts` is limited to the interval [0..65535].⌋

[constr_5348] Mandatory `initialMode` in `ModeDeclarationGroup` that is referenced by `StateDependentFirewall`

Imposition time: IT_Mani

⌈The `ModeDeclarationGroup` that is referenced via a `ModeDeclaration` from `StateDependentFirewall` in the role `state` shall define an `initialMode`.⌋

[constr_5349] Mandatory `defaultAction` in `StateDependentFirewall`

Imposition time: IT_Mani

⌈The `StateDependentFirewall` shall always define the attribute `defaultAction`.⌋

[constr_5350] Mandatory `action` in `FirewallRuleProps`

Imposition time: IT_Mani

⌈The `FirewallRuleProps` shall always define the attribute `action`.⌋

[constr_5351] `FirewallRule` is allowed to aggregate at most one protocol subelement

Imposition time: IT_Mani

⌈A `FirewallRule` is allowed to aggregate either:

- `someipSdRule`
- `someipRule`
- `doIpRule`

⌋

[constr_5352] `DdsRule.submessageType` value restriction

Status: DRAFT
Imposition time: IT_Mani

⌈The value of `DdsRule.submessageType` is restricted to the following values:

- 0x01 (PAD)

- 0x06 (ACKNACK)
- 0x07 (HEARTBEAT)
- 0x08 (GAP)
- 0x09 (INFO_TS)
- 0x0c (INFO_SRC)
- 0x0d (INFO_REPLY_IP4)
- 0x0e (INFO_DST)
- 0x0f (INFO_REPLY)
- 0x12 (NACK_FRAG)
- 0x13 (HEARTBEAT_FRAG)
- 0x15 (DATA)
- 0x16 (DATA_FRAG)

⌋

[constr_5353] `DdsRule.readerEntityId` and `DdsRule.writerEntityId` value restriction

Status: DRAFT
Imposition time: `IT_Mani`

⌈The value of `DdsRule.readerEntityId` and `DdsRule.writerEntityId` is only allowed to be set if the value of `DdsRule.submessageType` is set to one of the following values:

- 0x06 (ACKNACK)
- 0x07 (HEARTBEAT)
- 0x08 (GAP)
- 0x15 (DATA)

⌋

[constr_5355] `SomeipServiceInstanceToMachineMapping` with configured remote peer addresses shall not mix `ProvidedSomeipServiceInstance`s and `RequiredSomeipServiceInstance`s

Imposition time: `IT_Mani`

⌈A `SomeipServiceInstanceToMachineMapping` that contains a reference to a `SomeipRemoteUnicastConfig` with the `remoteUnicastConfig` shall not reference:

- `ProvidedSomeipServiceInstance`s in the role `serviceInstance` and

- RequiredSomeipServiceInstances in the role serviceInstance at the same time.

⌋

[constr_5356] RequiredSomeipServiceInstance is allowed to have only a single statically configured remote peer as service provider

Imposition time: IT_Mani

⌈A SomeipServiceInstanceToMachineMapping that contains references to a RequiredSomeipServiceInstance with the serviceInstance is allowed to reference only a single SomeipRemoteUnicastConfig in the role remoteUnicastConfig.⌋

[constr_5357] SomeipRemoteMulticastConfig shall only be used on required side

Imposition time: IT_Mani

⌈Only a SomeipServiceInstanceToMachineMapping that contains references to one or several RequiredSomeipServiceInstances with the serviceInstance role is allowed to reference one or several SomeipRemoteMulticastConfigs in the role remoteUnicastConfig.⌋

[constr_5358] AdaptiveFirewallToPortPrototypeMapping.rPort restriction

Imposition time: IT_Mani

⌈The AdaptiveFirewallToPortPrototypeMapping is only allowed to reference a RPortPrototype in the role rPort that is typed by the FirewallStateSwitchInterface.⌋

[constr_5366] Allowed target of ComEventGrant.serviceDeployment reference

Imposition time: IT_Mani

⌈ComEventGrant is allowed to reference only a ServiceEventDeployment in the role serviceDeployment that in turn references a VariableDataPrototype in the role event.⌋

[constr_5367] Allowed target of ComTriggerGrant.serviceDeployment reference

Imposition time: IT_Mani

⌈ComTriggerGrant is allowed to reference only a ServiceEventDeployment in the role serviceDeployment that in turn references a Trigger in the role trigger.⌋

[constr_5368] Existence of the reference in the role `ComTriggerGrant.serviceDeployment`

Imposition time: IT_Mani

⌈For each ComTriggerGrant, the reference in the role serviceDeployment shall exist.⌋

[constr_5372] SecureComProps for a PlatformModuleEthernetEndpointConfiguration that contains a UDP configuration

Imposition time: IT_Mani

⌈Only a PlatformModuleEthernetEndpointConfiguration that references an ApApplicationEndpoint in the role udpPort is allowed to reference SecureComProps in the role secureComPropsForUdp.⌋

[constr_5373] SecureComProps for a PlatformModuleEthernetEndpointConfiguration that contains a TCP configuration

Imposition time: IT_Mani

⌈Only a PlatformModuleEthernetEndpointConfiguration that references an ApApplicationEndpoint in the role tcpPort is allowed to reference SecureComProps in the role secureComPropsForTcp.⌋

[constr_5381] Modeling of Security Event reports by FunctionalCluster shall not be done via `ProcessToMachineMapping`

Imposition time: IT_Mani

⌈If a Process is mapped by the ProcessToMachineMapping and this ProcessToMachineMapping references a NonOsModuleInstantiation in the role nonOsModuleInstantiation, then this Process shall not be referenced by a SecurityEventMapping in the role process.⌋

[constr_5392] Assignment of the same `event` to several `SomeipEventGroup`s on the same VLAN is forbidden if one of these `SomeipEventGroup`s has the `multicastThreshold` set to a value greater than 0

Imposition time: IT_Mani

⌈The same SomeipEventDeployment (Event) shall not be referenced by several SomeipEventGroups if these SomeipEventGroups

- are referenced by different SomeipProvidedEventGroups in the context of one ServiceInstanceToMachineMapping.communicationConnector (VLAN) and
- one or more of these SomeipProvidedEventGroups has the multicastThreshold set to a value>0

except for the case that all these SomeipProvidedEventGroups have the multicastThreshold set to the value 1.⌋

[constr_6815] Existence of CppTemplateArgument.templateType for CppImplementationDataType of category STRING

Imposition time: IT_BefAraApiGen

⌈In a CppImplementationDataType of category STRING, the reference templateType shall not exist.⌋

[constr_6905] CppTemplateArgument.allocator

Imposition time: IT_BefAraApiGen

⌈The reference CppTemplateArgument.allocator shall only exist if the StdCppImplementationDataType.category is set to either of the values:

- STRING
- VECTOR
- ASSOCIATIVE_MAP

⌋

[constr_9323] Restriction of DoIpFunctionalClusterDesign on a MachineDesign

Imposition time: IT_SysDes

⌈Each MachineDesign shall aggregate at most one DoIpFunctionalClusterDesign in the role functionalClusterDesign.⌋

[constr_9324] Allowed PlatformModuleEthernetEndpointConfiguration.communicationConnector references

Imposition time: IT_SysDes

⌈The PlatformModuleEthernetEndpointConfiguration that is referenced by a DoIpNetworkConfigurationDesign shall only reference EthernetCommunicationConnectors that are aggregated by the MachineDesign that is also aggregating the DoIpNetworkConfigurationDesign via the DoIpFunctionalClusterDesign.⌋

[constr_9325] The attribute DoIpFunctionalClusterDesign.doIpLogicalAddress.logicalAddress shall be within the physical address boundaries defined by DoIpRequestConfiguration

Imposition time: IT_SysDes

⌈The value of the attribute DoIpFunctionalClusterDesign.doIpLogicalAddress.logicalAddress shall be within the physical address boundaries defined by DoIpRequestConfiguration that is aggregated by the DoIpFunctionalClusterDesign in the role requestConfigurationDesign.⌋

[constr_9327] SOME/IP segment reception monitoring allowed for udp SomeipEventDeployments

Imposition time: IT_Mani

⌈Attribute SomeipEventDeployment.segmentReceptionTimeoutTime shall only be used if the value of attribute SomeipEventDeployment.transportProtocol is set to udp.⌋

[constr_9328] Reception Monitoring of SOME/IP segments is allowed for udp SomeipMethodDeployments

Imposition time: IT_Mani

⌈SomeipMethodDeployment.segmentReceptionTimeoutTimeRequest and SomeipMethodDeployment.segmentReceptionTimeoutTimeResponse shall only be used if the value of attribute SomeipMethodDeployment.transportProtocol is set to udp.⌋

[constr_9329] Condition for the existence of references in the roles PlatformModuleEthernetEndpointConfiguration.tcpPort and PlatformModuleEthernetEndpointConfiguration.udpPort

Imposition time: IT_MachDes

⌈The PlatformModuleEthernetEndpointConfiguration shall only reference ApApplicationEndpoints in the role tcpPort and udpPort that are aggregated by the EthernetCommunicationConnector that is also referenced by the same PlatformModuleEthernetEndpointConfiguration in the role communicationConnector.⌋

[constr_9334] Supported value range for attribute GenericTpConnection.sourceAddressRangeStart

Imposition time: IT_Mani

⌈The supported value range of attribute GenericTpConnection.sourceAddressRangeStart is limited to the interval 0..65535.⌋

[constr_9335] Supported value range for attribute GenericTpConnection.sourceAddressRangeEnd

Imposition time: IT_Mani

⌈The supported value range of attribute GenericTpConnection.sourceAddressRangeEnd is limited to the interval 0..65535.⌋

[constr_9336] DoIpNetworkConfigurationDesign shall reference a GenericTpConnection

Imposition time: IT_SysDes

⌈Each DoIpNetworkConfigurationDesign element shall reference at least one GenericTpConnection in the role tpConnection.⌋

[constr_9337] Same `priority` for overlapping address ranges in the context of the same `MachineDesign`

Imposition time: IT_SysDes

⌈All GenericTpConnections referenced in the scope of the same MachineDesign that have an overlapping range defined by sourceAddressRangeStart and sourceAddressRangeEnd shall also define the identical values of attribute priority.⌋

[constr_9338] `GenericTpConnection.sourceAddressRangeStart` shall be less or equal of `GenericTpConnection.sourceAddressRangeEnd`

Imposition time: IT_Mani

⌈The value ofGenericTpConnection.sourceAddressRangeStart shall be less or equal the value of GenericTpConnection.sourceAddressRangeEnd.⌋

[constr_9344] Supported value range for the attribute `DoIpFunctionalClusterDesign.doIpProtocolVersion`

Imposition time: IT_SysDes

⌈The supported value range of attribute DoIpFunctionalClusterDesign.doIpProtocolVersion is limited to the interval [2..4].⌋

[constr_9350] All Provided Service Instances using the same UDP endpoint shall use the same DTLS SERVER configuration settings

Imposition time: IT_Mani

⌈If more than one SomeipServiceInstanceToMachineMapping is referencing a ProvidedSomeipServiceInstance and all these SomeipServiceInstanceToMachineMappings are referencing the same ApApplicationEndpoint in the role udpPort and the same EthernetCommunicationConnector in the role communicationConnector then all these SomeipServiceInstanceToMachineMappings shall reference the same TlsSecureComProps with category TLS_SERVER in the role secureComPropsForUdp.⌋

[constr_9351] All Provided Service Instances using the same TCP endpoint shall use the same TLS SERVER configuration settings

Imposition time: IT_Mani

⌈If more than one SomeipServiceInstanceToMachineMapping is referencing a ProvidedSomeipServiceInstance and all these SomeipServiceInstanceToMachineMappings are referencing the same ApApplicationEndpoint in the role tcpPort and the same EthernetCommunicationConnector in the role communicationConnector then all these SomeipServiceInstanceToMachineMappings shall reference the same TlsSecureComProps with category TLS_SERVER in the role secureComPropsForTcp.⌋

[constr_9352] Mutually exclusive existence of attributes RemoteEndpointConfiguration.tcpPort and RemoteEndpointConfiguration.udpPort

Imposition time: IT_Mani

⌈For each RemoteEndpointConfiguration, either the attribute udpPort or the attribute tcpPort shall exist.⌋

[constr_9353] Mutually exclusive existence of attributes RemoteEndpointConfiguration.ipv4Address and RemoteEndpointConfiguration.ipv6Address

Imposition time: IT_Mani

⌈For each RemoteEndpointConfiguration, either the attribute ipv4Address or the attribute ipv6Address shall exist.⌋

[constr_9356] Upper multiplicity of reference in the role DoIpNetworkConfigurationDesign.networkConfiguration

Imposition time: IT_SysDes

⌈In the context of DoIpNetworkConfigurationDesign, the reference in the role networkConfiguration shall exist at most once.⌋

[constr_9370] ApSomeipTransformationProps shall be defined at most once for a ServiceInterface element

Imposition time: IT_BefAraApiGen

⌈For each ServiceInterface element (i.e. an event, field, methodCall or methodReturn) at most one TransformationPropsToServiceInterfaceElementMapping shall be defined that references ApSomeipTransformationProps in the role transformationProps.⌋

[constr_9392] Existence of reference TraceSwitchConfig.traceMessage

Imposition time: IT_BefAraApiGen

⌈The reference in the role TraceSwitchConfig.traceMessage shall exist.⌋

[constr_9393] Existence of attribute TraceSwitchConfig.traceSwitch

Imposition time: IT_BefAraApiGen

⌈The attribute TraceSwitchConfig.traceSwitch shall exist.⌋

[constr_9394] Existence of reference TraceSwitchConfig.executable

Imposition time: IT_BefAraApiGen

⌈The reference in the role TraceSwitchConfig.executable shall exist.⌋

[constr_9429] Upper multiplicity of reference in the role IdsFunctionalClusterDesign.networkInterface

Imposition time: IT_MachDes

⌈In the context of IdsFunctionalClusterDesign, the reference in the role networkInterface shall exist at most once.⌋

[constr_9430] Existence of DoIpInstantiation.doIpDesign

Imposition time: IT_Mani

⌈For each DoIpInstantiation, the reference doIpDesign shall exist.⌋

[constr_9431] Existence of SovdServerInstantiation.sovdServerDesign

Imposition time: IT_Mani

⌈For each SovdServerInstantiation, the reference sovdServerDesign shall exist.⌋

[constr_9432] Existence of SovdGatewayInstantiation.sovdGatewayDesign

Imposition time: IT_Mani

⌈For each SovdGatewayInstantiation, the reference sovdGatewayDesign shall exist.⌋

[constr_9433] Existence of reference IdsPlatformInstantiation.idsDesign

Imposition time: IT_Mani

⌈For each IdsPlatformInstantiation, the reference idsDesign shall exist.⌋

[constr_9434] Overlap of ClientIdRanges in the context of the enclosing System

Imposition time: IT_SysDes

⌈The ClientIdRange defined for a MachineDesign shall not overlap with the ClientIdRanges of any other MachineDesigns or EcuInstances in the context of the enclosing System.⌋

[constr_9435] ServiceInstanceToPortPrototypeMapping.clientId is only applicable to RPortPrototypes and RequiredApServiceInstances

Imposition time: IT_Mani

⌈The attribute ServiceInstanceToPortPrototypeMapping.clientId shall only be defined if the ServiceInstanceToPortPrototypeMapping references a RPortPrototype in the role portPrototype and a RequiredApServiceInstance in the role serviceInstance.⌋

[constr_9436] Restriction of allowed values for ServiceInstanceToPortPrototypeMapping.clientId in case that a ClientIdRange is defined

Imposition time: IT_Mani

⌈If

- a RequiredApServiceInstance is mapped to a MachineDesign via a ServiceInstanceToMachineMapping and
- the aggregation MachineDesign.clientIdRange exists and
- the RequiredApServiceInstance is referenced in the role serviceInstance by a ServiceInstanceToPortPrototypeMapping for which the attribute clientId exists,

then the value of the attribute ServiceInstanceToPortPrototypeMapping.clientId shall be within the range specified by the MachineDesign.clientIdRange.⌋

[constr_9437] ServiceInstanceToPortPrototypeMapping.clientId shall be unique in the context of a Machine

Imposition time: IT_Mani

⌈The value of the attribute clientId defined in the ServiceInstanceToPortPrototypeMapping that maps a RPortPrototype to a RequiredApServiceInstance shall be unique in the context of the MachineDesign to which the RequiredApServiceInstance is mapped via the ServiceInstanceToMachineMapping.⌋

[constr_9438] Partial configuration of clientIds for ServiceInterface users that are located on the same Machine is not allowed

Imposition time: IT_Mani

⌈If one ServiceInstanceToPortPrototypeMapping that maps an RPortPrototype to a RequiredApServiceInstance defines a clientId and

- this RequiredApServiceInstance is mapped to a MachineDesign via ServiceInstanceToMachineMapping and
- this RequiredApServiceInstance references a ServiceInterfaceDeployment in the role serviceInterfaceDeployment,

then all other ServiceInstanceToPortPrototypeMappings that map RequiredApServiceInstances that in turn

- reference the same ServiceInterfaceDeployment and
- are mapped via the ServiceInstanceToMachineMapping to the same MachineDesign

shall define a clientId as well.⌋

[constr_9460] Attribute `fixedStringSize` of `ApSomeipTransformationProps` not applicable for `TransformationPropsToServiceInterfaceElementMapping`

Imposition time: IT_BefAraApiGen

⌈Any TransformationPropsToServiceInterfaceElementMapping shall not reference ApSomeipTransformationProps in the role transformationProps in which the attribute fixedStringSize is set to a value.⌋

[constr_9461] `fixedStringSize` is only applicable for `DataPrototype`s of `category STRING`

Imposition time: IT_BefAraApiGen

⌈The SomeipDataPrototypeTransformationProps shall only reference an ApSomeipTransformationProps in which the attribute fixedStringSize is set to a value if the DataPrototype that is referenced by the aggregated DataPrototypeInServiceInterfaceRef is typed by a CppImplementationDataType of category STRING.⌋

[constr_10002] Only one mapping per `PortPrototype`

Imposition time: IT_DiagDes

⌈If one instance of the following sub-classes of DiagnosticSwMapping – that refers to a given ProcessDesign – refers to a PortPrototype, then no other instance of DiagnosticSwMapping that refers to the same ProcessDesign shall refer to the same PortPrototype:

- DiagnosticEventPortMapping that is associated with a RPortPrototype typed by a DiagnosticMonitorInterface or a DiagnosticEventInterface.
- DiagnosticOperationCyclePortMapping that is associated with a RPortPrototype typed by a DiagnosticOperationCycleInterface.
- DiagnosticEnableConditionPortMapping that is associated with a RPortPrototype typed by a DiagnosticConditionInterface.
- DiagnosticClearConditionPortMapping that is associated with a RPortPrototype typed by a DiagnosticConditionInterface.
- DiagnosticIndicatorPortMapping that is associated with a RPortPrototype typed by a DiagnosticIndicatorInterface.
- DiagnosticMemoryDestinationPortMapping that is associated with an RPortPrototype typed by a DiagnosticDTCInformationInterface.
- DiagnosticSecurityLevelPortMapping that is associated with a PPortPrototype typed by a DiagnosticSecurityLevelInterface.
- DiagnosticDataPortMapping that is associated with a PPortPrototype typed by a DiagnosticDataIdentifierInterface.

- DiagnosticSecurityLevelPortMapping that is associated with a PPortPrototype typed by a DiagnosticSecurityLevelInterface.
- DiagnosticServiceValidationMapping that is associated with a PPortPrototype typed by a DiagnosticServiceValidationInterface.

⌋

[constr_10003] Restriction for the existence of attribute DiagnosticDataPortMapping.diagnosticDataIdentifier vs. attribute DiagnosticDataPortMapping.diagnosticDataElement

Imposition time: IT_DiagDes

⌈For each DiagnosticDataPortMapping, **either** the reference in the role diagnosticDataIdentifier **or** diagnosticDataElement shall exist.⌋

[constr_10021] Existence of IdsmModuleInstantiation

Imposition time: IT_Mani

⌈On each Machine, only one instance of the Intrusion Detection System Manager (modeled by IdsmModuleInstantiation) shall exist.⌋

[constr_10023] Mandatory content of any functionGroup

Imposition time: IT_Mani

⌈All ModeDeclarationGroupPrototypes aggregated by a FunctionGroupSet in the role functionGroup shall refer to a ModeDeclarationGroup that contains one ModeDeclaration with the shortName **Verify**.⌋

[constr_10029] ServiceInterfaceDeployment (except DdsServiceInterfaceDeployment) shall cover all elements of the corresponding ServiceInterface

Imposition time: IT_Mani

⌈With the exception of DdsServiceInterfaceDeployment, if a ServiceInterfaceDeployment references a ServiceInterface in the role serviceInterface, then all methods, fields, triggers, and events defined in the context of the referenced ServiceInterface shall be referenced by respective methodDeployments, fieldDeployments, and eventDeployments owned by the referencing ServiceInterfaceDeployment.⌋

[constr_10030] Existence of DiagnosticDataIdentifierInterface.read

Imposition time: IT_BefAraApiGen

⌈Attribute DiagnosticDataIdentifierInterface.read shall exist.⌋

[constr_10031] Existence of DiagnosticRoutineInterface.start

Imposition time: IT_BefAraApiGen

⌈Attribute DiagnosticRoutineInterface.start shall exist.⌋

[constr_10035] Completeness of the PersistencyDeployment.version

Imposition time: IT_Mani

⌈The PersistencyDeployment.version shall contain all the following parts:

- Major version
- Minor version
- Patch version
- Additional labels for pre-release version and build metadata

⌋

[constr_10037] Existence of attribute TagWithOptionalValue.sequenceOffset in the context of attribute capabilityRecord owned by ProvidedSomeipServiceInstance, RequiredSomeipServiceInstance, or AbstractServiceInstance

Imposition time: IT_Mani

⌈For all capabilityRecord modeled in the context of ProvidedSomeipServiceInstance, RequiredSomeipServiceInstance, or AbstractServiceInstance, attribute TagWithOptionalValue.sequenceOffset shall not exist.⌋

[constr_10046] Value of PersistencyRedundancyMOutOfN.n

Imposition time: IT_BefAraApiGen

⌈The value of attribute PersistencyRedundancyMOutOfN.n shall be set at least to 2 and at most to 255, i.e. the allowed interval is [2..255].⌋

[constr_10047] Restriction for the applicability of DiagnosticMonitorPortMapping

Imposition time: IT_DiagDes

⌈If an RPortPrototype is referenced by a DiagnosticMonitorPortMapping, then the RPortPrototype shall be typed by a DiagnosticMonitorInterface.⌋

[constr_10048] Existence of reference from DiagnosticMonitorPortMapping to DiagnosticEvent

Imposition time: IT_DiagDes

⌈Each DiagnosticEvent shall only be referenced by exactly one DiagnosticMonitorPortMapping or DiagnosticMultipleMonitorPortMapping.⌋

[constr_10049] Restriction for the applicability of DiagnosticEventPortMapping

Imposition time: IT_DiagDes

⌈If an RPortPrototype is referenced by a DiagnosticEventPortMapping, then the RPortPrototype shall be typed by a DiagnosticEventInterface.⌋

[constr_10050] Restriction for the applicability of DiagnosticOperationCyclePortMapping

Imposition time: IT_DiagDes

⌈If an RPortPrototype is referenced by a DiagnosticOperationCyclePortMapping, then the RPortPrototype shall be typed by a DiagnosticOperationCycleInterface.⌋

[constr_10051] Existence of reference from DiagnosticOperationCyclePortMapping to DiagnosticOperationCycle

Imposition time: IT_DiagDes

⌈Each DiagnosticOperationCycle shall only be referenced by exactly one DiagnosticOperationCyclePortMapping.⌋

[constr_10052] Restriction for the applicability of DiagnosticEnableConditionPortMapping

Imposition time: IT_DiagDes

⌈If an RPortPrototype is referenced by a DiagnosticEnableConditionPortMapping, then the RPortPrototype shall be typed by a DiagnosticConditionInterface.⌋

[constr_10053] Existence of reference from DiagnosticEnableConditionPortMapping to DiagnosticEnableCondition

Imposition time: IT_DiagDes

⌈Each DiagnosticEnableCondition shall only be referenced by at most one DiagnosticEnableConditionPortMapping.⌋

[constr_10054] Restriction for the applicability of meta-class DiagnosticClearConditionPortMapping

Imposition time: IT_DiagDes

⌈If an RPortPrototype is referenced by a DiagnosticClearConditionPortMapping, then the RPortPrototype shall be typed by a DiagnosticConditionInterface.⌋

[constr_10055] Existence of reference from DiagnosticClearConditionPortMapping to DiagnosticClearCondition

Imposition time: IT_DiagDes

⌈Each DiagnosticClearCondition shall only be referenced by at most one DiagnosticClearConditionPortMapping.⌋

[constr_10056] Restriction for the applicability of DiagnosticIndicatorPortMapping

Imposition time: IT_DiagDes

⌈If an RPortPrototype is referenced by a DiagnosticIndicatorPortMapping, then the RPortPrototype shall be typed by a DiagnosticIndicatorInterface.⌋

[constr_10057] Restriction for the applicability of meta-class DiagnosticMemoryDestinationPortMapping

Imposition time: IT_DiagDes

⌈If an RPortPrototype is referenced by a DiagnosticMemoryDestinationPortMapping, then the RPortPrototype shall be typed by a DiagnosticDTCInformationInterface.⌋

[constr_10058] Restriction for the applicability of DiagnosticSecurityLevelPortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced by a DiagnosticSecurityLevelPortMapping, then the PPortPrototype shall be typed by a DiagnosticSecurityLevelInterface.⌋

[constr_10059] Existence of reference from DiagnosticSecurityLevelPortMapping to DiagnosticSecurityLevel

Imposition time: IT_DiagDes

⌈Each DiagnosticSecurityLevel shall only be referenced by exactly one DiagnosticSecurityLevelPortMapping.⌋

[constr_10060] PortInterface of PPortPrototype that is referenced by DiagnosticDataPortMapping

Imposition time: IT_DiagDes

⌈Any particular PPortPrototype that is referenced in the role DiagnosticDataPortMapping.pPortPrototypeInExecutable shall be typed by either of

- DiagnosticDataIdentifierInterface
- DiagnosticDataElementInterface
- DiagnosticDataIdentifierGenericInterface

⌋

[constr_10061] Mapping to PPortPrototype that is typed by DiagnosticDataIdentifierInterface, DiagnosticDataElementInterface, or DiagnosticDataIdentifierGenericInterface

Imposition time: IT_DiagDes

⌈All PPortPrototypes typed by either

- DiagnosticDataIdentifierInterface
- DiagnosticDataElementInterface
- DiagnosticDataIdentifierGenericInterface

shall **only** be referenced by a DiagnosticDataPortMapping. No other subclass of DiagnosticSwMapping is eligible for this purpose.⌋

[constr_10063] Possible values for DiagnosticServiceValidationMapping.category

Imposition time: IT_DiagDes

⌈The value of attribute DiagnosticServiceValidationMapping.category is restricted to the following values:

MANUFACTURER_VALIDATION The enclosing DiagnosticServiceValidationMapping represents a validation defined by the manufacturer.

SUPPLIER_VALIDATION The enclosing DiagnosticServiceValidationMapping represents a validation defined by the supplier.

⌋

[constr_10064] Existence of DiagnosticServiceValidationMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈A PPortPrototype referenced in the role DiagnosticServiceValidationMapping.pPortPrototypeInExecutable shall be typed by a DiagnosticServiceValidationInterface.⌋

[constr_10065] Validity of DiagnosticServiceValidationConfiguration.manufacturerValidationOrder

Imposition time: IT_Mani

⌈Any DiagnosticServiceValidationConfiguration.manufacturerValidationOrder shall only refer to a DiagnosticServiceValidationMapping where attribute category has been set to MANUFACTURER_VALIDATION.⌋

[constr_10066] Validity of DiagnosticServiceValidationConfiguration.supplierValidationOrder

Imposition time: IT_Mani

⌈Any DiagnosticServiceValidationConfiguration.supplierValidationOrder shall only refer to a DiagnosticServiceValidationMapping where attribute category has been set to SUPPLIER_VALIDATION.⌋

[constr_10069] Existence of SoftwareClusterDiagnosticDeployment-Props.powerDownTime

Imposition time: IT_Mani

⌈The attribute SoftwareClusterDiagnosticDeploymentProps.powerDown-Time shall exist and have a value between 0 and 254 if the referenced diagnostic-Extract that in turn references in the role element a DiagnosticEcuReset where attribute category is set to the value ENABLE_RAPID_POWER_SHUT_DOWN.⌋

[constr_10070] Value of RequiredSomeipServiceInstance.required-ServiceInstanceId

Imposition time: IT_Mani

⌈For each RequiredSomeipServiceInstance.requiredServiceInstanceId, the value shall be in the range 0..65534 or ALL.⌋

[constr_10076] Existence of RawDataStreamEthernetUdpCredentials.udp-Port

Imposition time: IT_Mani

⌈In the context of RawDataStreamEthernetUdpCredentials, the attribute udp-Port shall exist.⌋

[constr_10077] Existence of ipV4Address and ipV6Address within Abstract-RawDataStreamEthernetCredentials

Imposition time: IT_Mani

⌈Within the context of a AbstractRawDataStreamEthernetCredentials, either the attribute ipV4Address or the attribute ipV6Address shall exist.⌋

[constr_10078] Existence of RawDataStreamEthernetTcpUdpCredentials.tcpPort and udpPort

Imposition time: IT_Mani

⌈In the context of a RawDataStreamEthernetTcpUdpCredentials, either the attribute tcpPort **or** udpPort shall exist.⌋

[constr_10079] Existence of EthernetRawDataStreamMapping.localTcpPort and localUdpPort

Imposition time: IT_Mani

⌈In the context of a EthernetRawDataStreamMapping.localCommConnector, only **one** attribute out of

- localTcpPort
- localUdpPort

shall exist.⌋

[constr_10080] Existence of initial values for `PersistencyFileElement`

Imposition time: IT_BefAraApiGen

⌈For each PersistencyFileElement, if the value of attribute updateStrategy is set to the value delete, then attribute PersistencyFileElement.contentUri shall not exist.⌋

[constr_10081] Existence of initial values in the definition of `PersistencyDataRequiredComSpec`

Imposition time: IT_BefAraApiGen

⌈For each PersistencyDataRequiredComSpec, if the value of attribute dataElement.updateStrategy is set to the value delete, then attribute PersistencyDataRequiredComSpec.initValue shall not exist.⌋

[constr_10082] Existence of initial values for `PersistencyFile`

Imposition time: IT_Mani

⌈For each PersistencyFile, if the value of attribute updateStrategy is set to the value delete, then attribute PersistencyFile.contentUri shall not exist.⌋

[constr_10083] Existence of initial values for `PersistencyKeyValuePair`

Imposition time: IT_Mani

⌈For each PersistencyKeyValuePair, if the value of attribute updateStrategy is set to the value delete, then attribute PersistencyKeyValuePair.initValue shall not exist.⌋

[constr_10086] Existence of `unicastUdpCredentials` and `multicastCredentials` in the context of a `EthernetRawDataStreamServerMapping`

Imposition time: IT_Mani

⌈In the context of a EthernetRawDataStreamServerMapping, only one aggregation out of

- remoteClientConfig.multicastCredentials
- remoteClientConfig.unicastUdpCredentials

shall exist.⌋

[constr_10090] Existence of `ProcessToMachineMapping.persistencyCentralStorageURI`

Imposition time: IT_Mani

⌈Attribute ProcessToMachineMapping.persistencyCentralStorageURI shall exist if the Process referenced in the role ProcessToMachineMapping.process is also referenced by at least one of

- PersistencyPortPrototypeToDeploymentMapping in the role process

- FunctionalClusterInteractsWithPersistencyDeploymentMapping in the role process

⌋

[constr_10092] Restriction for the applicability of meta-class DiagnosticAuthenticationPortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced by a DiagnosticAuthenticationPortMapping, then the PPortPrototype shall be typed by a DiagnosticAuthenticationInterface.⌋

[constr_10093] Existence of the reference from DiagnosticAuthenticationPortMapping to DiagnosticAuthentication

Imposition time: IT_DiagDes

⌈Each DiagnosticAuthentication shall only be referenced by exactly one DiagnosticAuthenticationPortMapping.⌋

[constr_10094] Restriction for the applicability of DiagnosticExternalAuthenticationPortMapping

Imposition time: IT_DiagDes

⌈If an RPortPrototype is referenced by a DiagnosticExternalAuthenticationPortMapping, then the RPortPrototype shall be typed by a DiagnosticExternalAuthenticationInterface.⌋

[constr_10098] Relation of MachineDesign.pnResetTimer and UdpNmCluster.nmMsgCycleTime

Imposition time: IT_Mani

⌈For the configuration of the partial networking timing, the following condition shall be ensured: MachineDesign.pnResetTimer > UdpNmCluster.nmMsgCycleTime.⌋

[constr_10101] Attribute NmHandleToFunctionGroupStateMapping.mappingDirection is set to nmHandleActiveToFunctionGroupState or nmHandleInactiveToFunctionGroupState

Imposition time: IT_Mani

⌈If the value of attribute NmHandleToFunctionGroupStateMapping.mappingDirection is set to the value NmHandleMappingDirectionEnum.nmHandleActiveToFunctionGroupState or NmHandleMappingDirectionEnum.nmHandleInactiveToFunctionGroupState, then the reference NmHandleToFunctionGroupStateMapping.functionGroupState shall not refer to two (or more) ModeDeclarations **of the same** ModeDeclarationGroup.⌋

[constr_10102] Existence of initial values for `PersistencyKeyValuePair`

Imposition time: IT_Mani

⌈For each PersistencyKeyValuePair, if the value of attribute updateStrategy is set to either of the values

- keepExisting or
- overwrite,

then attribute PersistencyKeyValuePair.initValue shall exist.⌋

[constr_10103] Existence of initial values for `PersistencyFile`

Imposition time: IT_Mani

⌈For each PersistencyFile, if the value of attribute updateStrategy is set to either of the values

- keepExisting or
- overwrite,

then attribute PersistencyFile.contentUri shall exist.⌋

[constr_10105] Existence of `UcmRetryStrategy.maximumNumberOfRetries`

Imposition time: IT_Mani

⌈For each UcmRetryStrategy, attribute maximumNumberOfRetries shall exist.⌋

[constr_10106] Existence of `UcmRetryStrategy.retryIntervalTime`

Imposition time: IT_Mani

⌈For each UcmRetryStrategy, attribute retryIntervalTime shall exist.⌋

[constr_10107] Existence of the attribute `UcmMasterModuleInstantiation.blockInconsistent`

Imposition time: IT_Mani

⌈The attribute UcmMasterModuleInstantiation.blockInconsistent shall exist.⌋

[constr_10108] Existence of the attribute `UcmMasterModuleInstantiation.serviceBusy`

Imposition time: IT_Mani

⌈The attribute UcmMasterModuleInstantiation.serviceBusy shall exist.⌋

[constr_10109] Existence of the attribute `UcmMasterModuleInstantiation.updateSessionRejected`

Imposition time: IT_Mani

⌈The attribute UcmMasterModuleInstantiation.updateSessionRejected shall exist.⌋

[constr_10110] Existence of `UcmSubordinateModuleInstantiation` on a `Machine`

Imposition time: `IT_Mani`

⌈For each `Machine`, a `ProcessToMachineMapping` shall exist that refers in the role `machine` to the `Machine` and in the role `nonOsModuleInstantiation` to a `UcmSubordinateModuleInstantiation`.⌋

[constr_10113] Restriction for the existence of `ExecutableLoggingImplementationProps`

Imposition time: `IT_BefAraApiGen`

⌈The aggregation of `ExecutableLoggingImplementationProps` in the role `Executable.implementationProps` is only allowed for an `Executable` where attribute `category` is set to the value `PLATFORM_LEVEL`.⌋

[constr_10114] Existence of attributes of `DiagnosticEnvDataElementCondition` if the reference in the role `pPortPrototype` exists

Imposition time: `IT_DiagDes`

⌈If the reference in the role `DiagnosticEnvDataElementCondition.pPortPrototype` exists, then the aggregations in the roles `compareValue`, `process`, and `swDataDefProps` shall exist.⌋

[constr_10124] Multiplicity of attribute `ApplicationAssocMapDataType.key`

Imposition time: `IT_BefAraApiGen`

⌈For each `ApplicationAssocMapDataType`, the attribute `key` shall exist.⌋

[constr_10125] Multiplicity of attribute `ApplicationAssocMapDataType.value`

Imposition time: `IT_BefAraApiGen`

⌈For each `ApplicationAssocMapDataType`, the attribute `value` shall exist.⌋

[constr_10126] Multiplicity of attribute `ApplicationAssocMapElementValueSpecification.key`

Imposition time: `IT_BefAraApiGen`

⌈For each `ApplicationAssocMapElementValueSpecification`, the attribute `key` shall exist.⌋

[constr_10127] Multiplicity of attribute `ApplicationAssocMapElementValueSpecification.value`

Imposition time: `IT_BefAraApiGen`

⌈For each `ApplicationAssocMapElementValueSpecification`, the attribute `value` shall exist.⌋

[constr_10128] Multiplicity of attribute CppImplementationDataTypeElementQualifier.typeReference

Imposition time: IT_BefAraApiGen

⌈For each CppImplementationDataTypeElementQualifier, the attribute typeReference shall exist⌋

[constr_10129] Multiplicity of attribute Field.hasGetter

Imposition time: IT_BefAraApiGen

⌈For each Field, the attribute hasGetter shall exist.⌋

[constr_10130] Multiplicity of attribute Field.hasSetter

Imposition time: IT_BefAraApiGen

⌈For each Field, the attribute hasSetter shall exist.⌋

[constr_10131] Multiplicity of attribute Field.hasNotifier

Imposition time: IT_BefAraApiGen

⌈For each Field, the attribute hasNotifier shall exist.⌋

[constr_10132] Multiplicity of attribute ApApplicationError.errorCode

Imposition time: IT_BefAraApiGen

⌈For each ApApplicationError, the attribute errorCode shall exist.⌋

[constr_10133] Multiplicity of attribute ApApplicationErrorDomain.value

Imposition time: IT_BefAraApiGen

⌈For each ApApplicationErrorDomain, the attribute value shall exist.⌋

[constr_10134] Multiplicity of reference in the role PortInterfaceToDataTypeMapping.dataTypeMappingSet

Imposition time: IT_BefAraApiGen

⌈For each PortInterfaceToDataTypeMapping, the reference in the role dataTypeMappingSet shall exist at least once.⌋

[constr_10135] Multiplicity of reference in the role PortInterfaceToDataTypeMapping.portInterface

Imposition time: IT_BefAraApiGen

⌈For each PortInterfaceToDataTypeMapping, the reference in the role portInterface shall exist.⌋

[constr_10136] Multiplicity of reference in the role ServiceInterfaceMapping.compositeServiceInterface

Imposition time: IT_BefAraApiGen

⌈For each ServiceInterfaceMapping, the reference in the role compositeServiceInterface shall exist.⌋

[constr_10137] Multiplicity of reference in the role ServiceInterfaceMapping.sourceServiceInterface

Imposition time: IT_BefAraApiGen

⌈For each ServiceInterfaceMapping, the reference in the role sourceServiceInterface shall exist at least once.⌋

[constr_10138] Multiplicity of reference in the role ServiceInterfaceEventMapping.sourceEvent

Imposition time: IT_BefAraApiGen

⌈For each ServiceInterfaceEventMapping, the reference in the role sourceEvent shall exist.⌋

[constr_10139] Multiplicity of reference in the role ServiceInterfaceEventMapping.targetEvent

Imposition time: IT_BefAraApiGen

⌈For each ServiceInterfaceEventMapping, the reference in the role targetEvent shall exist.⌋

[constr_10140] Multiplicity of reference in the role ServiceInterfaceFieldMapping.sourceField

Imposition time: IT_BefAraApiGen

⌈For each ServiceInterfaceFieldMapping, the reference in the role sourceField shall exist.⌋

[constr_10141] Multiplicity of reference in the role ServiceInterfaceFieldMapping.targetField

Imposition time: IT_BefAraApiGen

⌈For each ServiceInterfaceFieldMapping, the reference in the role targetField shall exist.⌋

[constr_10142] Multiplicity of reference in the role ServiceInterfaceMethodMapping.sourceMethod

Imposition time: IT_BefAraApiGen

⌈For each ServiceInterfaceMethodMapping, the reference in the role sourceMethod shall exist.⌋

[constr_10143] Multiplicity of reference in the role ServiceInterfaceMethodMapping.targetMethod

Imposition time: IT_BefAraApiGen

⌈For each ServiceInterfaceMethodMapping, the reference in the role targetMethod shall exist.⌋

[constr_10144] Multiplicity of reference in the role PersistencyRedundancyChecksum.algorithmFamily

Imposition time: IT_BefAraApiGen

⌈For each PersistencyRedundancyChecksum, the reference in the role algorithmFamily shall exist.⌋

[constr_10145] Multiplicity of reference in the role PersistencyRedundancyChecksum.length

Imposition time: IT_BefAraApiGen

⌈For each PersistencyRedundancyChecksum, the reference in the role length shall exist.⌋

[constr_10146] Multiplicity of reference in the role PersistencyRedundancyMOutOfN.m

Imposition time: IT_BefAraApiGen

⌈For each PersistencyRedundancyMOutOfN, the reference in the role m shall exist.⌋

[constr_10147] Multiplicity of reference in the role PersistencyRedundancyMOutOfN.n

Imposition time: IT_BefAraApiGen

⌈For each PersistencyRedundancyMOutOfN, the reference in the role n shall exist.⌋

[constr_10148] Multiplicity of reference in the role PersistencyFileElement.contentUri

Imposition time: IT_BefAraApiGen

⌈For each PersistencyFileElement, the reference in the role contentUri shall exist if the value of attribute updateStrategy is set to either

- PersistencyElementLevelUpdateStrategyEnum.keepExisting or
- PersistencyElementLevelUpdateStrategyEnum.overwrite.

⌋

[constr_10149] Multiplicity of attribute in the role PersistencyFileElement.fileName

Imposition time: IT_BefAraApiGen

⌈For each PersistencyFileElement, the attribute in the role fileName shall exist.⌋

[constr_10151] Multiplicity of reference in the role PhmCheckpoint.checkpointId

Imposition time: IT_BefAraApiGen

⌈For each PhmCheckpoint, the reference in the role checkpointId shall exist.⌋

[constr_10152] Multiplicity of reference in the role FieldSenderComSpec.initValue

Imposition time: IT_BefAraApiGen

⌈For each FieldSenderComSpec, the reference in the role initValue shall exist.⌋

[constr_10154] Multiplicity of reference in the role ProcessDesignToMachineDesignMapping.processDesign

Imposition time: IT_SysDes

⌈For each ProcessDesignToMachineDesignMapping, the reference in the role processDesign shall exist.⌋

[constr_10155] Multiplicity of reference in the role ComOfferServiceGrantDesign.providedServicePort

Imposition time: IT_GraDes

⌈For each ComOfferServiceGrantDesign, the reference in the role providedServicePort shall exist.⌋

[constr_10157] Multiplicity of reference in the role ComFieldGrantDesign.field

Imposition time: IT_GraDes

⌈For each ComFieldGrantDesign, the reference in the role field shall exist.⌋

[constr_10158] Multiplicity of reference in the role ComFieldGrantDesign.role

Imposition time: IT_GraDes

⌈For each ComFieldGrantDesign, the reference in the role role shall exist.⌋

[constr_10159] Multiplicity of reference in the role ComEventGrantDesign.event

Imposition time: IT_GraDes

⌈For each ComEventGrantDesign, the reference in the role event shall exist.⌋

[constr_10160] Multiplicity of reference in the role ComTriggerGrantDesign.trigger

Imposition time: IT_GraDes

⌈For each ComTriggerGrantDesign, the reference in the role trigger shall exist.⌋

[constr_10161] Multiplicity of reference in the role ComMethodGrantDesign.method

Imposition time: IT_GraDes

⌈For each ComMethodGrantDesign, the reference in the role method shall exist.⌋

[constr_10162] Multiplicity of reference in the role DiagnosticClearConditionPortMapping.clearCondition

Imposition time: IT_DiagDes

⌈For each DiagnosticClearConditionPortMapping, the reference in the role clearCondition shall exist.⌋

[constr_10163] Multiplicity of reference in the role DiagnosticIndicatorPortMapping.indicator

Imposition time: IT_DiagDes

⌈For each DiagnosticIndicatorPortMapping, the reference in the role indicator shall exist.⌋

[constr_10164] Multiplicity of reference in the role DiagnosticMemoryDestinationPortMapping.memoryDestination

Imposition time: IT_DiagDes

⌈For each DiagnosticMemoryDestinationPortMapping, the reference in the role memoryDestination shall exist.⌋

[constr_10165] Multiplicity of reference in the role DiagnosticDataPortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticDataPortMapping, the reference in the role process shall exist.⌋

[constr_10166] Multiplicity of attribute DiagnosticProvidedDataMapping.dataProvider

Imposition time: IT_DiagDes

⌈For each DiagnosticProvidedDataMapping, the attribute dataProvider shall exist.⌋

[constr_10167] Multiplicity of attribute SomeipServiceDiscovery.someipServiceDiscoveryPort

Imposition time: IT_SysDes

⌈For each SomeipServiceDiscovery, the attribute someipServiceDiscoveryPort shall exist.⌋

[constr_10169] Multiplicity of reference in the role Machine.machineDesign

Imposition time: IT_Mani

⌈For each Machine, the reference in the role machineDesign shall exist.⌋

[constr_10170] Existence of attribute Machine.trustedPlatformExecutableLaunchBehavior

Imposition time: IT_Mani

⌈For each Machine, the primitive attribute trustedPlatformExecutableLaunchBehavior shall exist.⌋

[constr_10171] Multiplicity of attribute Machine.processor

Imposition time: IT_Mani

⌈For each Machine, at least one aggregation on the role processor shall exist.⌋

[constr_10172] Multiplicity of attribute Processor.core

Imposition time: IT_SysDes

⌈For each Processor, the attribute core shall exist.⌋

[constr_10173] Multiplicity of attribute ProcessorCore.coreId

Imposition time: IT_SysDes

⌈For each ProcessorCore, the attribute coreId shall exist.⌋

[constr_10174] Multiplicity of the reference in the role ProcessToMachineMapping.process

Imposition time: IT_Mani

⌈For each ProcessToMachineMapping, the reference in the role process shall exist.⌋

[constr_10175] Multiplicity of attribute StateDependentStartupConfig.resourceGroup

Imposition time: IT_Mani

⌈For each StateDependentStartupConfig, the attribute resourceGroup shall exist.⌋

[constr_10177] Multiplicity of the attribute PersistencyDeployment.updateStrategy

Imposition time: IT_Mani

⌈For each PersistencyDeployment, the attribute updateStrategy shall exist.⌋

[constr_10178] Multiplicity of the reference in the role PersistencyPortPrototypeToDeploymentMapping.process

Imposition time: IT_Mani

⌈For each PersistencyPortPrototypeToDeploymentMapping, the reference in the role process shall exist.⌋

[constr_10179] Multiplicity of attribute PersistencyKeyValuePair.valueDataType

Imposition time: IT_Mani

⌈For each PersistencyKeyValuePair, the attribute valueDataType shall exist.⌋

[constr_10180] Multiplicity of the reference in the role PersistencyPortPrototypeToKeyValueStorageMapping.keyValueStorage

Imposition time: IT_Mani

⌈For each PersistencyPortPrototypeToKeyValueStorageMapping, the reference in the role keyValueStorage shall exist.⌋

[constr_10182] Multiplicity of the reference in the role PersistencyPortPrototypeToFileStorageMapping.fileStorage

Imposition time: IT_Mani

⌈For each PersistencyPortPrototypeToFileStorageMapping, the reference in the role fileStorage shall exist.⌋

[constr_10183] Multiplicity of attribute PersistencyFile.fileName

Imposition time: IT_Mani

⌈For each PersistencyFile, the attribute fileName shall exist.⌋

[constr_10184] Multiplicity of the reference in the role SynchronizedTimeBaseConsumer.networkTimeConsumer

Imposition time: IT_Mani

⌈For each SynchronizedTimeBaseConsumer, the reference in the role networkTimeConsumer shall exist.⌋

[constr_10185] Multiplicity of the reference in the role SynchronizedTimeBaseProvider.networkTimeProvider

Imposition time: IT_Mani

⌈For each SynchronizedTimeBaseProvider, the reference in the role networkTimeProvider shall exist.⌋

[constr_10186] Multiplicity of attribute DoIpFunctionalClusterDesign.entityStatusMaxByteFieldUse

Imposition time: IT_SysDes

⌈For each DoIpFunctionalClusterDesign, the attribute entityStatusMaxByteFieldUse shall exist.⌋

[constr_10188] Existence of attribute DoIpFunctionalClusterDesign.doIpLogicalAddress

Imposition time: IT_MachDes

⌈For each DoIpFunctionalClusterDesign, attribute doIpLogicalAddress shall exist.⌋

[constr_10189] Multiplicity of attribute DoIpFunctionalClusterDesign.maxRequestBytes

Imposition time: IT_SysDes

⌈For each DoIpFunctionalClusterDesign, the attribute maxRequestBytes shall exist.⌋

[constr_10191] Multiplicity of attribute DoIpNetworkConfigurationDesign.isActivationLineDependent

Imposition time: IT_MachDes

⌈For each DoIpNetworkConfigurationDesign, the attribute isActivationLineDependent shall exist.⌋

[constr_10192] Multiplicity of attribute DoIpNetworkConfigurationDesign.maxInitialVehicleAnnouncementTime

Imposition time: IT_MachDes

⌈For each DoIpNetworkConfigurationDesign, the attribute maxInitialVehicleAnnouncementTime shall exist.⌋

[constr_10193] Multiplicity of attribute DoIpNetworkConfigurationDesign.maxTesterConnections

Imposition time: IT_MachDes

⌈For each DoIpNetworkConfigurationDesign, the attribute maxTesterConnections shall exist.⌋

[constr_10194] Multiplicity of attribute DoIpNetworkConfigurationDesign.networkInterfaceId

Imposition time: IT_MachDes

⌈For each DoIpNetworkConfigurationDesign, the attribute networkInterfaceId shall exist.⌋

[constr_10197] Multiplicity of attribute DoIpRequestConfigurationDesign.endAddress

Imposition time: IT_MachDes

⌈For each DoIpRequestConfigurationDesign, the attribute endAddress shall exist.⌋

[constr_10198] Multiplicity of attribute DoIpRequestConfigurationDesign.requestType

Imposition time: IT_MachDes

⌈For each DoIpRequestConfigurationDesign, the attribute requestType shall exist.⌋

[constr_10199] Multiplicity of attribute DoIpRequestConfigurationDesign.startAddress

Imposition time: IT_MachDes

⌈For each DoIpRequestConfigurationDesign, the attribute startAddress shall exist.⌋

[constr_10200] Multiplicity of attribute UcmModuleInstantiation.identifier

Imposition time: IT_Mani

⌈For each UcmModuleInstantiation, the attribute identifier shall exist.⌋

[constr_10201] Multiplicity of the reference in the role ComGrant.serviceInstance

Imposition time: IT_Mani

⌈For each ComGrant, the reference in the role serviceInstance shall exist.⌋

[constr_10202] Multiplicity of attribute ComFieldGrant.role

Imposition time: IT_Mani

⌈For each ComFieldGrant, the attribute role shall exist.⌋

[constr_10203] Multiplicity of the reference in the role ComFieldGrant.serviceDeployment

Imposition time: IT_Mani

⌈For each ComFieldGrant, the reference in the role serviceDeployment shall exist.⌋

[constr_10204] Multiplicity of the reference in the role ComMethodGrant.serviceDeployment

Imposition time: IT_Mani

⌈For each ComMethodGrant, the reference in the role serviceDeployment shall exist.⌋

[constr_10205] Multiplicity of the reference in the role ComEventGrant.serviceDeployment

Imposition time: IT_Mani

⌈For each ComEventGrant, the reference in the role serviceDeployment shall exist.⌋

[constr_10206] Multiplicity of the reference in the role ComOfferServiceGrant.serviceInstance

Imposition time: IT_Mani

⌈For each ComOfferServiceGrant, the reference in the role serviceInstance shall exist.⌋

[constr_10207] Multiplicity of the reference in the role CryptoProviderToPortPrototypeMapping.cryptoProvider

Imposition time: IT_Mani

⌈For each CryptoProviderToPortPrototypeMapping, the reference in the role cryptoProvider shall exist.⌋

[constr_10208] Multiplicity of the reference in the role CryptoProviderToPortPrototypeMapping.process

Imposition time: IT_Mani

⌈For each CryptoProviderToPortPrototypeMapping, the reference in the role process shall exist.⌋

[constr_10209] Existence of the reference in the role AbstractCryptoKeySlotToPortPrototypeMapping.keySlot

Imposition time: IT_Mani

⌈For each AbstractCryptoKeySlotToPortPrototypeMapping, the reference in the role keySlot shall exist.⌋

[constr_10210] Existence of the reference in the role AbstractCryptoKeySlotToPortPrototypeMapping.process

Imposition time: IT_Mani

⌈For each AbstractCryptoKeySlotToPortPrototypeMapping, the reference in the role process shall exist.⌋

[constr_10212] Multiplicity of attribute SomeipServiceInterfaceDeployment.serviceInterfaceId

Imposition time: IT_Mani

⌈For each SomeipServiceInterfaceDeployment, the attribute serviceInterfaceId shall exist.⌋

[constr_10213] Multiplicity of attribute SomeipServiceInterfaceDeployment.serviceInterfaceVersion

Imposition time: IT_Mani

⌈For each SomeipServiceInterfaceDeployment, the attribute serviceInterfaceVersion.⌋

[constr_10214] Multiplicity of attribute SomeipEventGroup.eventGroupId

Imposition time: IT_Mani

⌈For each SomeipEventGroup, the attribute eventGroupId shall exist.⌋

[constr_10215] Multiplicity of attribute SomeipEventDeployment.eventId

Imposition time: IT_Mani

⌈For each SomeipEventDeployment, the attribute eventId shall exist.⌋

[constr_10216] Multiplicity of attribute SomeipEventDeployment.transportProtocol

Imposition time: IT_Mani

⌈For each SomeipEventDeployment, the attribute transportProtocol shall exist.⌋

[constr_10217] Multiplicity of the attribute DdsServiceInterfaceDeployment.serviceInterfaceId

Imposition time: IT_Mani

⌈For each DdsServiceInterfaceDeployment, the primitive attribute serviceInterfaceId shall exist.⌋

[constr_10218] Multiplicity of reference in the role ProvidedSomeipServiceInstance.sdServerConfig

Imposition time: IT_Mani

⌈For each ProvidedSomeipServiceInstance, the reference in the role sdServerConfig shall exist.⌋

[constr_10219] Multiplicity of attribute ProvidedSomeipServiceInstance.serviceInstanceId

Imposition time: IT_Mani

⌈For each ProvidedSomeipServiceInstance, the attribute serviceInstanceId shall exist.⌋

[constr_10220] Multiplicity of the primitive attribute SomeipProvidedEventGroup.multicastThreshold

Imposition time: IT_Mani

⌈For each SomeipProvidedEventGroup, the attribute multicastThreshold shall exist.⌋

[constr_10221] Multiplicity of reference in the role RequiredSomeipServiceInstance.sdClientConfig

Imposition time: IT_Mani

⌈For each RequiredSomeipServiceInstance, the reference in the role sdClientConfig shall exist.⌋

[constr_10222] Multiplicity of the reference in the role SomeipRequiredEventGroup.sdClientEventGroupTimingConfig

Imposition time: IT_Mani

⌈For each SomeipRequiredEventGroup, the reference in the role sdClientEventGroupTimingConfig shall exist.⌋

[constr_10223] Multiplicity of attribute DdsServiceInstanceProps.domainId

Imposition time: IT_Mani

⌈For each DdsServiceInstanceProps, the attribute domainId shall exist.⌋

[constr_10224] Multiplicity of reference in the role DdsEventQosProps.event

Imposition time: IT_Mani

⌈For each DdsEventQosProps, the reference in the role event shall exist.⌋

[constr_10225] Multiplicity of reference in the role DdsFieldQosProps.field

Imposition time: IT_Mani

⌈For each DdsFieldQosProps, the reference in the role field shall exist.⌋

[constr_10226] Multiplicity of attribute E2EProfileConfiguration.profileName

Imposition time: IT_Mani

⌈For each E2EProfileConfiguration, the attribute profileName shall exist.⌋

[constr_10227] Multiplicity of attribute SecOcJobRequirement.secOcJobSemantic

Imposition time: IT_Mani

⌈For each SecOcJobRequirement, the attribute secOcJobSemantic shall exist.⌋

[constr_10228] Multiplicity of attribute SignalBasedFieldToISignalTriggeringMapping.dataPrototypeInServiceInterfaceRef

Imposition time: IT_Mani

⌈For each SignalBasedFieldToISignalTriggeringMapping, the attribute dataPrototypeInServiceInterfaceRef shall exist.⌋

[constr_10230] Multiplicity of attribute SignalServiceTranslationEventProps.safeTranslation

Imposition time: IT_Mani

⌈For each SignalServiceTranslationEventProps, the attribute safeTranslation shall exist.⌋

[constr_10231] Multiplicity of attribute SignalServiceTranslationEventProps.secureTranslation

Imposition time: IT_Mani

⌈For each SignalServiceTranslationEventProps, the attribute secureTranslation shall exist.⌋

[constr_10232] Multiplicity of reference in the role PersistencyDeploymentToCryptoKeySlotMapping.persistencyDeployment

Imposition time: IT_Mani

⌈For each PersistencyDeploymentToCryptoKeySlotMapping, the reference in the role persistencyDeployment shall exist.⌋

[constr_10233] Multiplicity of the reference in the role SoftwareCluster.vendorSignature

Imposition time: IT_Mani

⌈For each SoftwareCluster, the reference in the role vendorSignature shall exist.⌋

[constr_10234] Multiplicity of attribute SoftwareCluster.version

Imposition time: IT_Mani

⌈For each SoftwareCluster, the attribute version shall exist.⌋

[constr_10235] Multiplicity of attribute SoftwareCluster.vendorId

Imposition time: IT_Mani

⌈For each SoftwareCluster, the attribute vendorId shall exist.⌋

[constr_10237] Multiplicity of attribute SoftwareClusterDependencyCompareCondition.compareType

Imposition time: IT_Mani

⌈For each SoftwareClusterDependencyCompareCondition, the attribute compareType shall exist.⌋

[constr_10240] Multiplicity of attribute SoftwarePackage.actionType

Imposition time: IT_Mani

⌈For each SoftwarePackage, the attribute actionType shall exist.⌋

[constr_10242] Multiplicity of attribute SoftwarePackage.minimumSupported-UcmVersion

Imposition time: IT_Mani

⌈For each SoftwarePackage, the attribute minimumSupportedUcmVersion shall exist.⌋

[constr_10243] Multiplicity of attribute SoftwarePackage.packagerId

Imposition time: IT_Mani

⌈For each SoftwarePackage, the attribute packagerId shall exist.⌋

[constr_10244] Multiplicity of the reference in the role SoftwarePackage.packagerSignature

Imposition time: IT_Mani

⌈For each SoftwarePackage, the reference in the role packagerSignature shall exist.⌋

[constr_10245] Multiplicity of the reference in the role SoftwarePackage.softwareCluster

Imposition time: IT_Mani

⌈For each SoftwarePackage, the reference in the role softwareCluster shall exist.⌋

[constr_10246] Multiplicity of the attribute SoftwarePackage.uncompressed-SoftwareClusterSize

Imposition time: IT_Mani

⌈For each SoftwarePackage, the attribute uncompressedSoftwareCluster-Size shall exist.⌋

[constr_10247] Multiplicity of reference in the role VehiclePackage.packager-Signature

Imposition time: IT_Mani

⌈For each VehiclePackage, the reference in the role packagerSignature shall exist.⌋

[constr_10248] Multiplicity of attribute named UcmDescription.identifier

Imposition time: IT_Mani

⌈For each UcmDescription, the attribute named identifier shall exist.⌋

[constr_10249] Multiplicity of attribute named VehicleDriverNotification.approvalRequired

Imposition time: IT_Mani

⌈For each VehicleDriverNotification, the attribute named approval-Required shall exist.⌋

[constr_10250] Multiplicity of attribute named `VehicleDriverNotification.notificationState`

Imposition time: IT_Mani

⌈For each `VehicleDriverNotification`, the attribute named `notificationState` shall exist.⌋

[constr_10251] Multiplicity of the reference in the role `ServiceFieldDeployment.field`

Imposition time: IT_Mani

⌈For each `ServiceFieldDeployment`, the reference in the role `field` shall exist.⌋

[constr_10252] Multiplicity of attribute `SignalBasedEventElementToISignalTriggeringMapping.dataPrototypeInServiceInterfaceRef`

Imposition time: IT_Mani

⌈For each `SignalBasedEventElementToISignalTriggeringMapping`, the attribute `dataPrototypeInServiceInterfaceRef` shall exist.⌋

[constr_10253] Multiplicity of attribute `SoftwareClusterDependencyCompareCondition.considerBuildNumber`

Imposition time: IT_Mani

⌈For each `SoftwareClusterDependencyCompareCondition`, the attribute `considerBuildNumber` shall exist.⌋

[constr_10254] Multiplicity of attribute `SoftwareClusterDependencyCompareCondition.version`

Imposition time: IT_Mani

⌈For each `SoftwareClusterDependencyCompareCondition`, the attribute `version` shall exist.⌋

[constr_10255] Multiplicity of attribute `SignalServiceTranslationProps.serviceControl`

Imposition time: IT_Mani

⌈For each `SignalServiceTranslationProps`, the attribute `serviceControl` shall exist.⌋

[constr_10256] Multiplicity of reference in the role `SoftwarePackageStoring.storing`

Imposition time: IT_Mani

⌈For each `SoftwarePackageStoring`, the reference in the role `storing` shall exist.⌋

[constr_10365] Existence of `PersistencyDeployment.deploymentUri`

Imposition time: IT_Mani

⌈For each concrete sub-class of PersistencyDeployment, attribute deployment-Uri shall exist.⌋

[constr_10366] Allowed multiplicities of the aggregation `PersistencyDeployment.deploymentUri`

Imposition time: IT_Mani

⌈Possible multiplicities of PersistencyDeployment.deploymentUri shall be one of

- 1
- 2
- value of attribute PersistencyRedundancyMOutOfN.n

⌋

[constr_10367] Condition for the multiplicity of the attribute `PersistencyDeployment.deploymentUri`

Imposition time: IT_Mani

⌈The multiplicity of attribute PersistencyDeployment.deploymentUri shall only be greater than 1 if meta-class PersistencyRedundancyMOutOfN is aggregated in the role PersistencyDeployment.redundancyHandling and attribute PersistencyDeployment.redundancyHandling.scope is set to the value PersistencyRedundancyHandlingScopeEnum.persistencyRedundancy-HandlingScopeStorage.⌋

[constr_10374] Existence of the aggregation in the role `UcmSubordinateModuleInstantiation.verifyUpdate`

Imposition time: IT_Mani

⌈The aggregation in the role UcmSubordinateModuleInstantiation.verify-Update shall exist.⌋

[constr_10375] Existence of the aggregation in the role `UcmSubordinateModuleInstantiation.prepareUpdate`

Imposition time: IT_Mani

⌈The aggregation in the role UcmSubordinateModuleInstantiation.prepare-Update shall exist.⌋

[constr_10376] Existence of the aggregation in the role `UcmSubordinateModuleInstantiation.prepareRollback`

Imposition time: IT_Mani

⌈The aggregation in the role UcmSubordinateModuleInstantiation.prepare-Rollback shall exist.⌋

[constr_10377] Completeness of the modeling of PersistencyKeyValueDataTypeMapping

Imposition time: IT_BefAraApiGen

⌈For each PersistencyKeyValueDataTypeMapping, the references in the roles

- previousDataType
- currentDataType

⌋

[constr_10378] Meta-class PersistencyKeyValueDataTypeMapping references AbstractImplementationDataType in the role currentDataType

Imposition time: IT_BefAraApiGen

⌈Each PersistencyKeyValueDataTypeMapping that references to an AbstractImplementationDataType as part of the collection in the role currentDataType shall also refer to an AbstractImplementationDataType in the role previousDataType.⌋

[constr_10379] Meta-class PersistencyKeyValueDataTypeMapping references ApplicationDataType in the role currentDataType

Imposition time: IT_BefAraApiGen

⌈Each PersistencyKeyValueDataTypeMapping that references to an ApplicationDataType as part of the collection in the role currentDataType shall also refer to an ApplicationDataType in the role previousDataType.⌋

[constr_10380] Target of ArtifactLocator.representedModelElement

Imposition time: IT_Mani

⌈For all ArtifactLocators aggregated by a given SoftwareCluster, the target of a reference in the role representedModelElement of one ArtifactLocator (aggregated by the enclosing SoftwareCluster) shall not be the target of another reference in the role representedModelElement from another ArtifactLocator aggregated by the same SoftwareCluster.⌋

[constr_10381] Existence of attribute ArtifactLocator.uri

Imposition time: IT_Mani

⌈For each ArtifactLocator, the attribute uri shall exist.⌋

[constr_10382] Existence of attribute ArtifactLocator.representedModelElement

Imposition time: IT_Mani

⌈For each ArtifactLocator, the attribute representedModelElement shall exist.⌋

[constr_10384] `PortInterface` used for trigger state requests

Status: DRAFT
Imposition time: IT_Mani

⌈Each RPortPrototype that is referenced by a StateManagementRequestTrigger shall be typed by ether

- a subclass of StateManagementTriggerInterface or
- a ServiceInterface.

⌋

[constr_10385] `PortInterface` used for error state requests

Status: DRAFT
Imposition time: IT_Mani

⌈Each RPortPrototype that is referenced by a StateManagementRequestError shall be typed by subclass of StateManagementErrorInterface.⌋

[constr_10386] Existence of references `StateManagementStateMachineActionItem.startAgent` and `stopAgent`

Status: DRAFT
Imposition time: IT_Mani

⌈For each StateManagementStateMachineActionItem, **at most one** of the two references

- startAgent
- stopAgent

shall exist.⌋

[constr_10387] Consistency of `StateManagementSetFunctionGroupStateActionItem.rPortPrototype` and `StateManagementSetFunctionGroupStateActionItem.setFunctionGroupState`

Status: DRAFT
Imposition time: IT_Mani

⌈For each StateManagementSetFunctionGroupStateActionItem, the ModeDeclarationGroup used to type the ModeDeclaration that is referenced in the role setFunctionGroupState shall be identical to the ModeDeclarationGroup referenced in the role modeGroup from the StateManagementFunctionGroupSwitchNotificationInterface that is used to type the PPortPrototype that is referenced in the role rPortPrototype from the affected StateManagementSetFunctionGroupStateActionItem.⌋

[constr_10388] Restriction for a `PortInterface` used for state switch notifications

Status: DRAFT
Imposition time: IT_Mani

⌈Each `PPortPrototype` that is referenced by a `StateManagementStateNotification` shall be typed by a `ServiceInterface`.⌋

[constr_10389] Existence of attribute `StateManagementFunctionGroupSwitchNotificationInterface.modeGroup`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `StateManagementFunctionGroupSwitchNotificationInterface`, the aggregation in the role `modeGroup` shall exist.⌋

[constr_10390] Existence of reference `StateManagementStateRequest.stateRequestPort`

Status: DRAFT
Imposition time: IT_Mani

⌈Unless the `StateManagementStateRequest` is referenced from a `NmInteractsWithSmMapping`, the reference in the role `stateRequestPort` shall exist.⌋

[constr_10391] Existence of attribute `StateManagementStateNotification.notificationPort`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `StateManagementStateNotification`, the aggregation in the role `notificationPort` shall exist.⌋

[constr_10392] Existence of attribute `StateManagementRequestRule.formula`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `StateManagementRequestRule`, the aggregation in the role `formula` shall exist.⌋

[constr_10393] Existence of reference in the role `StateManagementRequestRule.nextState`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `StateManagementRequestRule`, the reference in the role `nextState` shall exist.⌋

[constr_10394] Existence of attribute `StateManagementCompareCondition.compareType`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `StateManagementCompareCondition`, the aggregation in the role `compareType` shall exist.⌋

[constr_10395] Existence of attribute `StateManagementCompareCondition.compareValue`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `StateManagementCompareCondition`, the aggregation in the role `compareValue` shall exist.⌋

[constr_10396] Existence of reference in the role `StateManagementTriggerCompareRule.assumedCurrentState`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `StateManagementTriggerCompareRule`, the reference in the role `assumedCurrentState` shall exist.⌋

[constr_10397] Existence of reference in the role `StateManagementSetFunctionGroupStateActionItem.rPortPrototype`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `StateManagementSetFunctionGroupStateActionItem`, the reference in the role `rPortPrototype` shall exist.⌋

[constr_10398] Existence of reference in the role `StateManagementSetFunctionGroupStateActionItem.setFunctionGroupState`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `StateManagementSetFunctionGroupStateActionItem`, the reference in the role `setFunctionGroupState` shall exist.⌋

[constr_10399] Allowed interval of the "index" `field` according to the initialization rule for data object typed by a `CppImplementationDataType` of `category VARIANT`

Imposition time: IT_BefAraApiGen

⌈The allowed value range of the "index" `field` of a `RecordValueSpecification` according to [TPS_MANI_01393] goes from 1 to the number of `templateArgument`s owned by the `CppImplementationDataType` of `category VARIANT`.⌋

[constr_10400] Existence of SovdServerDesign.componentQualifier

Imposition time: IT_Mani

⌈For each SovdServerDesign, attribute componentQualifier shall exist.⌋

[constr_10401] Existence of SovdGatewayLocalEndpointTcpConfig.tcpPort

Imposition time: IT_Mani

⌈For each SovdGatewayLocalEndpointTcpConfig, attribute tcpPort shall exist.⌋

[constr_10402] Existence of attribute SovdGatewayEthernetCredentials.ipv4Address vs. SovdGatewayEthernetCredentials.ipv6Address

Imposition time: IT_Mani

⌈For each SovdGatewayEthernetCredentials, at least one of attributes

- SovdGatewayEthernetCredentials.ipv4Address
- SovdGatewayEthernetCredentials.ipv6Address

shall exist.⌋

[constr_10403] Existence of SovdGatewayEthernetCredentials.udpPort

Imposition time: IT_Mani

⌈For each SovdGatewayEthernetCredentials, attribute udpPort shall exist.⌋

[constr_10405] Existence of reference in the role StateManagementActionList.affectedState

Status: DRAFT
Imposition time: IT_Mani

⌈For each StateManagementActionList, the reference in the role affectedState shall exist.⌋

[constr_10410] Value of SoftwareClusterDesign.installationBehavior for a SoftwareClusterDesign of category PLATFORM_CORE

Imposition time: IT_Mani

⌈In a SoftwareClusterDesign of category PLATFORM_CORE, the attribute installationBehavior shall exist and its value shall be set to cannotBeRemoved.⌋

[constr_10411] Existence of ExecutionDependency and references to Function Group States

Imposition time: IT_Mani

⌈Each StateDependentStartupConfig that aggregates at least one ExecutionDependency in the role executionDependency shall reference at most one ModeDeclaration in the role functionGroupState.⌋

[constr_10416] Aggregation of optional templateArgument that defines an Allocator for a VECTOR

Imposition time: IT_BefAraApiGen

⌈If a CppImplementationDataType of category VECTOR that boils down to ara::core::Vector aggregates (in addition to the templateArgument mentioned in [constr_3434]) one additional templateArgument, then this additional templateArgument shall reference the Allocator by means of the allocator reference.⌋

[constr_10417] Existence of attributes of CppImplementationDataTypes depending on the category

Imposition time: IT_BefAraApiGen

⌈

Attributes of CppImplementationDataType	Attribute Existence per Category							
	VALUE	TYPE_REFERENCE	STRUCTURE	VARIANT	ARRAY	VECTOR	ASSOCIATIVE_MAP	STRING
subElement			1..*					
templateArgument				1..*	1	1..*	2..*	0..1
typeReference		1						
arraySize					1	0..1[2]		

⌋

[constr_10420] Restriction for the existence of initial values for PersistencyDataElement

Imposition time: IT_BefAraApiGen

⌈For each PersistencyDataElement, if the value of attribute updateStrategy is set to the value PersistencyElementLevelUpdateStrategyEnum.delete, then the specific PersistencyDataElement shall not be referenced by a PersistencyDataRequiredComSpec that is aggregated by a RPortPrototype that in turn is typed by the PersistencyInterface that owns the specific PersistencyDataElement.⌋

[constr_10425] Existence of initial values for PersistencyDataElement

Imposition time: IT_BefAraApiGen

⌈For each PersistencyDataElement, if the value of attribute PersistencyInterface.updateStrategy is set to either

- PersistencyElementLevelUpdateStrategyEnum.keepExisting or
- PersistencyElementLevelUpdateStrategyEnum.overwrite,

[2]This depends on the existence of an allocator, see [TPS_MANI_03186].

then a PersistencyDataRequiredComSpec shall be aggregated by a RPort-Prototype that is typed by the PersistencyInterface that owns the specific PersistencyDataElement.

The PersistencyDataRequiredComSpec shall

- refer to the respective PersistencyDataElement and
- aggregate ValueSpecification in the role initValue.

⌋

[constr_10426] Multiplicity of attribute PersistencyDeploymentElement.updateStrategy

Imposition time: IT_Mani

⌈For each PersistencyDeploymentElement, the attribute updateStrategy shall exist.⌋

[constr_10427] Multiplicity of attribute PersistencyInterfaceElement.updateStrategy

Imposition time: IT_Mani

⌈For each PersistencyInterfaceElement, the attribute updateStrategy shall exist.⌋

[constr_10428] Existence of attribute UcmModuleInstantiation.identifier in subclasses

Imposition time: IT_Mani

⌈The attribute identifier shall **not** exist in a UcmMasterModule-Instantiation.⌋

[constr_10429] Existence of attribute VehicleRolloutStep.violatedSafety-ConditionBehavior

Imposition time: IT_Mani

⌈For each VehicleRolloutStep, the attribute violatedSafetyCondition-Behavior shall exist.⌋

[constr_10430] Existence of attribute Machine.defaultApplicationTimeout

Imposition time: IT_Mani

⌈For each Machine, the attribute defaultApplicationTimeout shall exist.⌋

[constr_10431] Existence of the attribute Machine.defaultApplication-Timeout.enterTimeoutValue

Imposition time: IT_Mani

⌈For each Machine, the attribute defaultApplicationTimeout.enterTimeout-Value shall exist.⌋

[constr_10432] Existence of the attribute Machine.defaultApplicationTimeout.exitTimeoutValue

Imposition time: IT_Mani

⌈For each Machine, the attribute defaultApplicationTimeout.exitTimeoutValue shall exist.⌋

[constr_10436] Restriction for the applicability of DiagnosticMultipleMonitorPortMapping

Imposition time: IT_DiagDes

⌈If an RPortPrototype is referenced by a DiagnosticMultipleMonitorPortMapping, then the RPortPrototype shall be typed by a DiagnosticMultipleMonitorInterface.⌋

[constr_10437] Restriction for the applicability of DiagnosticMultipleEventPortMapping

Imposition time: IT_DiagDes

⌈If an RPortPrototype is referenced by a DiagnosticMultipleEventPortMapping, then the RPortPrototype shall be typed by a DiagnosticMultipleEventInterface.⌋

[constr_10438] Restriction for the applicability of meta-class DiagnosticMultipleConditionPortMapping

Imposition time: IT_DiagDes

⌈If an RPortPrototype is referenced by a DiagnosticMultipleConditionPortMapping, then the RPortPrototype shall be typed by a DiagnosticMultipleConditionInterface.⌋

[constr_10441] Restriction for NetworkHandlePortMapping.pPortPrototypeInExecutable

Imposition time: IT_Mani

⌈A PPortPrototype referenced in the role NetworkHandlePortMapping.pPortPrototypeInExecutable shall only be typed by a NetworkManagementPortInterface.⌋

[constr_10442] Restriction for the applicability of DiagnosticSovdProximityChallengePortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced by a DiagnosticSovdProximityChallengePortMapping in the role pPortPrototypeInExecutable, then the PPortPrototype shall be typed by a DiagnosticSovdProximityChallengeInterface.⌋

[constr_10443] Restriction for the applicability of DiagnosticSovdProximityChallengeInterface

Imposition time: IT_DiagDes

⌈If a PPortPrototype is typed by a DiagnosticSovdProximityChallengeInterface, then the PortPrototype shall only be referenced in the role pPortPrototypeInExecutable by a DiagnosticSovdProximityChallengePortMapping.⌋

[constr_10444] Existence of DiagnosticSovdProximityChallengePortMapping

Imposition time: IT_DiagDes

⌈Each DiagnosticContributionSet shall only reference at most one DiagnosticSovdProximityChallengePortMapping in the role element.⌋

[constr_10445] Existence of the reference in the role DiagnosticSovdProximityChallengePortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdProximityChallengePortMapping, the reference in the role DiagnosticSovdProximityChallengePortMapping.pPortPrototypeInExecutable shall exist.⌋

[constr_10446] Existence of the reference in the role DiagnosticSovdProximityChallengePortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdProximityChallengePortMapping, the reference in the role DiagnosticSovdProximityChallengePortMapping.process shall exist.⌋

[constr_10447] Restriction for the applicability of DiagnosticSovdAuthorizationPortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced in the role pPortPrototypeInExecutable by a DiagnosticSovdAuthorizationPortMapping, then the PPortPrototype shall be typed by a DiagnosticSovdAuthorizationInterface.⌋

[constr_10448] Restriction for the applicability of DiagnosticSovdAuthorizationInterface

Imposition time: IT_DiagDes

⌈If a PPortPrototype is typed by a DiagnosticSovdAuthorizationInterface, then the PortPrototype shall only be referenced in the role pPortPrototypeInExecutable by a DiagnosticSovdAuthorizationPortMapping.⌋

[constr_10449] Existence of DiagnosticSovdAuthorizationPortMapping

Imposition time: IT_DiagDes

⌈Each DiagnosticContributionSet shall only reference in the role element at most one DiagnosticSovdAuthorizationPortMapping.⌋

[constr_10450] Existence of the reference in the role DiagnosticSovdAuthorizationPortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdAuthorizationPortMapping, the reference in the role DiagnosticSovdAuthorizationPortMapping.pPortPrototypeInExecutable shall exist.⌋

[constr_10451] Existence of the reference in the role DiagnosticSovdAuthorizationPortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdAuthorizationPortMapping, the reference in the role DiagnosticSovdAuthorizationPortMapping.process shall exist.⌋

[constr_10452] Restriction for the applicability of DiagnosticSovdBulkDataPortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced in the role pPortPrototypeInExecutable by a DiagnosticSovdBulkDataPortMapping, then the PPortPrototype shall be typed by a DiagnosticSovdBulkDataInterface.⌋

[constr_10453] Restriction for the applicability of DiagnosticSovdBulkDataInterface

Imposition time: IT_DiagDes

⌈If a PPortPrototype is typed by a DiagnosticSovdBulkDataInterface, then the PortPrototype shall only be referenced in the role pPortPrototypeInExecutable by a DiagnosticSovdBulkDataPortMapping.⌋

[constr_10454] Uniqueness of reference from DiagnosticSovdBulkDataPortMapping to DiagnosticSovdBulkData

Imposition time: IT_DiagDes

⌈Each instance of DiagnosticSovdBulkData shall only be referenced in the role serviceInstance by exactly one DiagnosticSovdBulkDataPortMapping.⌋

[constr_10455] Existence of the reference in the role DiagnosticSovdBulkDataPortMapping.serviceInstance

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdBulkDataPortMapping, the reference in the role DiagnosticSovdBulkDataPortMapping.serviceInstance shall exist.⌋

[constr_10456] Existence of the reference in the role DiagnosticSovdBulkDataPortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdBulkDataPortMapping, the reference in the role DiagnosticSovdBulkDataPortMapping.pPortPrototypeInExecutable shall exist.⌋

[constr_10457] Existence of the reference in the role DiagnosticSovdBulkDataPortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdBulkDataPortMapping, the reference in the role DiagnosticSovdBulkDataPortMapping.process shall exist.⌋

[constr_10458] Restriction for the applicability of DiagnosticSovdUpdatePortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced in the role pPortPrototypeInExecutable by a DiagnosticSovdUpdatePortMapping, then the PPortPrototype shall be typed by a DiagnosticSovdUpdateInterface.⌋

[constr_10459] Restriction for the applicability of DiagnosticSovdUpdateInterface

Imposition time: IT_DiagDes

⌈If a PPortPrototype is typed by a DiagnosticSovdUpdateInterface, then the PortPrototype shall only be referenced in the role pPortPrototypeInExecutable by a DiagnosticSovdUpdatePortMapping.⌋

[constr_10460] Uniqueness of reference from DiagnosticSovdUpdatePortMapping to DiagnosticSovdUpdate

Imposition time: IT_DiagDes

⌈Each instance of DiagnosticSovdUpdate shall only be referenced in the role serviceInstance by exactly one DiagnosticSovdUpdatePortMapping.⌋

[constr_10461] Existence of the reference in the role DiagnosticSovdUpdatePortMapping.serviceInstance

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdUpdatePortMapping, the reference in the role DiagnosticSovdUpdatePortMapping.serviceInstance shall exist.⌋

[constr_10462] Existence of the reference in the role DiagnosticSovdUpdatePortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdUpdatePortMapping, the reference in the role DiagnosticSovdUpdatePortMapping.pPortPrototypeInExecutable shall exist.⌋

[constr_10463] Existence of the reference in the role DiagnosticSovdUpdatePortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdUpdatePortMapping, the reference in the role DiagnosticSovdUpdatePortMapping.process shall exist.⌋

[constr_10464] Restriction for the applicability of DiagnosticSovdServiceValidationPortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced in the role pPortPrototypeInExecutable by a DiagnosticSovdServiceValidationPortMapping, then the PPortPrototype shall be typed by a DiagnosticSovdServiceValidationInterface.⌋

[constr_10465] Restriction for the applicability of DiagnosticSovdServiceValidationInterface

Imposition time: IT_DiagDes

⌈If a PPortPrototype is typed by a DiagnosticSovdServiceValidationInterface, then the PortPrototype shall only be referenced in the role pPortPrototypeInExecutable by a DiagnosticSovdServiceValidationPortMapping.⌋

[constr_10466] Existence of the reference in the role DiagnosticSovdServiceValidationPortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdServiceValidationPortMapping, the reference in the role DiagnosticSovdServiceValidationPortMapping.pPortPrototypeInExecutable shall exist.⌋

[constr_10467] Existence of the reference in the role DiagnosticSovdServiceValidationPortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdServiceValidationPortMapping, the reference in the role DiagnosticSovdServiceValidationPortMapping.process shall exist.⌋

[constr_10468] Restriction for the applicability of meta-class DiagnosticSovdConfigurationPortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced in the role pPortPrototypeInExecutable by a DiagnosticSovdConfigurationPortMapping, then the PPortPrototype shall be typed by a DiagnosticSovdConfigurationInterface.⌋

[constr_10469] Restriction for the applicability of meta-class DiagnosticSovdConfigurationInterface

Imposition time: IT_DiagDes

⌈If a PPortPrototype is typed by a DiagnosticSovdConfigurationInterface, then the PortPrototype shall only be referenced in the role pPortPrototypeInExecutable by a DiagnosticSovdConfigurationPortMapping.⌋

[constr_10470] Uniqueness of the reference in the role DiagnosticSovdConfigurationPortMapping.serviceInstance

Imposition time: IT_DiagDes

⌈Each instance of a sub-class of DiagnosticSovdConfiguration shall only be referenced in the role serviceInstance by exactly one DiagnosticSovdConfigurationPortMapping.⌋

[constr_10471] Existence of the reference in the role DiagnosticSovdConfigurationPortMapping.serviceInstance

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdConfigurationPortMapping, the reference in the role DiagnosticSovdConfigurationPortMapping.serviceInstance shall exist.⌋

[constr_10472] Existence of the reference in the role DiagnosticSovdConfigurationPortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdConfigurationPortMapping, the reference in the role DiagnosticSovdConfigurationPortMapping.pPortPrototypeInExecutable shall exist.⌋

[constr_10473] Existence of the reference in the role DiagnosticSovdConfigurationPortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdConfigurationPortMapping, the reference in the role DiagnosticSovdConfigurationPortMapping.process shall exist.⌋

[constr_10477] Existence of DiagnosticSovdLog

Imposition time: IT_DiagDes

⌈Each DiagnosticContributionSet shall at most reference a single DiagnosticSovdLog in the role element.⌋

[constr_10478] Existence of DiagnosticSovdUpdate

Imposition time: IT_DiagDes

⌈Each DiagnosticContributionSet shall at most reference a single DiagnosticSovdUpdate in the role element.⌋

[constr_10479] Restriction on values of attribute DiagnosticSovdMethodPrimitive.category aggregated in the role put in the context of SOVD Update

Imposition time: IT_DiagDes

⌈If a DiagnosticSovdMethod is referenced from a DiagnosticSovdUpdate and the attribute put.category exists, then the value of the attribute category within any DiagnosticSovdMethodPrimitive aggregated in the role put is restricted to the following values:

- PREPARE
- EXECUTE
- AUTOMATED

⌋

[constr_10480] Restriction on value of attribute DiagnosticSovdMethodPrimitive.category aggregated in the role get in the context of SOVD Update

Imposition time: IT_DiagDes

⌈If a DiagnosticSovdMethod is referenced from a DiagnosticSovdUpdate and the attribute get.category exists, then the value of the attribute category within any DiagnosticSovdMethodPrimitive aggregated in the role get is restricted to the value STATUS.⌋

[constr_10481] Restriction on values of attribute DiagnosticSovdMethodPrimitive.category aggregated in the role get in the context of SOVD Log

Imposition time: IT_DiagDes

⌈If a DiagnosticSovdMethod is referenced from a DiagnosticSovdLog and the attribute get exists, then the value of the attribute category within any DiagnosticSovdMethodPrimitive aggregated in the role get is restricted to the values

- CONFIG
- ENTRIES

⌋

[constr_10482] Restriction on values of attribute DiagnosticSovdMethodPrimitive.category aggregated in the roles put and delete in the context of SOVD Log

Imposition time: IT_DiagDes

⌈If a DiagnosticSovdMethod is referenced from a DiagnosticSovdLog and the attributes

- put
- delete

exist, then the value of the attribute category within any DiagnosticSovdMethodPrimitive aggregated in the role

- put
- delete

is restricted to the value CONFIG.⌋

[constr_10483] Applicable values of baseTypeEncoding in the context of the definition of a DiagnosticDataElement

Imposition time: IT_DiagDes

⌈Any SwBaseType referenced in the role DiagnosticDataElement.swDataDefProps.baseType shall only set one of the following values for attribute SwBaseType.baseTypeDefinition.baseTypeEncoding:

- **BOOLEAN** (for baseTypeSize = 8)
- **NONE** (for baseTypeSize = 8, 16, 32, or 64)
- **2C** (for baseTypeSize = 8, 16, 32, or 64)
- **IEEE754** (for baseTypeSize = 32 or 64)
- **UTF-8** (for baseTypeSize = 8)

⌋

[constr_10484] Existence of attribute FunctionalClusterInteractsWithPersistencyDeploymentMapping.contractVersion

Imposition time: IT_Mani

⌈In the context of meta-class FunctionalClusterInteractsWithPersistencyDeploymentMapping, the attribute in the role contractVersion shall exist.⌋

[constr_10485] Existence of PersistencyInterface.contractVersion

Imposition time: IT_BefAraApiGen

⌈In the context of PersistencyInterface, the attribute in the role contractVersion shall exist.⌋

[constr_10486] Existence of the attribute PersistencyKeyValueDataTypeMapping.previousContractVersion

Imposition time: IT_BefAraApiGen

⌈In the context of PersistencyKeyValueDataTypeMapping, the attribute in the role previousContractVersion shall exist.⌋

[constr_10487] Only one physical address per DiagnosticCommonProps

Imposition time: IT_DiagDes

⌈Each DiagnosticCommonProps shall only aggregate one SoftwareClusterDiagnosticAddress where the value of attribute udsAddressSemantics is set to SoftwareClusterDiagnosticAddressSemanticsEnum.physicalAddress.⌋

[constr_10489] Existence of StateManagementModuleInstantiation in the context of a Machine

Status: DRAFT

Imposition time: IT_Mani

⌈Each Machine shall only aggregate at most one StateManagementModuleInstantiation in the role moduleInstantiation.⌋

[constr_10490] DiagnosticDataElement shall be directly or indirectly the target of a reference owned by a subclass of DiagnosticMapping

Imposition time: IT_DiagDes

⌈Each DiagnosticDataElement shall be directly or indirectly considered by a DiagnosticMapping. Therefore, exactly one of the following conditions shall be fulfilled:

- A DiagnosticDataPortMapping exists that refers to the respective DiagnosticDataElement in the role diagnosticDataElement.
- A DiagnosticDataPortMapping exists that refers in the role diagnosticDataIdentifier to the DiagnosticDataIdentifier that aggregates the respective DiagnosticDataElement in the role dataElement.dataElement.

⌋

[constr_10491] Type of PPortPrototype referenced in the role IdsmTimestampProviderMapping.pPortPrototypeInExecutable

Imposition time: IT_Mani

⌈A PPortPrototype referenced in the role IdsmTimestampProviderMapping.pPortPrototypeInExecutable shall only be typed by a IdsmTimestampProviderInterface.⌋

[constr_10492] Restriction for a PPortPrototype typed by a IdsmTimestampProviderInterface

Imposition time: IT_Mani

⌈A PPortPrototype that is typed by a IdsmTimestampProviderInterface shall only be referenced in the role pPortPrototypeInExecutable by a IdsmTimestampProviderMapping.⌋

[constr_10493] Existence of IdsmTimestampProviderMapping.idsPlatformInstantiation

Imposition time: IT_Mani

⌈For each IdsmTimestampProviderMapping, the reference to an IdsPlatformInstantiation in the role idsPlatformInstantiation shall exist.⌋

[constr_10494] Existence of instance reference in the role IdsmTimestampProviderMapping.pPortPrototypeInExecutable

Imposition time: IT_Mani

⌈For each IdsmTimestampProviderMapping, the instance reference to a PPortPrototype in the role pPortPrototypeInExecutable shall exist.⌋

[constr_10495] Existence of IdsmTimestampProviderMapping.process

Imposition time: IT_Mani

⌈For each IdsmTimestampProviderMapping, the reference to a Process in the role process shall exist.⌋

[constr_10496] Type of PPortPrototype referenced in the role IdsmContextProviderMapping.pPortPrototypeInExecutable

Imposition time: IT_Mani

⌈A PPortPrototype referenced in the role IdsmContextProviderMapping.pPortPrototypeInExecutable shall only be typed by a IdsmContextProviderInterface.⌋

[constr_10497] PPortPrototype typed by a IdsmContextProviderInterface

Imposition time: IT_Mani

⌈A PPortPrototype that is typed by a IdsmContextProviderInterface shall only be referenced in the role pPortPrototypeInExecutable by a IdsmContextProviderMapping.⌋

[constr_10498] Existence of IdsmContextProviderMapping.idsPlatformInstantiation

Imposition time: IT_Mani

⌈For each IdsmContextProviderMapping, the reference to an IdsPlatformInstantiation in the role idsPlatformInstantiation shall exist.⌋

[constr_10499] Existence of instance reference in the role `IdsmContextProviderMapping.pPortPrototypeInExecutable`

Imposition time: IT_Mani

⌈For each `IdsmContextProviderMapping`, the instance reference to a `PPortPrototype` in the role `pPortPrototypeInExecutable` shall exist.⌋

[constr_10500] Existence of `IdsmContextProviderMapping.process`

Imposition time: IT_Mani

⌈For each `IdsmContextProviderMapping`, the reference to a `Process` in the role `process` shall exist.⌋

[constr_10501] Access to time stamps for *Intrusion Detection System Management*

Imposition time: IT_Mani

⌈Access to time stamps shall be configured in at most **one of two** possible ways:

- by reference in the role `idsTimeBase` from `IdsPlatformInstantiation` to `TimeBaseResource` or
- by creating a `IdsmTimestampProviderMapping` that refers in the role `pPortPrototypeInExecutable` to a `PPortPrototype` defined by a piece of application software that represents a time-stamp provider.

⌋

[constr_10508] Existence of the aggregation in the role `UcmSubordinateModuleInstantiation.maxAvailablePersistencyStorageSpace`

Imposition time: IT_Mani

⌈The aggregation in the role `UcmSubordinateModuleInstantiation.maxAvailablePersistencyStorageSpace` shall exist.⌋

[constr_10509] Existence of the attribute `PersistencyDeployment.maximumAllowedSize`

Imposition time: IT_Mani

⌈For each concrete sub-class of `PersistencyDeployment`, attribute `maximumAllowedSize` shall exist.⌋

[constr_10510] Existence of the attribute `PersistencyDeployment.minimumSustainedSize`

Imposition time: IT_Mani

⌈For each concrete sub-class of `PersistencyDeployment`, attribute `minimumSustainedSize` shall exist.⌋

[constr_10511] Reference `StateManagementStateRequest.stateRequestPort` shall not exist if `StateManagementStateRequest` is referenced from `NmInteractsWithSmMapping`

Status: DRAFT
Imposition time: IT_Mani

⌈The reference `StateManagementStateRequest.stateRequestPort` shall not exist if `StateManagementStateRequest` is referenced from `NmInteractsWithSmMapping`.⌋

[constr_10512] Restriction for the value of `StateManagementSleepActionItem.sleepTime`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `StateManagementSleepActionItem`, the value of attribute `sleepTime` shall only have a value greater than 0.⌋

[constr_10513] Existence of the reference in the role `SmInteractsWithNmMapping.actionItem`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `SmInteractsWithNmMapping`, the reference in the role `actionItem` shall exist.⌋

[constr_10514] Existence of the reference in the role `SmInteractsWithNmMapping.nmNetworkHandle`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `SmInteractsWithNmMapping`, the reference in the role `nmNetworkHandle` shall exist.⌋

[constr_10515] Existence of the reference in the role `NmInteractsWithSmMapping.stateRequest`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `NmInteractsWithSmMapping`, the reference in the role `stateRequest` shall exist.⌋

[constr_10516] Existence of the reference in the role `NmInteractsWithSmMapping.nmNetworkHandle`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `NmInteractsWithSmMapping`, the reference in the role `nmNetworkHandle` shall exist.⌋

[constr_10517] Upper multiplicity of the reference in the role IdsPlatformInstantiation.idsTimeBase

Imposition time: IT_Mani

⌈In the context of IdsPlatformInstantiation, the reference in the role idsTimeBase shall exist at most once.⌋

[constr_10518] Mutually exclusive existence of the roles FunctionalClusterInteractsWithDiagnosticEventMapping.persistencyDeployment vs. functionalCluster

Imposition time: IT_Mani

⌈For each FunctionalClusterInteractsWithDiagnosticEventMapping, **either** the reference in the role

- persistencyDeployment or
- functionalCluster

shall exist.⌋

[constr_10519] Existence of reference FunctionalClusterInteractsWithDiagnosticEventMapping.diagnosticEvent

Imposition time: IT_Mani

⌈For each FunctionalClusterInteractsWithDiagnosticEventMapping, the reference in the role diagnosticEvent shall exist.⌋

[constr_10526] DiagnosticAuthenticationPortMapping refers to a PPortPrototype that is typed by a DiagnosticTransmitCertificateInterface

Imposition time: IT_DiagDes

⌈If a DiagnosticAuthenticationPortMapping refers in the role pPortPrototypeInExecutable to a PPortPrototype that is typed by a DiagnosticTransmitCertificateInterface, then the DiagnosticAuthenticationPortMapping shall only refer in the role diagnosticAuthentication to a DiagnosticAuthTransmitCertificate (and vice versa).⌋

[constr_10528] Existence of FirewallStateSwitchInterface.firewallStateMachine

Imposition time: IT_BefAraApiGen

⌈For any given FirewallStateSwitchInterface, attribute firewallStateMachine shall exist at most once.⌋

[constr_10530] Each UCM shall process at least one software package

Imposition time: IT_Mani

⌈Within the context of all UcmSteps referencing a specific UcmDescription in the role ucm, **at least one** SoftwarePackageStep shall exist that defines a reference to a SoftwarePackage in the role process.⌋

[constr_10535] Restriction for the attribute SenderComSpec.transmissionProps.onChangeDataPrototype

Status: DRAFT
Imposition time: IT_BefAraApiGen

⌈If the SenderComSpec.dataElement refers to an AutosarDataPrototype aggregated by a ServiceInterface in the role event or field, then a DataPrototypeReference aggregated in the role SenderComSpec.transmissionProps.onChangeDataPrototype shall only exist as

- a DataPrototypeInPortInterfaceRef that aggregates a DataPrototypeInServiceInterfaceInstanceRef in the role dataPrototypeInServiceInterface or
- an ImplementationDataTypeElementInPortInterfaceRef.

⌋

[constr_10536] Existence of TransmissionComSpecProps.onChangeDataPrototype.dataPrototypeInServiceInterface.rootDataPrototype

Status: DRAFT
Imposition time: IT_BefAraApiGen

⌈If all of the following conditions apply:

- the SenderComSpec.dataElement refers to an AutosarDataPrototype aggregated by a ServiceInterface in either the role event or field and
- the aggregation in the role TransmissionComSpecProps.onChangeDataPrototype.dataPrototypeInServiceInterface exists,

then the aggregation in the role TransmissionComSpecProps.onChangeDataPrototype.dataPrototypeInServiceInterface.rootDataPrototype shall **not** exist.⌋

[constr_10537] Existence of TransmissionComSpecProps.onChangeDataPrototype.rootDataPrototype

Imposition time: IT_BefAraApiGen

⌈If all of the following conditions apply:

- the SenderComSpec.dataElement refers to an AutosarDataPrototype aggregated by a ServiceInterface in either the role event or field and
- the aggregation in the role TransmissionComSpecProps.onChangeDataPrototype exists,

then the aggregation in the role TransmissionComSpecProps.onChangeDataPrototype.rootDataPrototype shall **not** exist.⌋

[constr_10540] Arguments of a `ClientServerOperation` shall be fully covered by `SignalBasedFireAndForgetMethodToISignalTriggeringMapping`s

Imposition time: IT_Mani

⌈If

- an `ArgumentDataPrototype` (if it has a primitive data type) or
- a leaf element of an `ArgumentDataPrototype` (if it has a composite data type)

owned by a `ClientServerOperation` is referenced in the role `dataPrototypeInMethodArgumentInstanceRef` by a `SignalBasedFireAndForgetMethodToISignalTriggeringMapping`, then **every other**

- `ArgumentDataPrototype` (if it has a primitive data type) or
- leaf element of an `ArgumentDataPrototype` (if it has a composite data type)

of the enclosing `ClientServerOperation` shall also be referenced in the role `dataPrototypeInMethodArgumentInstanceRef`.⌋

[constr_10541] Consistent assignment of `ISignalTriggering`s to an `ISignalGroup` for `SignalBasedFireAndForgetMethodToISignalTriggeringMapping`

Imposition time: IT_Mani

⌈Each `SignalBasedFireAndForgetMethodToISignalTriggeringMapping` affected by [constr_10540] shall also refer to an `ISignalTriggering` that references an `ISignal` that in turn is also referenced in the role `iSignal` by the **same** `ISignalGroup`.⌋

[constr_10546] `PortPrototype` typed by `DiagnosticGenericUdsInterface` shall only be referenced by `DiagnosticServiceGenericMapping`

Imposition time: IT_DiagDes

⌈A `PPortPrototype` that is typed by `DiagnosticGenericUdsInterface` shall **only** be referenced in the role `pPortPrototypeInExecutable` by a `DiagnosticServiceGenericMapping`.⌋

[constr_10547] Reference in the role `UcmStep.ucm` in the context of the enclosing `VehicleRolloutStep`

Imposition time: IT_Mani

⌈Each `VehiclePackage.ucm` shall be referenced in the role `UcmStep.ucm` **at most once** in the context of an enclosing `VehicleRolloutStep`.⌋

[constr_10566] Allowed values of attribute AutosarDataType.swDataDefProps.compuMethod.category

Imposition time: IT_BefAraApiGen

⌈The only allowed values for attribute CppImplementationDataType[3].swDataDefProps.compuMethod.category are

- TEXTTABLE
- BITFIELD_TEXTTABLE

⌋

[constr_10567] Existence of DiagnosticSovdMethod.get resp. delete in the context of DiagnosticSovdFaultMemoryAccess

Imposition time: IT_DiagDes

⌈If a DiagnosticSovdMethod is referenced from a DiagnosticSovdFaultMemoryAccess, then the following restriction for the existence and multiplicity of the attributes of the DiagnosticSovdMethod exist:

- put [0]
- post [0]
- get [0..1]
- delete [0..1]

⌋

[constr_10568] Type of RPortPrototype referenced in the role IdsmReportingModeProviderMapping.rPortPrototypeInExecutable

Imposition time: IT_Mani

⌈An RPortPrototype referenced in the role IdsmReportingModeProviderMapping.rPortPrototypeInExecutable shall only be typed by a IdsmReportingModeProviderInterface.⌋

[constr_10569] RPortPrototype typed by an IdsmReportingModeProviderInterface

Imposition time: IT_Mani

⌈An RPortPrototype that is typed by a IdsmReportingModeProviderInterface shall only be referenced in the role rPortPrototypeInExecutable by a IdsmReportingModeProviderMapping.⌋

[3] [constr_1579] applies

[constr_10570] Existence of IdsmReportingModeProviderMapping.idsPlatformInstantiation

Imposition time: IT_Mani

⌈For each IdsmReportingModeProviderMapping, the reference to a IdsPlatformInstantiation in the role idsPlatformInstantiation shall exist.⌋

[constr_10571] Existence of IdsmReportingModeProviderMapping.rPortPrototypeInExecutable

Imposition time: IT_Mani

⌈For each IdsmReportingModeProviderMapping, the reference to an RPortPrototype in the role rPortPrototypeInExecutable shall exist.⌋

[constr_10572] Existence of IdsmReportingModeProviderMapping.process

Imposition time: IT_Mani

⌈For each IdsmReportingModeProviderMapping, the reference to a Process in the role process shall exist.⌋

[constr_10574] Value of ApApplicationErrorDomain.value shall be unique in the context of a ClientServerOperation

Imposition time: IT_BefAraApiGen

⌈Within the context of one ClientServerOperation, no two ApApplicationErrorDomains referenced in the role ClientServerOperation.possibleApError.errorDomain or transitively referenced in the role ClientServerOperation.possibleApErrorSet.apApplicationError.errorDomain shall have the identical value of attribute ApApplicationErrorDomain.value.⌋

[constr_10576] Existence of primitive attribute PersistencyDataRequiredComSpec.accessMode

Imposition time: IT_BefAraApiGen

⌈Each PersistencyDataRequiredComSpec that defines the reference in the role dataElement shall **not** define the attribute accessMode and vice versa.⌋

[constr_10578] Existence of the attribute UcmMasterModuleInstantiation.ucmNotAvailableOnTheNetwork

Imposition time: IT_Mani

⌈The attribute UcmMasterModuleInstantiation.ucmNotAvailableOnTheNetwork shall exist.⌋

[constr_10586] Restriction for the applicability of DiagnosticDoIpGroupIdentificationPortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced by a DiagnosticDoIpGroupIdentificationPortMapping, then the PPortPrototype shall be typed by a DiagnosticDoIPGroupIdentificationInterface.⌋

[constr_10587] Restriction for the applicability of DiagnosticDoIPGroupIdentificationInterface

Imposition time: IT_DiagDes

⌈If a PPortPrototype is typed by a DiagnosticDoIPGroupIdentificationInterface, then the reference in the role pPortPrototypeInExecutable to the PPortPrototype shall only originate from a DiagnosticDoIpGroupIdentificationPortMapping.⌋

[constr_10588] Existence of DiagnosticDoIpGroupIdentificationPortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIpGroupIdentificationPortMapping, attribute pPortPrototypeInExecutable shall exist.⌋

[constr_10589] Existence of DiagnosticDoIpGroupIdentificationPortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIpGroupIdentificationPortMapping, attribute process shall exist.⌋

[constr_10590] Restriction for the applicability of DiagnosticDoIpActivationLinePortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced in the role pPortPrototypeInExecutable by a DiagnosticDoIpActivationLinePortMapping, then the PPortPrototype shall be typed by a DiagnosticDoIPActivationLineInterface.⌋

[constr_10591] Restriction for the applicability of DiagnosticDoIPActivationLineInterface

Imposition time: IT_DiagDes

⌈If a PPortPrototype is typed by a DiagnosticDoIPActivationLineInterface, then the reference in the role pPortPrototypeInExecutable to the PPortPrototype shall only originate from a DiagnosticDoIpActivationLinePortMapping.⌋

[constr_10592] Existence of the reference in the role DiagnosticDoIpActivationLinePortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIpActivationLinePortMapping, attribute pPortPrototypeInExecutable shall exist.⌋

[constr_10593] Existence of the reference in the role DiagnosticDoIpActivationLinePortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIpActivationLinePortMapping, attribute process shall exist.⌋

[constr_10598] Restriction for the applicability of DiagnosticDoIpEntityIdentificationPortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced in the role pPortPrototypeInExecutable by a DiagnosticDoIpEntityIdentificationPortMapping, then the PPortPrototype shall be typed by a DiagnosticDoIPEntityIdentificationInterface.⌋

[constr_10599] Restriction for the applicability of DiagnosticDoIPEntityIdentificationInterface

Imposition time: IT_DiagDes

⌈If a PPortPrototype is typed by a DiagnosticDoIPEntityIdentificationInterface, then the reference in the role pPortPrototypeInExecutable to the PPortPrototype shall only originate from a DiagnosticDoIpEntityIdentificationPortMapping.⌋

[constr_10600] Existence of DiagnosticDoIpEntityIdentificationPortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIpEntityIdentificationPortMapping, attribute pPortPrototypeInExecutable shall exist.⌋

[constr_10601] Existence of DiagnosticDoIpEntityIdentificationPortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIpEntityIdentificationPortMapping, attribute process shall exist.⌋

[constr_10602] Restriction for the applicability of DiagnosticDoIpPowerMode-PortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced in the role pPortPrototypeInExecutable by a DiagnosticDoIpPowerModePortMapping, then the PPortPrototype shall be typed by a DiagnosticDoIPPowerModeInterface.⌋

[constr_10603] Restriction for the applicability of DiagnosticDoIPPowerMode-Interface

Imposition time: IT_DiagDes

⌈If a PPortPrototype is typed by a DiagnosticDoIPPowerModeInterface, then the reference in the role pPortPrototypeInExecutable to the PPortPrototype shall only originate from a DiagnosticDoIpPowerModePortMapping.⌋

[constr_10604] Existence of DiagnosticDoIpPowerModePortMapping.pPort-PrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIpPowerModePortMapping, attribute pPort-PrototypeInExecutable shall exist.⌋

[constr_10605] Existence of DiagnosticDoIpPowerModePortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIpPowerModePortMapping, attribute process shall exist.⌋

[constr_10609] Existence of references in the role AbstractDoIpPort-Mapping.rPortPrototypeInExecutable and AbstractDoIpPortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each AbstractDoIpPortMapping, only one of the references in the role

- AbstractDoIpPortMapping.rPortPrototypeInExecutable
- AbstractDoIpPortMapping.pPortPrototypeInExecutable

shall exist.⌋

[constr_10611] Existence of attribute DoIpLogicalAddress.logicalAddress

Imposition time: IT_SysDes

⌈For each DoIpLogicalAddress, attribute logicalAddress shall exist.⌋

[constr_10612] Standardized values for attribute CryptoKeySlotDesignDescription.cryptoObjectType

Imposition time: IT_SysDes

⌈In the context of CryptoKeySlotDesignDescription.cryptoObjectType, **only** the following values shall be used:

- PUBLIC_KEY
- PRIVATE_KEY
- SYMMETRIC_KEY

⌋

[constr_10613] CryptoKeySlotDesign where attribute shared is set to false

Imposition time: IT_SysDes

⌈A CryptoKeySlotDesign where attribute shared is set to false shall not refer to a CryptoKeySlotUsageDesign in the role user.⌋

[constr_10614] Existence of attribute CryptoKeySlotDesign.shared

Imposition time: IT_SysDes

⌈For each CryptoKeySlotDesign, the attribute shared shall exist.⌋

[constr_10616] Existence of the reference in the role StateClientInterface.functionGroupType

Status: DRAFT
Imposition time: IT_Mani

⌈For each StateClientInterface, the reference in the role functionGroupType shall exist.⌋

[constr_10617] Existence of the reference in the role FunctionGroupPortMapping.functionGroup

Status: DRAFT
Imposition time: IT_Mani

⌈For each FunctionGroupPortMapping, the reference in the role functionGroup shall exist.⌋

[constr_10618] Existence of the reference in the role FunctionGroupPortMapping.process

Status: DRAFT
Imposition time: IT_Mani

⌈For each FunctionGroupPortMapping, the reference in the role process shall exist.⌋

[constr_10619] Existence of the reference in the role `FunctionGroupPortMapping.rPortPrototypeInExecutable`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `FunctionGroupPortMapping`, the reference in the role `rPortPrototypeInExecutable` shall exist.⌋

[constr_10620] Reference to function group from `FunctionGroupPortMapping`

Status: DRAFT
Imposition time: IT_Mani

⌈Each function group modeled as a `ModeDeclarationGroupPrototype` aggregated by a `FunctionGroupSet` shall only be referenced by a single `FunctionGroupPortMapping`.⌋

[constr_10621] Same `ModeDeclarationGroup` for `StateClientInterface` and `FunctionGroupPortMapping.functionGroup`

Status: DRAFT
Imposition time: IT_Mani

⌈For each `FunctionGroupPortMapping`, the `ModeDeclarationGroup` referenced in the role `FunctionGroupPortMapping.rPortPrototypeInExecutable.requiredInterface.functionGroupType` shall be identical to the `FunctionGroupPortMapping.functionGroup.type`.⌋

[constr_10622] Existence of `FunctionGroupPortMapping` depending on the role `rPortPrototypeInExecutable` and `process`

Status: DRAFT
Imposition time: IT_Mani

⌈Each combination of `RPortPrototype` and `Process` may be referenced by **at most one** `FunctionGroupPortMapping` in the roles `rPortPrototypeInExecutable` and `process`.⌋

[constr_10623] Type of RPortPrototype referenced in the role `IdsmQualifiedEventReceiverMapping.rPortPrototypeInExecutable`

Imposition time: IT_Mani

⌈An `RPortPrototype` referenced in the role `IdsmQualifiedEventReceiverMapping.rPortPrototypeInExecutable` shall only be typed by a `IdsmQualifiedEventReceiverInterface`.⌋

[constr_10624] `RPortPrototype` typed by an `IdsmQualifiedEventReceiverInterface`

Imposition time: IT_Mani

⌈An `RPortPrototype` that is typed by a `IdsmReportingModeProviderInterface` shall only be referenced in the role `rPortPrototypeInExecutable` by a `IdsmQualifiedEventReceiverMapping`.⌋

[constr_10625] Existence of IdsmQualifiedEventReceiverMapping.idsPlatformInstantiation

Imposition time: IT_Mani

⌈For each IdsmQualifiedEventReceiverMapping, the reference to a IdsPlatformInstantiation in the role idsPlatformInstantiation shall exist.⌋

[constr_10626] Existence of IdsmQualifiedEventReceiverMapping.rPortPrototypeInExecutable

Imposition time: IT_Mani

⌈For each IdsmQualifiedEventReceiverMapping, the reference to an RPortPrototype in the role rPortPrototypeInExecutable shall exist.⌋

[constr_10627] Existence of IdsmQualifiedEventReceiverMapping.process

Imposition time: IT_Mani

⌈For each IdsmQualifiedEventReceiverMapping, the reference to a Process in the role process shall exist.⌋

[constr_10629] DdsServiceInterfaceDeployment shall cover all applicable elements of the corresponding ServiceInterface

Imposition time: IT_Mani

⌈If a DdsServiceInterfaceDeployment references a ServiceInterface in the role serviceInterface, then all fields, triggers, and events defined in the context of the referenced ServiceInterface shall be referenced by respective fieldDeployments and eventDeployments owned by the referencing DdsServiceInterfaceDeployment.⌋

[constr_10630] PPortPrototype that is typed by a DiagnosticDataIdentifierInterface shall be mapped to a DiagnosticDataIdentifier

Imposition time: IT_DiagDes

⌈Any DiagnosticDataPortMapping that refers to a PPortPrototype that is typed by a DiagnosticDataIdentifierInterface shall only refer to a DiagnosticDataIdentifier in the role diagnosticDataIdentifier.

In this case, the existence of the reference in the role DiagnosticDataPortMapping.diagnosticDataElement is not permitted.⌋

[constr_10631] PPortPrototype that is typed by a DiagnosticDataElementInterface shall be mapped to a DiagnosticDataElement

Imposition time: IT_DiagDes

⌈Any DiagnosticDataPortMapping that refers to a PPortPrototype that is typed by a DiagnosticDataElementInterface shall only refer to a DiagnosticDataElement in the role diagnosticDataElement.

In this case, the existence of the reference in the role DiagnosticDataPortMapping.diagnosticDataIdentifier is not permitted.⌋

[constr_10633] Existence of references StateManagementStateMachineActionItem.overrideInitialState and stopAgent

Status: DRAFT
Imposition time: IT_Mani

⌈If the reference in the role StateManagementStateMachineActionItem.stopAgent exists, then the instance reference in the role overrideInitialState shall **not** exist.⌋

[constr_10634] ClientServerOperation aggregated by meta-class DiagnosticDataIdentifierInterface or meta-class DiagnosticDataElementInterface

Imposition time: IT_BefAraApiGen

⌈Any ClientServerOperation aggregated by a DiagnosticDataIdentifierInterface or a DiagnosticDataElementInterface shall **not** define the following attributes:

- fireAndForget
- possibleApError
- possibleApErrorSet

⌋

[constr_10641] Existence of reference in the role StateManagementModuleInstantiation.maxActionListDuration

Status: DRAFT
Imposition time: IT_Mani

⌈For each StateManagementModuleInstantiation, the attribute maxActionListDuration shall exist.⌋

[constr_10648] Target of the reference in the role DiagnosticDoIpActivationLinePortMapping.networkConfigurationDesign

Imposition time: IT_DiagDes

⌈A DoIpNetworkConfiguration shall only be referenced at most once in the role DiagnosticDoIpActivationLinePortMapping.networkConfigurationDesign.⌋

[constr_10649] Existence of reference in the role DiagnosticDoIpActivationLinePortMapping.networkConfigurationDesign

Imposition time: IT_DiagDes

⌈If a DoIpNetworkConfiguration exists where attribute isActivationLineDependent exists and is set to true, then a DiagnosticDoIpActivationLinePortMapping shall exist that references the DoIpNetworkConfiguration in the role networkConfigurationDesign.⌋

[constr_10652] SystemMappings applicable for a System of category MACHINE_DESIGN_EXTRACT

Imposition time: IT_SysDes

⌈A System with the category MACHINE_DESIGN_EXTRACT is only allowed to aggregate a SystemMapping in the role mapping that in turn only aggregates one or more PncMappings in the role pncMapping.

The aggregation of **anything besides** PncMapping shall be ignored.⌋

[constr_10653] Existence of attribute UriDescription.uri

Imposition time: IT_Mani

⌈For each UriDescription, the attribute uri shall exist.⌋

[constr_10654] Existence of PersistencyFileRequiredComSpec

Imposition time: IT_BefAraApiGen

⌈In the context of any given RPortPrototype typed by a PersistencyFileStorageInterface, **at most** one PersistencyFileRequiredComSpec may exist.⌋

[constr_10655] Allowed range of values for attribute ServiceInterfaceDeploymentElement.minimumSendInterval

Imposition time: IT_Mani

⌈The allowed value of attribute ServiceInterfaceDeploymentElement.minimumSendInterval shall be within the interval [0.0 .. 10.0].⌋

[constr_10657] Multiplicity of reference in the role ProcessDesignToMachineDesignMapping.machineDesign

Imposition time: IT_SysDes

⌈For each ProcessDesignToMachineDesignMapping, the reference in the role machineDesign shall exist.⌋

[constr_10658] Multiplicity of the reference in the role ProcessToMachineMapping.machine

Imposition time: IT_Mani

⌈For each ProcessToMachineMapping, the reference in the role machine shall exist.⌋

[constr_10659] Consistency of references in the roles ProcessDesignToMachineDesignMapping.machineDesign and shallRunOn resp. shallNotRunOn

Imposition time: IT_SysDes

⌈Any ProcessorCore that is referenced in the roles shallRunOn and shallNotRunOn shall be aggregated (via MachineDesign.processor) by the Machine-

Design referenced in the role ProcessDesignToMachineDesignMapping.machineDesign.⌋

[constr_10660] Usage of shallRunOn and shallNotRunOn references

Imposition time: IT_SysDes

⌈The ProcessorCore that is referenced by a ProcessDesignToMachineDesignMapping in the role shallRunOn or shallNotRunOn shall be aggregated by the MachineDesign that is referenced in the role machineDesign by the same ProcessDesignToMachineDesignMapping.⌋

[constr_10661] Consistency of references shallRunOn and shallNotRunOn

Imposition time: IT_SysDes

⌈Within the context of one ProcessDesignToMachineDesignMapping, all ProcessorCores referenced in the role shallRunOn or shallNotRunOn shall be aggregated by the same Processor.⌋

[constr_10662] Mutual exclusive existence of references shallRunOn and shallNotRunOn

Imposition time: IT_SysDes

⌈For any given ProcessDesignToMachineDesignMapping, either the reference in the role shallRunOn or the reference in the role shallNotRunOn may exist.⌋

[constr_10663] Existence of primitive attribute DiagnosticCommonProps.authenticationTimeout

Imposition time: IT_DiagDes

⌈If a DiagnosticContributionSet that aggregates the DiagnosticCommonProps also references a DiagnosticAuthenticationPortMapping or DiagnosticExternalAuthenticationPortMapping, then attribute DiagnosticCommonProps.authenticationTimeout shall exist.⌋

[constr_10666] Restriction for StateManagementStateMachineActionItem

Status: DRAFT
Imposition time: IT_Mani

⌈No StateManagementStateMachineActionItem shall refer (in the roles startAgent and stopAgent) to any StateManagementStateNotification.stateMachine where attribute category is set to the value STATE_MANAGEMENT_CONTROLLER.⌋

[constr_10682] Restriction of the multiplicity of DiagnosticExtendedDataRecordInterface.provide.argument

Imposition time: IT_BefAraApiGen

⌈A ClientServerOperation aggregated in the role DiagnosticExtendedDataRecordInterface.provide shall only aggregate exactly one argument.⌋

[constr_10683] Restriction for the data type of DiagnosticExtendedDataRecordInterface.provide.argument

Imposition time: IT_BefAraApiGen

⌈DiagnosticExtendedDataRecordInterface.provide.argument shall only be typed by **either**

- an ApplicationPrimitiveDataType **or**
- an ApplicationArrayDataType where attribute element is typed by an ApplicationPrimitiveDataType **or**
- a CppImplementationDataType where attribute category is set to the value VALUE **or**
- a CppImplementationDataType where attribute category is set to the value ARRAY that defines exactly one subElement where attribute category is set to the value VALUE.

⌋

[constr_10684] Restriction for the applicability of DiagnosticExtendedDataRecordClientPortMapping

Imposition time: IT_DiagDes

⌈If an RPortPrototype is referenced by a DiagnosticExtendedDataRecordClientPortMapping, then the RPortPrototype shall be typed by a DiagnosticExtendedDataRecordInterface.⌋

[constr_10685] Restriction for the reference to an RPortPrototype typed by a DiagnosticExtendedDataRecordInterface

Imposition time: IT_DiagDes

⌈If an RPortPrototype is typed by a DiagnosticExtendedDataRecordInterface, it shall only be referenced in the role rPortPrototypeInExecutable by a DiagnosticExtendedDataRecordClientPortMapping.⌋

[constr_10686] Multiplicity of reference in the role DiagnosticExtendedDataRecordClientPortMapping.recordElement

Imposition time: IT_DiagDes

⌈For each DiagnosticExtendedDataRecordClientPortMapping, the reference in the role recordElement shall exist.⌋

[constr_10690] Existence of attribute CryptoAlgorithmDescription.cryptoAlgorithmId

Imposition time: IT_Mani

⌈For each CryptoAlgorithmDescription, attribute cryptoAlgorithmId shall exist.⌋

[constr_10691] Existence of `CryptoAlgorithmDescription.cryptoKeyType`

Imposition time: `IT_Mani`

⌈For each `CryptoAlgorithmDescription`, attribute `cryptoKeyType` shall exist.⌋

[constr_10692] Existence of aggregation in the role `DiagnosticSovdOperationInterface.start`

Imposition time: `IT_BefAraApiGen`

⌈For each `DiagnosticSovdOperationInterface`, the aggregation in the role `start` shall exist.⌋

[constr_10693] Existence of reference in the role `DiagnosticSovdAccessArgument.contentObject`

Imposition time: `IT_BefAraApiGen`

⌈For each `DiagnosticSovdAccessArgument`, the reference in the role `contentObject` shall exist.⌋

[constr_10694] Restriction for `DiagnosticSovdAccessOperation` aggregated by a `DiagnosticSovdContentInterface`

Imposition time: `IT_BefAraApiGen`

⌈If the meta-class `DiagnosticSovdContentInterface` aggregates the two supported roles of `DiagnosticSovdAccessOperation`s then

- The two `DiagnosticSovdAccessOperation`s shall have the same number of `argument`s.
- The `argument`s on the nth position in the collection of `argument`s shall have identical properties, except the `direction`. In particular, the following conditions shall be fulfilled with respect to attribute `direction`:
  - Any `DiagnosticSovdAccessArgument` aggregated by a `DiagnosticSovdAccessOperation` that is itself aggregated in the role `DiagnosticSovdContentInterface.read` shall set attribute `direction` to `out`.
  - Any `DiagnosticSovdAccessArgument` aggregated by a `DiagnosticSovdAccessOperation` that is itself aggregated in the role `DiagnosticSovdContentInterface.write` shall set attribute `direction` to `in`.

⌋

[constr_10695] Existence of `DiagnosticSovdAccessOperation.argument` if `DiagnosticSovdAccessOperation` that is aggregated in the role `DiagnosticSovdContentElementInterface.read`

Imposition time: `IT_BefAraApiGen`

⌈For each `DiagnosticSovdAccessOperation` that is aggregated in the role `DiagnosticSovdContentElementInterface.read`, the role `DiagnosticSovdContentInterface.write` shall set attribute `direction` to `in`.

⌋

[constr_10695] Existence of `DiagnosticSovdAccessOperation.argument` if `DiagnosticSovdAccessOperation` that is aggregated in the role `DiagnosticSovdContentElementInterface.read`

Imposition time: `IT_BefAraApiGen`

⌈For each `DiagnosticSovdAccessOperation` that is aggregated in the role `DiagnosticSovdContentElementInterface.read`, the role `DiagnosticSovdContentInterface.write` shall set attribute `direction` to `in`.

⌋

SovdAccessOperation.argument shall exist exactly once and the attribute argument.direction shall be set to ArgumentDirectionEnum.out.⌋

[constr_10696] Target of the reference DiagnosticSovdContentPortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈Any DiagnosticSovdContentPortMapping shall **only** reference in the role pPortPrototypeInExecutable a PPortPrototype that is typed by either

- a DiagnosticSovdContentInterface or
- a DiagnosticSovdContentElementInterface.

⌋

[constr_10697] DiagnosticSovdContentPortMapping maps on the level of SOVD Data

Imposition time: IT_DiagDes

⌈If a DiagnosticSovdContentPortMapping references in the role pPortPrototypeInExecutable a PPortPrototype that is typed by a DiagnosticSovdContentInterface, then the DiagnosticSovdContentPortMapping shall also refer in the role content to a DiagnosticSovdContent, and vice versa.⌋

[constr_10698] DiagnosticSovdContentPortMapping maps on the level of SOVD Data Element

Imposition time: IT_DiagDes

⌈If a DiagnosticSovdContentPortMapping references in the role pPortPrototypeInExecutable a PPortPrototype that is typed by a DiagnosticSovdContentElementInterface, then the DiagnosticSovdContentPortMapping shall also refer in the role content to a DiagnosticSovdContentElement, and vice versa.⌋

[constr_10699] Existence of the reference in the role DiagnosticSovdContentPortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdContentPortMapping, the reference in the role DiagnosticSovdContentPortMapping.pPortPrototypeInExecutable shall exist.⌋

[constr_10700] Existence of the reference in the role DiagnosticSovdContentPortMapping.content

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdContentPortMapping, the reference in the role DiagnosticSovdContentPortMapping.content shall exist.⌋

[constr_10701] Existence of the reference in the role DiagnosticSovdContentPortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdContentPortMapping, the reference in the role DiagnosticSovdContentPortMapping.process shall exist.⌋

[constr_10702] Existence of the reference in the role DiagnosticSovdOperationPortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdOperationPortMapping, the reference in the role DiagnosticSovdOperationPortMapping.pPortPrototypeInExecutable shall exist.⌋

[constr_10703] Existence of the reference in the role DiagnosticSovdOperationPortMapping.sovdOperation

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdOperationPortMapping, the reference in the role DiagnosticSovdOperationPortMapping.sovdOperation shall exist.⌋

[constr_10704] Existence of the reference in the role DiagnosticSovdOperationPortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdOperationPortMapping, the reference in the role DiagnosticSovdOperationPortMapping.process shall exist.⌋

[constr_10705] Restriction regarding references in the roles DiagnosticSovdDataCategory.group and DiagnosticSovdData.sovdGroup

Imposition time: IT_DiagDes

⌈In the scope of any given DiagnosticSovdData, every DiagnosticSovdGroup that is referenced in the role DiagnosticSovdData.sovdGroup shall also be referenced in the role DiagnosticSovdDataCategory.group from the DiagnosticSovdDataCategory that is referenced in the role sovdDataCategory from the enclosing DiagnosticSovdData.⌋

[constr_10706] Existence of reference in the role DiagnosticSovdData.sovdDataCategory

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdData, the reference in the role sovdDataCategory shall exist.⌋

[constr_10707] Relation of the values of attributes `minNumberOfElements` and `maxNumberOfElements`

Imposition time: IT_DiagDes

⌈The value of attribute DiagnosticSovdArrayContentElement.minNumberOfElements shall be **smaller or equal** to the value of DiagnosticSovdArrayContentElement.maxNumberOfElements.⌋

[constr_10708] `DiagnosticSovdContentElement` aggregated in the role `DiagnosticSovdArrayContentElement.element` shall not be declared *optional*

Imposition time: IT_DiagDes

⌈Any DiagnosticSovdContentElement aggregated in the role DiagnosticSovdArrayContentElement.element shall not set the value of attribute isOptional to true.⌋

[constr_10711] Existence of attribute `DiagnosticSovdArrayContentElement.maxNumberOfElements`

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdArrayContentElement, attribute maxNumberOfElements shall exist.⌋

[constr_10712] Allowed roles within `SwDataDefProps` in the context of meta-class `DiagnosticSovdPrimitiveContentElement`

Imposition time: IT_DiagDes

⌈Only the following roles within SwDataDefProps in the context of DiagnosticSovdPrimitiveContentElement are allowed:

- dataConstr
- unit

Any role that is not mentioned in the list above shall **not** be used.⌋

[constr_10713] Target of the reference `DiagnosticSovdOperationPortMapping.pPortPrototypeInExecutable`

Imposition time: IT_DiagDes

⌈Any DiagnosticSovdOperationPortMapping shall **only** reference in the role DiagnosticSovdOperationPortMapping.pPortPrototypeInExecutable a PPortPrototype that is typed by a DiagnosticSovdOperationInterface.⌋

[constr_10714] `PPortPrototype` that is typed by a `DiagnosticSovdOperationInterface` as a mapping target

Imposition time: IT_DiagDes

⌈Any PPortPrototype that is typed by a DiagnosticSovdOperationInterface shall only be referenced in the role DiagnosticSovdOperationPortMapping.pPortPrototypeInExecutable.⌋

[constr_10715] `DiagnosticSovdOperation` shall not refer to `DiagnosticSovdMethod`

Imposition time: IT_DiagDes

⌈Any DiagnosticSovdOperation shall not refer to DiagnosticSovdMethod.⌋

[constr_10716] Existence of `DiagnosticSovdOperation.start`

Imposition time: IT_DiagDes

⌈The aggregation in the role DiagnosticSovdOperation.start shall always exist.⌋

[constr_10717] Existence of `DiagnosticSovdOperation.proximityProofRequired`

Imposition time: IT_DiagDes

⌈The aggregation in the role DiagnosticSovdOperation.proximityProofRequired shall always exist.⌋

[constr_10718] Existence of `DiagnosticEnvSovdDataCondition.compareValue`

Imposition time: IT_DiagDes

⌈For each DiagnosticEnvSovdDataCondition, that attribute compareValue shall exist.⌋

[constr_10719] Existence of `DiagnosticEnvSovdDataCondition.contentElement`

Imposition time: IT_DiagDes

⌈For each DiagnosticEnvSovdDataCondition, that attribute contentElement shall exist.⌋

[constr_10720] Restriction for the value of `StateManagementSuspendToRamActionItem.maxActionItemDuration`

Status: DRAFT
Imposition time: IT_Mani

⌈For each StateManagementSuspendToRamActionItem, the value of attribute maxActionItemDuration shall exist and only have a value greater than 0.⌋

[constr_10721] Target of AbstractSuspendToRamMapping.pPortPrototypeInExecutable

Status: DRAFT
Imposition time: IT_Mani

⌈The target of the instanceRef in the role AbstractSuspendToRamMapping.pPortPrototypeInExecutable shall only be a PPortPrototype that is typed by a SuspendToRamSatelliteInterface.⌋

[constr_10722] Restriction for PPortPrototype that is typed by a SuspendToRamSatelliteInterface

Status: DRAFT
Imposition time: IT_Mani

⌈A PPortPrototype that is typed by a SuspendToRamSatelliteInterface shall only be referenced by a SuspendToRamSatelliteMapping in the role pPortPrototypeInExecutable.⌋

[constr_10723] Existence of reference SuspendToRamSatelliteMapping.moduleInstantiation

Status: DRAFT
Imposition time: IT_Mani

⌈For each concrete sub-class of SuspendToRamSatelliteMapping, reference moduleInstantiation shall exist.⌋

[constr_10724] Existence of reference SuspendToRamSatelliteMapping.pPortPrototypeInExecutable

Status: DRAFT
Imposition time: IT_Mani

⌈For each concrete sub-class of SuspendToRamSatelliteMapping, reference pPortPrototypeInExecutable shall exist.⌋

[constr_10725] Existence of reference SuspendToRamSatelliteMapping.process

Status: DRAFT
Imposition time: IT_Mani

⌈For each concrete sub-class of SuspendToRamSatelliteMapping, reference process shall exist.⌋

[constr_10726] Target of AbstractSuspendToRamMapping.pPortPrototypeInExecutable

Status: DRAFT
Imposition time: IT_Mani

⌈The target of the instanceRef in the role AbstractSuspendToRamMapping.pPortPrototypeInExecutable shall only be a PPortPrototype that is typed by a SuspendToRamHubInterface.⌋

[constr_10727] Restriction for `PPortPrototype` that is typed by a `SuspendToRamHubInterface`

Status: DRAFT
Imposition time: `IT_Mani`

⌈A `PPortPrototype` that is typed by a `SuspendToRamHubInterface` shall only be referenced by a `SuspendToRamHubMapping` in the role `pPortPrototypeInExecutable`.⌋

[constr_10728] Restriction for the reference in the role `SuspendToRamHubMapping.moduleInstantiation`

Status: DRAFT
Imposition time: `IT_Mani`

⌈Each `SuspendToRamModuleInstantiation` shall only be referenced from at most one `SuspendToRamHubMapping` in the role `moduleInstantiation`.⌋

[constr_10729] Existence of reference `SuspendToRamHubMapping.moduleInstantiation`

Status: DRAFT
Imposition time: `IT_Mani`

⌈For each concrete sub-class of `SuspendToRamHubMapping`, reference `moduleInstantiation` shall exist.⌋

[constr_10730] Existence of reference `SuspendToRamHubMapping.pPortPrototypeInExecutable`

Status: DRAFT
Imposition time: `IT_Mani`

⌈For each concrete sub-class of `SuspendToRamHubMapping`, reference `pPortPrototypeInExecutable` shall exist.⌋

[constr_10731] Existence of reference `SuspendToRamHubMapping.process`

Status: DRAFT
Imposition time: `IT_Mani`

⌈For each concrete sub-class of `SuspendToRamHubMapping`, reference `process` shall exist.⌋

[constr_10732] Existence of the attributes `DiagnosticExtendedDataRecord.trigger` and `update` on the *AUTOSAR adaptive platform*

Imposition time: AP: `IT_DiagDes`

⌈For each `DiagnosticExtendedDataRecord`, attributes `trigger` and `update` shall only exist if at least one `DiagnosticExtendedDataRecordElement` is aggregated by a `DiagnosticExtendedDataRecord` in the role `element` that is referenced in the role `DiagnosticExtendedDataRecordClientPortMapping.recordElement`.⌋

[constr_10733] Uniqueness of reference from DiagnosticSovdConfigContentMapping to DiagnosticSovdConfigurationParameter

Imposition time: IT_DiagDes

⌈Each instance of a sub-class of DiagnosticSovdConfigurationParameter shall only be referenced by exactly one DiagnosticSovdConfigContentMapping.⌋

[constr_10734] Existence of the reference in the role DiagnosticSovdConfigContentMapping.serviceInstance

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdConfigContentMapping, the reference in the role DiagnosticSovdConfigContentMapping.serviceInstance shall exist.⌋

[constr_10735] Existence of the reference in the role DiagnosticSovdConfigContentMapping.content

Imposition time: IT_DiagDes

⌈For each DiagnosticSovdConfigContentMapping, the reference in the role DiagnosticSovdConfigContentMapping.content shall exist.⌋

[constr_10736] Restriction applicable for CryptoCertificateGroupToPortPrototypeMapping.portPrototype

Status: DRAFT
Imposition time: IT_Mani

⌈The reference CryptoCertificateGroupToPortPrototypeMapping.portPrototype shall only be used for an RPortPrototype typed by a CryptoCertificateGroupInterface.⌋

[constr_10737] Existence of reference in the role CryptoCertificateGroupToPortPrototypeMapping.process

Imposition time: IT_Mani

⌈For each CryptoCertificateGroupToPortPrototypeMapping, the reference in the role process shall exist.⌋

[constr_10738] Existence of reference in the role CryptoCertificateGroupToPortPrototypeMapping.certificateGroup

Imposition time: IT_Mani

⌈For each CryptoCertificateGroupToPortPrototypeMapping, the reference in the role certificateGroup shall exist.⌋

[constr_10739] Existence of instanceRef in the role CryptoCertificateGroupToPortPrototypeMapping.portPrototype

Imposition time: IT_Mani

⌈For each CryptoCertificateGroupToPortPrototypeMapping, the instance Ref in the role portPrototype shall exist.⌋

[constr_10742] Reference to DiagnosticSovdContent

Imposition time: IT_DiagDes

⌈Any DiagnosticSovdContent shall only be referenced by one of

- DiagnosticSovdConfigContentMapping
- DiagnosticSovdContentPortMapping

⌋

[constr_10743] Existence of TransformationPropsToServiceInterfaceElementMapping.methodReturn

Imposition time: IT_BefAraApiGen

⌈If the ClientServerOperation referenced by a TransformationPropsToServiceInterfaceElementMapping in the role methodCall has attribute fireAndForget set to true, then the TransformationPropsToServiceInterfaceElementMapping shall **not** define a reference in the role methodReturn.⌋

[constr_10746] Existence of primitive attribute CryptoKeySlotToClientPortPrototypeMapping.allowPlainTextImport

Status: DRAFT
Imposition time: IT_Mani

⌈For each CryptoKeySlotToClientPortPrototypeMapping, the attribute allowPlainTextImport shall either not exist or be set to the value false.⌋

[constr_10747] Simultaneous existence of Process.posixUser and Process.primaryGroup

Imposition time: IT_Mani

⌈If one of

- Process.posixUser
- Process.primaryGroup

exists, then the respective other reference shall also exist.⌋

[constr_10748] Existence of PosixUser.uid

Imposition time: IT_Mani

⌈For each PosixUser, attribute uid shall exist.⌋

[constr_10749] Existence of PosixGroup.gid

Imposition time: IT_Mani

⌈For each PosixGroup, attribute gid shall exist.⌋

[constr_10753] Multiplicity of attribute SoftwareClusterUdsDiagnosticAddress.udsAddressSemantics

Imposition time: IT_Mani

⌈For each SoftwareClusterUdsDiagnosticAddress, the attribute udsAddressSemantics shall exist.⌋

[constr_10754] Restriction applicable for CryptoKeySlotToPortPrototypeMapping.portPrototype

Status: DRAFT
Imposition time: IT_Mani

⌈The reference CryptoKeySlotToPortPrototypeMapping.portPrototype shall only be used for an RPortPrototype typed by a CryptoKeySlotInterface.⌋

[constr_10755] Restriction applicable for CryptoKeySlotToClientPortPrototypeMapping.portPrototype

Status: DRAFT
Imposition time: IT_Mani

⌈The reference CryptoKeySlotToClientPortPrototypeMapping.portPrototype shall only be used for an RPortPrototype typed by a CryptoKeySlotClientInterface.⌋

[constr_10779] Reference to NM Network Handle from NmNetworkHandleErrorMapping

Status: DRAFT
Imposition time: IT_Mani

⌈Each NM network handle modeled as a NmNetworkHandle aggregated by a NmInstantiation shall only be referenced by a single NmNetworkHandleErrorMapping.⌋

[constr_10780] Uniqueness of the value of DiagnosticDoIPCustomPayloadRxPortMapping.payloadTypeId

Imposition time: IT_DiagDes

⌈In the context of a DiagnosticContributionSet, no two DiagnosticDoIPCustomPayloadRxPortMapping shall have the same value of attribute payloadTypeId.⌋

[constr_10781] Restriction for the applicability of DiagnosticDoIPCustomPayloadRxPortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced in the role pPortPrototypeInExecutable by a DiagnosticDoIPCustomPayloadRxPortMapping, then the PPortPrototype shall be typed by a DiagnosticDoIPCustomPayloadRxInterface.⌋

[constr_10782] Restriction for the applicability of DiagnosticDoIPCustomPayloadRxInterface

Imposition time: IT_DiagDes

⌈If a PPortPrototype is typed by a DiagnosticDoIPCustomPayloadRxInterface, then the reference in the role pPortPrototypeInExecutable to the PPortPrototype shall only originate from a DiagnosticDoIPCustomPayloadRxPortMapping.⌋

[constr_10783] Existence of DiagnosticDoIPCustomPayloadRxPortMapping.pPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIPCustomPayloadRxPortMapping, attribute pPortPrototypeInExecutable shall exist.⌋

[constr_10784] Existence of DiagnosticDoIPCustomPayloadAbstractPortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIPCustomPayloadRxPortMapping, attribute process shall exist.⌋

[constr_10785] Existence of DiagnosticDoIPCustomPayloadAbstractPortMapping.payloadTypeId

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIPCustomPayloadRxPortMapping, attribute payloadTypeId shall exist.⌋

[constr_10786] Restriction for the applicability of DiagnosticDoIPCustomPayloadTxPortMapping

Imposition time: IT_DiagDes

⌈If a RPortPrototype is referenced in the role rPortPrototypeInExecutable by a DiagnosticDoIPCustomPayloadTxPortMapping, then the RPortPrototype shall be typed by a DiagnosticDoIPCustomPayloadTxInterface.⌋

[constr_10787] Restriction for the applicability of DiagnosticDoIPCustomPayloadTxInterface

Imposition time: IT_DiagDes

⌈If a RPortPrototype is typed by a DiagnosticDoIPCustomPayloadTxInterface, then the reference in the role rPortPrototypeInExecutable to the RPortPrototype shall only originate from a DiagnosticDoIPCustomPayloadTxPortMapping.⌋

[constr_10788] Existence of reference DiagnosticDoIPCustomPayloadTxPortMapping.rPortPrototypeInExecutable

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIPCustomPayloadTxPortMapping, attribute rPortPrototypeInExecutable shall exist.⌋

[constr_10789] Existence of reference DiagnosticDoIPCustomPayloadTxPortMapping.process

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIPCustomPayloadTxPortMapping, attribute process shall exist.⌋

[constr_10790] Existence of reference DiagnosticDoIPCustomPayloadTxPortMapping.payloadTypeId

Imposition time: IT_DiagDes

⌈For each DiagnosticDoIPCustomPayloadTxPortMapping, attribute payloadTypeId shall exist.⌋

[constr_10791] Existence of DiagnosticSovdMethodPrimitive in the context of a DiagnosticSovdFaultMemoryAccess

Imposition time: IT_DiagDes

⌈If a DiagnosticSovdFaultMemoryAccess is referencing a DiagnosticSovdMethod in the role method, then the following restriction for the existence of the attributes of the DiagnosticSovdMethod applies:

put not allowed

post not allowed

get allowed

delete allowed

⌋

[constr_10796] Restriction for the applicability of DiagnosticInputOutputControlPortMapping

Imposition time: IT_DiagDes

⌈If a PPortPrototype is referenced by a DiagnosticInputOutputControlPortMapping, then the PPortPrototype shall be typed by either

- a DiagnosticInputOutputControlInterface or
- a DiagnosticInputOutputControlGenericInterface.

⌋

[constr_10797] Reference in the role `SovdAbstractContributingEntity.softwareClusterDesign`

Imposition time: `IT_SovdSysDes`

⌈Each `SoftwareClusterDesign` shall only be referenced by a single `SovdAbstractContributingEntity` in the role `softwareClusterDesign`.⌋

A Mentioned Class Tables

Class	***AbstractCryptoKeySlotToPortPrototypeMapping*** (abstract)			
Note	This abstract meta-class acts as a base class for crypto key slot mappings. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Subclasses	CryptoKeySlotToClientPortPrototypeMapping, CryptoKeySlotToPortPrototypeMapping			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
allowPlainText Export	Boolean	0..1	attr	There are two conditions for a key to become exportable in plain text: 1. this attribute needs to be set to true. 2. the API call for using the key provides an argument that explicitly supports the usage of the API for plain text export.
allowPlainText Import	Boolean	0..1	attr	This attribute describes whether the key slot content is allowed to be imported in plaintext format or not by the application referenced in the role process. Plaintext import is only possible if supported by the cryptographic module and by the CryptoProvider implementation.
keySlot	CryptoKeySlot	0..1	ref	This reference represents the mapped CryptoKeySlot. **Tags:** atp.Splitkey=keySlot
portPrototype	RPortPrototype	0..1	iref	This reference represents the mapped PortPrototype. **Tags:** atp.Splitkey=portPrototype, portPrototype.context RootSwComponentPrototype, portPrototype.context ComponentPrototype, portPrototype.targetRPort Prototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef
process	Process	0..1	ref	This reference represents the process required as context for the mapping. **Tags:** atp.Splitkey=process

Table A.1: AbstractCryptoKeySlotToPortPrototypeMapping

Class	***AbstractDoIpPortMapping*** (abstract)			
Note	This meta-class acts as an abstract base class for DoIP-related mappings. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Subclasses	DiagnosticDoIpActivationLinePortMapping, DiagnosticDoIpEntityIdentificationPortMapping, DiagnosticDoIpGroupIdentificationPortMapping, DiagnosticDoIpPowerModePortMapping			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***



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Class	***AbstractDoIpPortMapping*** (abstract)			
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This identifies the PPortPrototype for which the Abstract DoIpPortMapping is applicable. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This identifies the RPortPrototype for which the Abstract DoIpPortMapping is applicable. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.2: AbstractDoIpPortMapping

Class	***AbstractImplementationDataType*** (abstract)			
Note	This meta-class represents an abstract base class for different flavors of ImplementationDataType.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *AutosarDataType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Subclasses	*CppImplementationDataType*, ImplementationDataType			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.3: AbstractImplementationDataType

Class	***AbstractImplementationDataTypeElement*** (abstract)			
Note	This meta-class represents the ability to act as an abstract base class for specific derived meta-classes that support the modeling of `ImplementationDataType`s for a particular language binding.			
Base	*ARObject*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	CppImplementationDataTypeElement, ImplementationDataTypeElement			
Aggregated by	*AtpClassifier*.atpFeature			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.4: AbstractImplementationDataTypeElement

Class	***AbstractPersistencyRequireComSpec*** (abstract)			
Note	This meta-class acts as a bas-class of persistency-related ComSpec classes. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *RPortComSpec*			
Subclasses	PersistencyDataRequiredComSpec, PersistencyFileRequiredComSpec			
Aggregated by	*AbstractRequiredPortPrototype*.requiredComSpec, PortPrototypeBlueprint.requiredComSpec			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
accessMode	PersistencyAccess Enum	0..1	attr	This attribute controls how persistent data can be accessed.

Table A.5: AbstractPersistencyRequireComSpec

Class	***AbstractRawDataStreamEthernetCredentials*** (abstract)			
Note	This meta-class serves as an abstract base class for the configuration of network credentials. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Describable*			
Subclasses	RawDataStreamEthernetTcpUdpCredentials, RawDataStreamEthernetUdpCredentials			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
ipV4Address	Ip4AddressString	0..1	attr	This attribute describes the IP V4 address of the remote server.
ipV6Address	Ip6AddressString	0..1	attr	This attribute describes the IP V6 address of the remote server.
udpPort	PositiveInteger	0..1	attr	This attribute represents the configuration of a UDP port number.

Table A.6: AbstractRawDataStreamEthernetCredentials

Class	***AbstractServiceInstance*** (abstract)			
Note	Provided and Consumed Ethernet Service Instances that are available at the ApplicationEndpoint.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	ConsumedServiceInstance, *DdsCpServiceInstance*, ProvidedServiceInstance			
Aggregated by	ServiceInstanceCollectionSet.serviceInstance			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
capability Record	TagWithOptionalValue	*	aggr	A sequence of records to store arbitrary name/value pairs conveying additional information about the named service. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=capabilityRecord, capabilityRecord.variationPoint.shortLabel vh.latestBindingTime=postBuild
majorVersion	PositiveInteger	0..1	attr	Major Version of the ServiceInterface. Value can be set to a number that represents the Major Version of the service.
method Activation RoutingGroup	PduActivationRouting Group	0..1	aggr	The ServiceDiscovery module is able to activate and deactivate the PDU routing for ClientServerOperations (SOME/IP methods). **Stereotypes:** atpVariation **Tags:** atp.Splitkey=methodActivationRoutingGroup, methodActivationRoutingGroup.shortName, methodActivationRoutingGroup.variationPoint.shortLabel vh.latestBindingTime=postBuild

Table A.7: AbstractServiceInstance

Class	**AbstractSignalBasedToISignalTriggeringMapping** (abstract)			
Note	This meta-class is the common class for all SIgnalBased to ISignalTRiggering mappings. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	SignalBasedEventElementToISignalTriggeringMapping, SignalBasedFieldToISignalTriggeringMapping, SignalBasedFireAndForgetMethodToISignalTriggeringMapping, SignalBasedTriggerToISignalTriggering Mapping			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.8: AbstractSignalBasedToISignalTriggeringMapping

Class	**AbstractSuspendToRamMapping** (abstract)			
Note	This meta-class acts as an abstract base class for suspend-to-RAM-related mappings. **Tags:** atp.Status=candidate This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Subclasses	SuspendToRamHubMapping, SuspendToRamSatelliteMapping			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
module Instantiation	SuspendToRamModule Instantiation	0..1	ref	This reference identifies the applicable suspend-to-RAM module instantiation. **Tags:** atp.Splitkey=moduleInstantiation atp.Status=candidate
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This reference identifies the suspend-to-RAM-related port. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPortPrototype InExecutable.contextRootSwComponentPrototype, pPort PrototypeInExecutable.contextComponentPrototype, p PortPrototypeInExecutable.targetPPortPrototype atp.Status=candidate **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	Process	0..1	ref	This reference identifies the Process in which the Executable referenced in the role pPortPrototypeIn Executable is executed. **Tags:** atp.Splitkey=process atp.Status=candidate

Table A.9: AbstractSuspendToRamMapping

Class	**AdaptiveApplicationSwComponentType**
Note	This meta-class represents the ability to support the formal modeling of application software on the AUTOSAR adaptive platform. Consequently, it shall only be used on the AUTOSAR adaptive platform. **Tags:** atp.recommendedPackage=AdaptiveApplicationSwComponentTypes This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *SwComponentType*

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Class	**AdaptiveApplicationSwComponentType**			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
internalBehavior	AdaptiveSwcInternal Behavior	0..1	aggr	This aggregation represents the internal behavior of the AdaptiveApplicationSwComponentType for the AUTOSAR adaptive platform. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=internalBehavior, internalBehavior.short Name, internalBehavior.variationPoint.shortLabel vh.latestBindingTime=preCompileTime

Table A.10: AdaptiveApplicationSwComponentType

Class	**AdaptiveFirewallToPortPrototypeMapping**			
Note	This meta-class maps the AdaptiveFirewall moduleInstantiation to the RPortPrototype that is typed by a FirewallModeSwitchInterface. **Tags:** atp.recommendedPackage=AdaptiveFirewallToPortPrototypeMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
firewall	AdaptiveFirewallModule Instantiation	0..1	ref	Reference to the Firewall module **Tags:** atp.Splitkey=firewall
process	Process	0..1	ref	The referenced Process is supposed to define the Port Prototype typed by a FirewallStateSwitchInterface, referenced by the enclosing mapping class. If this reference does not exist, any Process using the respective API can switch the firewall state. **Tags:** atp.Splitkey=process
rPort	RPortPrototype	0..1	iref	Reference to RPortPrototype typed by a FirewallMode SwitchInterface **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPort, rPort.contextRootSw ComponentPrototype, rPort.contextComponentPrototype, rPort.targetRPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.11: AdaptiveFirewallToPortPrototypeMapping

Class	***AdaptivePlatformServiceInstance*** (abstract)			
Note	This meta-class represents the ability to describe the existence and configuration of a service instance in an abstract way. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Subclasses	*ProvidedApServiceInstance*, *RequiredApServiceInstance*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	***AdaptivePlatformServiceInstance*** (abstract)			
e2eEvent ProtectionProps	End2EndEvent ProtectionProps	*	aggr	This aggregation allows to protect an event or a field notifier that is defined inside of the ServiceInterface that is referenced by the ServiceInstance in the role service Interface. **Tags:** atp.Splitkey=e2eEventProtectionProps, e2eEvent ProtectionProps.shortName
e2eMethod ProtectionProps	End2EndMethod ProtectionProps	*	aggr	This aggregation allows to protect a method or a field getter or a field setter that is defined inside of the Service Interface that is referenced by the ServiceInstance in the role serviceInterface **Tags:** atp.Splitkey=e2eMethodProtectionProps, e2e MethodProtectionProps.shortName
secureCom Config	ServiceInterface ElementSecureCom Config	*	aggr	Configuration settings to secure the communication of ServiceInterface elements. **Tags:** atp.Splitkey=secureComConfig, secureCom Config.shortName
serviceInterface Deployment	ServiceInterface Deployment	0..1	ref	Reference to a ServiceInterfaceDeployment that identifies the ServiceInterface that is represented by the Service Instance. **Tags:** atp.Splitkey=serviceInterfaceDeployment

Table A.12: AdaptivePlatformServiceInstance

Class	**AliveSupervision**			
Note	Defines an AliveSupervision for one checkpoint. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *PhmSupervision*, *Referrable*			
Aggregated by	GlobalSupervision.aliveSupervision			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
aliveReference Cycle	TimeValue	0..1	attr	Time period at which the Alive Supervision mechanism compares the amount of received Alive Indications for the SupervisionCheckpoint against the expectedAlive Indications.
checkpoint	SupervisionCheckpoint	0..1	ref	Reference to a checkpoint in the context of Alive Supervision. **Tags:** atp.Splitkey=checkpoint
expectedAlive Indications	PositiveInteger	0..1	attr	Defines the amount of expected Alive Indications of the SupervisionCheckpoint within the aliveReferenceCycle.
failedReference Cycles Tolerance	PositiveInteger	0..1	attr	This attribute defines the acceptable amount of alive ReferenceCycles with incorrect/failed AliveSupervision.
maxMargin	PositiveInteger	0..1	attr	Defines the amount of Alive Indications of the Supervision Checkpoint that are acceptable to be additional to the expectedAliveIndications within the aliveReferenceCycle.
minMargin	PositiveInteger	0..1	attr	Defines the amount of Alive Indications of the Supervision Checkpoint that are acceptable to be missing to the expectedAliveIndications within the aliveReferenceCycle.
terminating Checkpoint	SupervisionCheckpoint	0..1	ref	Reference to the SupervisionCheckpoint which is defined as the terminating checkpoint of this AliveSupervision. **Tags:** atp.Splitkey=terminatingCheckpoint

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Class	**AliveSupervision**			
terminating Checkpoint TimeoutUntil Termination	TimeValue	0..1	attr	Defines the time a process shall terminate after it has announced its start of termination by reporting terminatingCheckpoint.

Table A.13: AliveSupervision

Class	**Allocator**			
Note	This meta-class represents the ability to specify an optional custom C++ allocator for a C++ type which may dynamically grow beyond it's initial allocated size during it's lifetime. Any storage principles are defined in the implementation of the allocator itself, which should implement the ISO C++ std::allocator_ traits interface. **Tags:** atp.recommendedPackage=Allocators This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
headerFile	String	0..1	attr	Configuration of the Header File with the custom class declaration
namespace (ordered)	SymbolProps	*	aggr	This aggregation allows for the definition of a namespace of an Allocator.

Table A.14: Allocator

Class	**ApApplicationEndpoint**			
Note	An application endpoint is the endpoint on an Ecu in terms of application addressing (e.g. UDP or TCP Port). This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	EthernetCommunicationConnector.apApplicationEndpoint			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
priority	PositiveInteger	0..1	attr	This attribute defines the VLAN frame priority where values from 0 (best effort) to 7 (highest) are allowed.
tpConfiguration	TcpUdpConfig	0..1	aggr	Configuration of the used transport protocol. **Tags:** atp.Splitkey=tpConfiguration

Table A.15: ApApplicationEndpoint

Class	**ApApplicationError**			
Note	This meta-class represents the ability to formally specify the semantics of an application error on the AUTOSAR adaptive platform **Tags:** atp.recommendedPackage=ApplicationErrors This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**ApApplicationError**			
errorCode	Integer	0..1	attr	This attribute has the ability to specify the error code value within the enclosing AdaptivePlatformApplication Error.
errorDomain	ApApplicationError Domain	0..1	ref	This reference represents the error domain of the Ap ApplicationError. **Tags:** atp.Splitkey=errorDomain

Table A.16: ApApplicationError

Class	**ApApplicationErrorDomain**			
Note	This meta-class represents the ability to define a global error domain for an ApApplicationError. **Tags:** atp.recommendedPackage=ApplicationErrors This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
namespace (ordered)	SymbolProps	*	aggr	This aggregation defines the namespace of the Ap ApplicationErrorDomain
value	PositiveUnlimitedInteger	0..1	attr	This attribute identifies the error category.

Table A.17: ApApplicationErrorDomain

Class	**ApApplicationErrorSet**			
Note	This meta-class acts as a reference target that represents an entire collection of APApplicationErrors. This takes the burden from ClientServerOperations that reference a larger number of ApApplication Errors. **Tags:** atp.recommendedPackage=ApplicationErrorSets This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
apApplication Error	ApApplicationError	*	ref	This reference represents the collection of ApApplication Error represented by the enclosing ApApplicationErrorSet **Tags:** atp.Splitkey=apApplicationError

Table A.18: ApApplicationErrorSet

Class	**ApSomeipTransformationProps**			
Note	SOME/IP serialization properties. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *TransformationProps*			
Aggregated by	TransformationPropsSet.transformationProps			
Attribute	*Type*	*Mult.*	*Kind*	*Note*

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Class	**ApSomeipTransformationProps**			
alignment	PositiveInteger	0..1	attr	Defines the padding for alignment purposes that will be added by the SOME/IP transformer after the serialized data of the variable data length data element. The alignment shall be specified in Bits.
byteOrder	ByteOrderEnum	0..1	attr	Specifies the byte order of data in the serialized data stream.
fixedStringSize	PositiveInteger	0..1	attr	Specifies the length of a fixed size string in bytes in the serialized data stream. The length includes the BOM, optional length field, payload and null-termination characters.
isDynamic LengthFieldSize	Boolean	0..1	attr	This attribute represents the ability to control the setting of the wire type for TLV encoding.
sizeOfArray LengthField	PositiveInteger	0..1	attr	Configures the SOME/IP serialization for the referenced dataPrototype in case of a variable size Array (Vector), fixed-size Array or an Associative_Map. It describes the size of the length field (in Bytes) that will be put in front of the Array or Associative_Map in the SOME/IP message.
sizeOfString LengthField	PositiveInteger	0..1	attr	Configures the SOME/IP serialization for the referenced dataPrototype in case of a String. It describes the size of the length field (in Bytes) that will be put in front of the String in the SOME/IP message.
sizeOfStruct LengthField	PositiveInteger	0..1	attr	Configures the SOME/IP serialization for the referenced dataPrototype in case of an Struct. It describes the size of the length field (in Bytes) that will be put in front of the Struct in the SOME/IP message.
sizeOfUnion LengthField	PositiveInteger	0..1	attr	Configures the SOME/IP serialization for the referenced dataPrototype in case of a Union. It describes the size of the length field (in Bytes) that will be put in front of the Union in the SOME/IP message.
sizeOfUnion TypeSelector Field	PositiveInteger	0..1	attr	Configures the SOME/IP serialization for the referenced dataPrototype in case of a Union. It describes the size of the type selector field (in Bytes) that will be put in front of the Union in the SOME/IP message.
stringEncoding	BaseTypeEncoding String	0..1	attr	Configures the encoding for SOME/IP serialization for the referenced dataPrototype in case of an String.

Table A.19: ApSomeipTransformationProps

Class	***ApmcAbstractForeignReferenceDef*** (abstract)			
Note	This abstract meta-class represents the ability to establish a flat (as opposed to an instanceRef) reference to model elements out of the context of target-configuration, i.e. in the design model. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcConfigurationElementDef*, *ApmcContainerElementDef*, *Apmc DefinitionElement*, *ApmcReferenceDef*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	ApmcForeignReferenceDef, ApmcUpstreamDocForeignReferenceDef, ApmcUriForeignReferenceDef			
Aggregated by	ApmcParamConfContainerDef.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
destinationType	String	0..1	attr	This attribute carries the identification of the target's class. This way, the possible reference targets can be restricted on the "definition" side of the target-configuration. This is necessary to preserve the intended semantics of the foreign reference.

Table A.20: ApmcAbstractForeignReferenceDef

Class	***ApmcAbstractInstanceReferenceDef*** (abstract)			
Note	This abstract meta-class represents the ability to establish a instanceRef (as opposed to flat) reference to model elements. Subclasses clarify the specific semantics. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcConfigurationElementDef*, *ApmcContainerElementDef*, *ApmcDefinitionElement*, *ApmcReferenceDef*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	ApmcInstanceReferenceDef, ApmcUpstreamDocInstanceReferenceDef, ApmcUriInstanceReferenceDef			
Aggregated by	ApmcParamConfContainerDef.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
destination Context	String	0..1	attr	This attribute carries the ordered list (separated by whitespace) of identification of context classes. This way, the possible reference targets can be restricted on the "definition" side of the target-configuration. This is necessary to preserve the intended semantics of the instance reference.
destinationType	String	0..1	attr	This attribute carries the identification of the target's class. This way, the possible reference targets can be restricted on the "definition" side of the target-configuration. This is necessary to preserve the intended semantics of the instance reference.

Table A.21: ApmcAbstractInstanceReferenceDef

Class	***ApmcAbstractValue*** (abstract)			
Note	This abstract meta-class implements the "value" side of the abstract structure for the machine configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Subclasses	*ApmcContainerElementValue*, ApmcContainerValue, ApmcFunctionalClusterValue			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
definition	ApmcAbstractDefinition	0..1	ref	This reference implements the relation of "value" side to "definition" side in the abstract structure of the machine configuration model. **Stereotypes:** atpAbstract

Table A.22: ApmcAbstractValue

Class	**ApmcBooleanParamDef**			
Note	This meta-class represents a boolean parameter on the "definition" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcConfigurationElementDef*, *ApmcContainerElementDef*, *ApmcDefinitionElement*, *ApmcParameterDef*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcParamConfContainerDef.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
defaultValue	Boolean	0..1	attr	This attribute represents the definition of the default value for the enclosing parameter. The default value applies if the parameter is instantiated on the "value" side without assigning a dedicated value to it.

Table A.23: ApmcBooleanParamDef

Class	ApmcChoiceContainerDef			
Note	This meta-class represents the ability to specify a choice-semantics on the container level (on the "definition" side of the target-configuration). The choice semantics can be utilized to emulate inheritance in the M1 model. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcConfigurationElementDef*, *ApmcContainerDef*, *ApmcDefinitionElement*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcFunctionalClusterDef.container, ApmcParamConfContainerDef.container			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
choice	ApmcParamConfContainerDef	*	aggr	This collection of containers represents the content of the enclosing choice container. **Tags:** atp.Splitkey=choice, choice.shortName

Table A.24: ApmcChoiceContainerDef

Class	*ApmcContainerDef* (abstract)			
Note	This abstract meta-class represents a container on the "definition" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcConfigurationElementDef*, *ApmcDefinitionElement*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	ApmcChoiceContainerDef, ApmcParamConfContainerDef			
Aggregated by	ApmcFunctionalClusterDef.container, ApmcParamConfContainerDef.container			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.25: ApmcContainerDef

Class	*ApmcContainerElementValue* (abstract)			
Note	This abstract meta-class represents an element of a container on the "value" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractValue*, *ApmcIndexableValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	*ApmcParameterValue*, *ApmcReferenceValue*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
definition	ApmcContainerElementDef	0..1	ref	This reference implements the concrete relation of container element configuration on the "value" side to container element configuration on the "definition" side in the abstract structure of the machine configuration model. **Tags:** atp.Splitkey=definition

Table A.26: ApmcContainerElementValue

Class	ApmcContainerReferenceDef
Note	This meta-class represents a reference to another container of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcConfigurationElementDef*, *ApmcContainerElementDef*, *ApmcDefinitionElement*, *ApmcReferenceDef*, *Identifiable*, *MultilanguageReferrable*, *Referrable*
Aggregated by	ApmcParamConfContainerDef.element

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Class	**ApmcContainerReferenceDef**			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
destination	ApmcContainerDef	0..1	ref	This reference identifies the target container. **Tags:** atp.Splitkey=destination
isFuncCluster EndpointRef	Boolean	0..1	attr	This attribute indicates whether the enclosing Apmc ContainerReferenceDef identifies endpoint for the interaction with other functional clusters.

Table A.27: ApmcContainerReferenceDef

Class	**ApmcContainerReferenceValue**			
Note	This meta-class represents a reference to another container of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractValue*, *ApmcContainerElementValue*, *ApmcIndexableValue*, *ApmcReference Value*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
value	ApmcContainerValue	0..1	ref	This referencce identifies the target container. **Tags:** atp.Splitkey=value

Table A.28: ApmcContainerReferenceValue

Class	**ApmcContainerValue**			
Note	This meta-class represents a container on the "value" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractValue*, *ApmcIndexableValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.container, ApmcFunctionalClusterValue.container			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
container	ApmcContainerValue	*	aggr	This aggregation represents the collection of sub-containers of the enclosing container. By using this aggregation arbitrary nested structures of containers can be created. **Tags:** atp.Splitkey=container, container.shortName
definition	ApmcContainerDef	0..1	ref	This reference implements the concrete relation of container configuration on the "value" side to container configuration on the "definition" side in the abstract structure of the machine configuration model. **Tags:** atp.Splitkey=definition
element	ApmcContainerElement Value	*	aggr	This aggregation represents the collection of elements in the container. **Tags:** atp.Splitkey=element, element.shortName

Table A.29: ApmcContainerValue

Class	***ApmcDefinitionElement*** (abstract)
Note	This abstract class contributes basic properties to the modeling of classes on the "definition" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARObject*

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Class	***ApmcDefinitionElement*** (abstract)			
Subclasses	*ApmcContainerDef*, *ApmcContainerElementDef*, ApmcFunctionalClusterDef			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
element Creation	ApmcElementCreation Enum	0..1	attr	This attribute gives a hint about how (in terms of the AUTOSAR workflow) the model element comes into existence. **Tags:** xml.sequenceOffset=10
lowerMultiplicity	PositiveInteger	0..1	attr	This attribute specifies the lower multiplicity of the respective model element. **Tags:** xml.sequenceOffset=30
relatedTrace Item	Traceable	0..1	ref	This contains a sloppy reference to the formal ID of the element. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=relatedTraceItem xml.sequenceOffset=20
upperMultiplicity	PositiveInteger	0..1	attr	This attribute specifies the upper multiplicity of the respective model element. **Tags:** xml.sequenceOffset=40
upperMultiplicity IsInfinite	Boolean	0..1	attr	This attribute indicates (if set to true) that the upper multiplicity is set to "infinite". **Tags:** xml.sequenceOffset=50

Table A.30: ApmcDefinitionElement

Class	**ApmcEnumerationLiteralDef**			
Note	This meta-class represents an enumerator (or enumeration literal) on the "definition" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcEnumerationParamDef.literal			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.31: ApmcEnumerationLiteralDef

Class	**ApmcEnumerationParamDef**			
Note	This meta-class represents an enumeration parameter on the "definition" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcConfigurationElementDef*, *ApmcContainerElementDef*, *Apmc DefinitionElement*, *ApmcParameterDef*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcParamConfContainerDef.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
defaultValue	Identifier	0..1	attr	This attribute represents the definition of the default value for the enclosing parameter. The default value applies if the parameter is instantiated on the "value" side without assigning a dedicated value to it.

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Class	ApmcEnumerationParamDef			
literal	ApmcEnumeration LiteralDef	*	aggr	This aggregation represents the collection of enumerators that are part of the enumeration. **Tags:** atp.Splitkey=literal, literal.shortName

Table A.32: ApmcEnumerationParamDef

Class	ApmcFloatParamDef			
Note	This meta-class represents a float parameter on the "definition" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcConfigurationElementDef*, *ApmcContainerElementDef*, *ApmcDefinitionElement*, *ApmcParameterDef*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcParamConfContainerDef.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
defaultValue	Float	0..1	attr	This attribute represents the definition of the default value for the enclosing parameter. The default value applies if the parameter is instantiated on the "value" side without assigning a dedicated value to it.
max	Limit	0..1	attr	This attribute defines the upper limit of the parameter. This means that the value of the parameter shall never be greater than the defined upper limit.
min	Limit	0..1	attr	This attribute defines the lower limit of the parameter. This means that the value of the parameter shall never be less than the defined lower limit.

Table A.33: ApmcFloatParamDef

Class	ApmcForeignReferenceValue			
Note	This meta-class represents the ability to establish a flat (as opposed to an instanceRef) reference to model elements out of the context of target-configuration, i.e. in the design model. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractReferenceValue*, *ApmcAbstractValue*, *ApmcContainerElementValue*, *ApmcIndexableValue*, *ApmcReferenceValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
value	Referrable	0..1	ref	This reference identifies the target model element that exists outside the target-configuration, i.e. in the design model. **Tags:** atp.Splitkey=value

Table A.34: ApmcForeignReferenceValue

Class	ApmcFunctionalClusterDef
Note	This class represents the entry point into the configuration of a single functional cluster on the AUTOSAR adaptive platform on the "definition" side. **Tags:** atp.recommendedPackage=FunctionalClusterDefinitions This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARElement*, *ARObject*, *ApmcAbstractDefinition*, *ApmcDefinitionElement*, *AtpBlueprint*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadablePackageElement*

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Class	**ApmcFunctionalClusterDef**			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
container	ApmcContainerDef	*	aggr	This aggregation represents the collection of containers aggregated directly by the functional cluster configuration definition. **Tags:** atp.Splitkey=container, container.shortName

Table A.35: ApmcFunctionalClusterDef

Class	**ApmcFunctionalClusterValue**			
Note	This class represents the entry point into the configuration of a single functional cluster on the AUTOSAR adaptive platform on the "value" side. **Tags:** atp.recommendedPackage=FunctionalClusterValues This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *ApmcAbstractValue*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
container	ApmcContainerValue	*	aggr	This aggregation represents the collection of containers aggregated directly by the functional cluster configuration definition. **Tags:** atp.Splitkey=container, container.shortName
definition	ApmcFunctionalClusterDef	0..1	ref	This reference implements the concrete relation of functional cluster configuration on the "value" side to functional cluster configuration on the "definition" side in the abstract structure of the machine configuration model. **Tags:** atp.Splitkey=definition

Table A.36: ApmcFunctionalClusterValue

Class	**ApmcInstanceReferenceValue**			
Note	This meta-class represents the ability to establish a instanceRef (as opposed to flat) reference to model elements out of the context of target-configuration, i.e. in the design model. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractInstanceReferenceValue*, *ApmcAbstractValue*, *ApmcContainerElementValue*, *ApmcIndexableValue*, *ApmcReferenceValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
value	AtpFeature	0..1	iref	This instanceRef identifies an AtpFeature outside of the target-configuration. **Tags:** atp.Splitkey=value, value.contextElement, value.target **InstanceRef implemented by:** AnyInstanceRef

Table A.37: ApmcInstanceReferenceValue

Class	ApmcIntegerParamDef			
Note	This meta-class represents an integer parameter on the "definition" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcConfigurationElementDef*, *ApmcContainerElementDef*, *ApmcDefinitionElement*, *ApmcParameterDef*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcParamConfContainerDef.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
defaultValue	UnlimitedInteger	0..1	attr	This attribute represents the definition of the default value for the enclosing parameter. The default value applies if the parameter is instantiated on the "value" side without assigning a dedicated value to it.
max	Limit	0..1	attr	This attribute defines the upper limit of the parameter. This means that the value of the parameter shall never be greater than the defined upper limit.
min	Limit	0..1	attr	This attribute defines the lower limit of the parameter. This means that the value of the parameter shall never be less than the defined lower limit.

Table A.38: ApmcIntegerParamDef

Class	ApmcIpV4AddressParamDef			
Note	This meta-class represents an restricted string parameter for the specification of an IP V4 address (notation: 255.255.255.255) on the "definition" side of the target-configuration. **Tags:** xml.name=APMC-IP-V4-ADDRESS-PARAM-DEF This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcAbstractRestrictedStringParamDef*, *ApmcConfigurationElementDef*, *ApmcContainerElementDef*, *ApmcDefinitionElement*, *ApmcParameterDef*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcParamConfContainerDef.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
defaultValue	Ip4AddressString	0..1	attr	This attribute implements the default value of the IP V4 address.

Table A.39: ApmcIpV4AddressParamDef

Class	ApmcIpV4AddressParamValue			
Note	This meta-class represents a restricted textual parameter for the specification of an IP V4 address on the "value" side of the target-configuration. **Tags:** xml.name=APMC-IP-V4-ADDRESS-PARAM-VALUE This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractRestrictedTextualParamValue*, *ApmcAbstractValue*, *ApmcContainerElementValue*, *ApmcIndexableValue*, *ApmcParameterValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
value	Ip4AddressString	0..1	attr	This attribute implements the actual value of the IP V4 address.

Table A.40: ApmcIpV4AddressParamValue

Class	ApmcIpV6AddressParamDef			
Note	This meta-class represents an restricted string parameter for the specification of an IP V4 address (notation: 255.255.255.255) on the "definition" side of the target-configuration. Notation: FFFF:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF:FFFF Alternative notations, short-cuts with duplicate colons like ::, etc. or mixtures using colons and dots, are not allowed. **Tags:** xml.name=APMC-IP-V6-ADDRESS-PARAM-DEF This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcAbstractRestrictedStringParamDef*, *ApmcConfiguration ElementDef*, *ApmcContainerElementDef*, *ApmcDefinitionElement*, *ApmcParameterDef*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcParamConfContainerDef.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
defaultValue	Ip6AddressString	0..1	attr	This attribute implements the default value of the IP V6 address.

Table A.41: ApmcIpV6AddressParamDef

Class	ApmcIpV6AddressParamValue			
Note	This meta-class represents a restricted textual parameter for the specification of an IP V6 address on the "value" side of the target-configuration. **Tags:** xml.name=APMC-IP-V6-ADDRESS-PARAM-VALUE This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractRestrictedTextualParamValue*, *ApmcAbstractValue*, *ApmcContainerElement Value*, *ApmcIndexableValue*, *ApmcParameterValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
value	Ip6AddressString	0..1	attr	This attribute implements the actual value of the IP V6 address.

Table A.42: ApmcIpV6AddressParamValue

Class	ApmcMacAddressParamDef			
Note	This meta-class represents an restricted string parameter for the specification of a MAC address label on the "definition" side of the target-configuration. Notation: FF:FF:FF:FF:FF:FF Alternative notations, e.g. using dash instead of colon, or another grouping of numbers, is not allowed. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcAbstractRestrictedStringParamDef*, *ApmcConfiguration ElementDef*, *ApmcContainerElementDef*, *ApmcDefinitionElement*, *ApmcParameterDef*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcParamConfContainerDef.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
defaultValue	MacAddressString	0..1	attr	This attribute implements the default value of the MAC address.

Table A.43: ApmcMacAddressParamDef

Class	ApmcMacAddressParamValue			
Note	This meta-class represents a restricted textual parameter for the specification of a MAC address on the "value" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractRestrictedTextualParamValue*, *ApmcAbstractValue*, *ApmcContainerElement Value*, *ApmcIndexableValue*, *ApmcParameterValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
value	MacAddressString	0..1	attr	This attribute implements the actual value of the MAC address.

Table A.44: ApmcMacAddressParamValue

Class	ApmcNumericalParamValue			
Note	This meta-class represents a numerical parameter on the "value" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractValue*, *ApmcContainerElementValue*, *ApmcIndexableValue*, *ApmcParameter Value*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
value	Numerical	0..1	attr	This attribute represents the value of the numerical parameter.

Table A.45: ApmcNumericalParamValue

Class	ApmcParamConfContainerDef			
Note	This meta-class represents the definition of container (on the "definition" side of the target-configuration) that carries the definition of parameters and references. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcConfigurationElementDef*, *ApmcContainerDef*, *ApmcDefinition Element*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcChoiceContainerDef.choice, ApmcFunctionalClusterDef.container, ApmcParamConfContainer Def.container			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
container	ApmcContainerDef	*	aggr	This aggregation represents the collection of sub-containers of the enclosing container. By using this aggregation arbitrary nested structures of containers can be created. **Tags:** atp.Splitkey=container, container.shortName
element	ApmcContainerElement Def	*	aggr	This aggregation represents the collection of elements in the container. **Tags:** atp.Splitkey=element, element.shortName
isFuncCluster Endpoint	Boolean	0..1	attr	This attribute indicates whether the enclosing Apmc ParamConfContainerDef represents the configuration of an endpoint for the interaction with other functional clusters.

Table A.46: ApmcParamConfContainerDef

Class	**ApmcReferenceValue** (abstract)			
Note	This meta-class represents a reference on the "value" side of the adaptive platform. The concrete nature of the reference is clarified by a subclass. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractValue*, *ApmcContainerElementValue*, *ApmcIndexableValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	*ApmcAbstractInstanceReferenceValue*, *ApmcAbstractReferenceValue*, ApmcContainerReferenceValue			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.47: ApmcReferenceValue

Class	**ApmcRevisionLabelParamDef**			
Note	This meta-class represents an restricted string parameter for the specification of a revision label on the "definition" side of the target-configuration. • supports three integers representing from left to right MajorVersion, MinorVersion, PatchVersion. • may add an application specific suffix separated by one of ".", "_", ";". Legal patterns are for example: • 4.0.0 • 4.0.0.1234565 • 4.0.0_vendor specific;13 • 4.0.0;12 This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcAbstractRestrictedStringParamDef*, *ApmcConfiguration ElementDef*, *ApmcContainerElementDef*, *ApmcDefinitionElement*, *ApmcParameterDef*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcParamConfContainerDef.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
defaultValue	RevisionLabelString	0..1	attr	This attribute implements the default value of the revision label.

Table A.48: ApmcRevisionLabelParamDef

Class	**ApmcRevisionLabelParamValue**			
Note	This meta-class represents a restricted textual parameter for the specification of a revision label on the "value" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractRestrictedTextualParamValue*, *ApmcAbstractValue*, *ApmcContainerElement Value*, *ApmcIndexableValue*, *ApmcParameterValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
value	RevisionLabelString	0..1	attr	This attribute implements the actual value of the revision label.

Table A.49: ApmcRevisionLabelParamValue

Class	ApmcStrongRevisionLabelParamDef			
Note	This meta-class represents an restricted string parameter for the specification of a strong revision label on the "definition" side of the target-configuration. This class enforces a pattern which requires three integer numbers separated by a dot, representing from left to right MajorVersion, MinorVersion, PatchVersion and additional labels for pre-release version and build metadata. Legal patterns are for example: 1.0.0-alpha+001 1.0.0+20130313144700 1.0.0-beta+exp.sha.5114f85 This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcAbstractRestrictedStringParamDef*, *ApmcConfiguration ElementDef*, *ApmcContainerElementDef*, *ApmcDefinitionElement*, *ApmcParameterDef*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcParamConfContainerDef.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
defaultValue	StrongRevisionLabel String	0..1	attr	This attribute implements the default value of the strong revision label.

Table A.50: ApmcStrongRevisionLabelParamDef

Class	ApmcStrongRevisionLabelParamValue			
Note	This meta-class represents a restricted textual parameter for the specification of a strong revision label on the "value" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractRestrictedTextualParamValue*, *ApmcAbstractValue*, *ApmcContainerElement Value*, *ApmcIndexableValue*, *ApmcParameterValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
value	StrongRevisionLabel String	0..1	attr	This attribute implements the actual value of the strong revision label.

Table A.51: ApmcStrongRevisionLabelParamValue

Class	ApmcTextualParamValue			
Note	This meta-class represents a textual parameter on the "value" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractValue*, *ApmcContainerElementValue*, *ApmcIndexableValue*, *ApmcParameter Value*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
value	VerbatimString	0..1	attr	This attribute represents the value of the textual parameter.

Table A.52: ApmcTextualParamValue

Class	ApmcUpstreamDocForeignReferenceValue
Note	This meta-class represents the ability to establish a flat (as opposed to an instanceRef) reference to model elements out of the context of target-configuration to the model element that sparked the existence of the owner of the reference. This reference does not carry semantics and is meant for documentation purposes only. This Class is only used by the AUTOSAR Adaptive Platform.

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Class	ApmcUpstreamDocForeignReferenceValue			
Base	*ARObject*, *ApmcAbstractReferenceValue*, *ApmcAbstractValue*, *ApmcContainerElementValue*, *ApmcIndexableValue*, *ApmcReferenceValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
value	Referrable	0..1	ref	This reference identifies the target model element that exists outside the target-configuration, i.e. in the design model. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=value

Table A.53: ApmcUpstreamDocForeignReferenceValue

Class	ApmcUpstreamDocInstanceReferenceValue			
Note	This meta-class represents the ability to establish a instanceRef (as opposed to flat) reference to model elements out of the context of target-configuration to the model element that sparked the existence of the owner of the reference. This reference does not carry semantics and is meant for documentation purposes only. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractInstanceReferenceValue*, *ApmcAbstractValue*, *ApmcContainerElementValue*, *ApmcIndexableValue*, *ApmcReferenceValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
value	AtpFeature	0..1	iref	This instanceRef identifies an AtpFeature outside of the target-configuration that sparked the existence of the owner of the reference. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=value, value.contextElement, value.target **InstanceRef implemented by:** AnyInstanceRef

Table A.54: ApmcUpstreamDocInstanceReferenceValue

Class	ApmcUriForeignReferenceValue			
Note	This meta-class represents the ability to establish a flat (as opposed to an instanceRef) reference to model elements out of the context of target-configuration, i.e. in the design model. The referenced model element does not need to exist in the current model scope. The reference itself carries a semantics of being an identifying factor, even without the target element to exist. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractReferenceValue*, *ApmcAbstractValue*, *ApmcContainerElementValue*, *ApmcIndexableValue*, *ApmcReferenceValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**

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Class	ApmcUriForeignReferenceValue			
value	Referrable	0..1	ref	This reference identifies the target model element that exists outside the target-configuration, i.e. in the design model. The referenced model element does not need to exist in the current model scope. The reference itself carries a semantics of being an identifying factor, even without the target element to exist. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=value

Table A.55: ApmcUriForeignReferenceValue

Class	ApmcUriInstanceReferenceValue			
Note	This meta-class represents the ability to establish a instanceRef (as opposed to flat) reference to model elements out of the context of target-configuration, i.e. in the design model. The referenced model element does not need to exist in the current model scope. The reference itself carries a semantics of being an identifying factor, even without the target element to exist. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractInstanceReferenceValue*, *ApmcAbstractValue*, *ApmcContainerElementValue*, *ApmcIndexableValue*, *ApmcReferenceValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
value	AtpFeature	0..1	iref	This instanceRef identifies an AtpFeature outside of the target-configuration that sparked the existence of the owner of the reference. The referenced model element does not need to exist in the current model scope. The reference itself carries a semantics of being an identifying factor, even without the target element to exist. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=value, value.contextElement, value.target **InstanceRef implemented by:** AnyInstanceRef

Table A.56: ApmcUriInstanceReferenceValue

Class	ApmcUriParamDef			
Note	This meta-class represents an restricted string parameter for the specification of a Uniform Resource Identifier (URI) label on the "definition" side of the target-configuration. A Uniform Resource Identifier (URI), is a compact string of characters used to identify or name a resource. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractDefinition*, *ApmcAbstractRestrictedStringParamDef*, *ApmcConfiguration ElementDef*, *ApmcContainerElementDef*, *ApmcDefinitionElement*, *ApmcParameterDef*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcParamConfContainerDef.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
defaultValue	UriString	0..1	attr	This attribute implements the default value of the URI.

Table A.57: ApmcUriParamDef

Class	ApmcUriParamValue			
Note	This meta-class represents a restricted textual parameter for the specification of a URI on the "value" side of the target-configuration. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApmcAbstractRestrictedTextualParamValue*, *ApmcAbstractValue*, *ApmcContainerElement Value*, *ApmcIndexableValue*, *ApmcParameterValue*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApmcContainerValue.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
value	UriString	0..1	attr	This attribute implements the actual value of the URI.

Table A.58: ApmcUriParamValue

Class	ApplicationArrayDataType			
Note	An application data type which is an array, each element is of the same application data type. **Tags:** atp.recommendedPackage=ApplicationDataTypes			
Base	*ARElement*, *ARObject*, *ApplicationCompositeDataType*, *ApplicationDataType*, *AtpBlueprint*, *Atp Classifier*, *AtpType*, *AutosarDataType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
dynamicArray SizeProfile	String	0..1	attr	Specifies the profile which the array will follow if it is a variable size array.
element	ApplicationArray Element	0..1	aggr	This association implements the concept of an array element. That is, in some cases it is necessary to be able to identify single array elements, e.g. as input values for an interpolation routine. **Tags:** atp.Splitkey=element, element.shortName

Table A.59: ApplicationArrayDataType

Class	ApplicationArrayElement			
Note	Describes the properties of the elements of an application array data type.			
Base	*ARObject*, *ApplicationCompositeElementDataPrototype*, *AtpFeature*, *AtpPrototype*, *DataPrototype*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApplicationArrayDataType.element, *AtpClassifier*.atpFeature			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
arraySize Handling	ArraySizeHandling Enum	0..1	attr	The way how the size of the array is handled.
arraySize Semantics	ArraySizeSemantics Enum	0..1	attr	This attribute controls how the information about the array size shall be interpreted.
indexDataType	ApplicationPrimitive DataType	0..1	ref	This reference can be taken to assign a `CompuMethod` of category `TEXTTABLE` to the array. The texttable entries associate a textual value to an index number such that the element with that index number is represented by a symbolic name. **Tags:** atp.Splitkey=indexDataType
maxNumberOf Elements	PositiveInteger	0..1	attr	The maximum number of elements that the array can contain. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=preCompileTime

Table A.60: ApplicationArrayElement

Class	**ApplicationAssocMapDataType**			
Note	An application data type which is a map and consists of a key and a value **Tags:** atp.recommendedPackage=ApplicationDataTypes This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *ApplicationCompositeDataType*, *ApplicationDataType*, *AtpBlueprint*, *Atp Classifier*, *AtpType*, *AutosarDataType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
key	ApplicationAssocMap Element	0..1	aggr	Key element of the map that is used to uniquely identify the value of the map. **Tags:** atp.Splitkey=key, key.shortName
value	ApplicationAssocMap Element	0..1	aggr	Value element of the map that stores the content associated to a key. **Tags:** atp.Splitkey=value, value.shortName

Table A.61: ApplicationAssocMapDataType

Class	**ApplicationAssocMapElement**			
Note	Describes the properties of the elements of an application map data type. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ApplicationCompositeElementDataPrototype*, *AtpFeature*, *AtpPrototype*, *DataPrototype*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApplicationAssocMapDataType.key, ApplicationAssocMapDataType.value, *AtpClassifier*.atpFeature			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.62: ApplicationAssocMapElement

Class	**ApplicationAssocMapElementValueSpecification**			
Note	This meta-class represents the ability to define the initialization of the elements of an ApplicationAssoc MapDataType. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	ApplicationAssocMapValueSpecification.mapElementTuple			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
key	ValueSpecification	0..1	aggr	This aggregation represents the initialization of the key part of an AssociativeElementValueSpecification.
value	ValueSpecification	0..1	aggr	This aggregation represents the initialization of the value part of an AssociativeElementValueSpecification.

Table A.63: ApplicationAssocMapElementValueSpecification

Class	**ApplicationAssocMapValueSpecification**
Note	This meta-class represents the ability to define the initialization of an ApplicationAssocMapDataType. This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARObject*, *CompositeValueSpecification*, *ValueSpecification*

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Class	**ApplicationAssocMapValueSpecification**			
Aggregated by	ApplicationAssocMapElementValueSpecification.key, ApplicationAssocMapElementValue Specification.value, ArrayValueSpecification.element, CalibrationParameterValue.applInitValue, CalibrationParameterValue.implInitValue, CompositeRuleBasedValueSpecification.argument, Constant Specification.valueSpec, CryptoServiceKey.developmentValue, DiagnosticEnvDataCondition.compare Value, DiagnosticEnvDataElementCondition.compareValue, DiagnosticEnvSovdDataCondition.compare Value, FieldSenderComSpec.initValue, ISignal.initValue, ISignal.timeoutSubstitutionValue, Nonqueued ReceiverComSpec.initValue, NonqueuedReceiverComSpec.timeoutSubstitutionValue, Nonqueued SenderComSpec.initValue, NvProvideComSpec.ramBlockInitValue, NvProvideComSpec.romBlockInit Value, NvRequireComSpec.initValue, ParameterDataPrototype.initValue, ParameterProvideComSpec.init Value, ParameterRequireComSpec.initValue, PersistencyDataRequiredComSpec.initValue, Persistency KeyValuePair.initValue, PortDefinedArgumentValue.value, PortPrototypeBlueprintInitValue.value, Record ValueSpecification.field, *StateManagementCompareCondition*.compareValue, SwDataDefProps.invalid Value, VariableDataPrototype.initValue			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
mapElement Tuple (ordered)	ApplicationAssocMap ElementValue Specification	*	aggr	This aggregation represents the initial values for the elements of the ApplicationAssocMapValueSpecification.

Table A.64: ApplicationAssocMapValueSpecification

Class	***ApplicationCompositeDataType*** (abstract)			
Note	Abstract base class for all application data types composed of other data types.			
Base	*ARElement*, *ARObject*, *ApplicationDataType*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *AutosarDataType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Subclasses	ApplicationArrayDataType, ApplicationAssocMapDataType, ApplicationRecordDataType			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.65: ApplicationCompositeDataType

Class	***ApplicationDataType*** (abstract)			
Note	`ApplicationDataType` defines a data type from the application point of view. Especially it should be used whenever something "physical" is at stake. An `ApplicationDataType` represents a set of values as seen in the application model, such as measurement units. It does not consider implementation details such as bit-size, endianess, etc. It should be possible to model the application level aspects of a VFB system by using `ApplicationDataType`s only.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *AutosarDataType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Subclasses	*ApplicationCompositeDataType*, ApplicationPrimitiveDataType			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.66: ApplicationDataType

Class	ApplicationPrimitiveDataType			
Note	A primitive data type defines a set of allowed values. **Tags:** atp.recommendedPackage=ApplicationDataTypes			
Base	*ARElement*, *ARObject*, *ApplicationDataType*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *AutosarDataType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.67: ApplicationPrimitiveDataType

Class	ApplicationRecordDataType			
Note	An application data type which can be decomposed into prototypes of other application data types. **Tags:** atp.recommendedPackage=ApplicationDataTypes			
Base	*ARElement*, *ARObject*, *ApplicationCompositeDataType*, *ApplicationDataType*, *AtpBlueprint*, *Atp Classifier*, *AtpType*, *AutosarDataType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
element (ordered)	ApplicationRecord Element	*	aggr	Specifies an element of a record. The aggregation of `ApplicationRecordElement` is subject to variability with the purpose to support the conditional existence of elements inside a `ApplicationRecordData` Type. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=preCompileTime

Table A.68: ApplicationRecordDataType

Class	ApplicationRecordElement			
Note	Describes the properties of one particular element of an application record data type.			
Base	*ARObject*, *ApplicationCompositeElementDataPrototype*, *AtpFeature*, *AtpPrototype*, *DataPrototype*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApplicationRecordDataType.element, *AtpClassifier*.atpFeature			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
isOptional	Boolean	0..1	attr	This attribute represents the ability to declare the enclosing `ApplicationRecordElement` as optional. This means the that, at runtime, the `ApplicationRecordElement` may or may not have a valid value and shall therefore be ignored. The underlying runtime software provides means to set the `ApplicationRecordElement` as not valid at the sending end of a communication and determine its validity at the receiving end.

Table A.69: ApplicationRecordElement

Class	ApplicationValueSpecification
Note	This meta-class represents values for DataPrototypes typed by ApplicationDataTypes (this includes in particular compound primitives). For further details refer to ASAM CDF 2.0. This meta-class corresponds to some extent with SW-INSTANCE in ASAM CDF 2.0.

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Class	**ApplicationValueSpecification**			
Base	*ARObject*, *CompositeRuleBasedValueArgument*, *ValueSpecification*			
Aggregated by	ApplicationAssocMapElementValueSpecification.key, ApplicationAssocMapElementValue Specification.value, ArrayValueSpecification.element, CalibrationParameterValue.applInitValue, CalibrationParameterValue.implInitValue, CompositeRuleBasedValueSpecification.compoundPrimitive Argument, ConstantSpecification.valueSpec, CryptoServiceKey.developmentValue, DiagnosticEnvData Condition.compareValue, DiagnosticEnvDataElementCondition.compareValue, DiagnosticEnvSovdData Condition.compareValue, FieldSenderComSpec.initValue, ISignal.initValue, ISignal.timeoutSubstitution Value, NonqueuedReceiverComSpec.initValue, NonqueuedReceiverComSpec.timeoutSubstitutionValue, NonqueuedSenderComSpec.initValue, NvProvideComSpec.ramBlockInitValue, NvProvideComSpec.rom BlockInitValue, NvRequireComSpec.initValue, ParameterDataPrototype.initValue, ParameterProvideCom Spec.initValue, ParameterRequireComSpec.initValue, PersistencyDataRequiredComSpec.initValue, PersistencyKeyValuePair.initValue, PortDefinedArgumentValue.value, PortPrototypeBlueprintInit Value.value, RecordValueSpecification.field, *StateManagementCompareCondition*.compareValue, Sw DataDefProps.invalidValue, VariableDataPrototype.initValue			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
category	Identifier	0..1	attr	Specifies to which category of ApplicationDataType this ApplicationValueSpecification can be applied (e.g. as an initial value), thus imposing constraints on the structure and semantics of the contained values, see [constr_1006] and [constr_1519].
swAxisCont (ordered)	SwAxisCont	*	aggr	This represents the axis values of a Compound Primitive Data Type (curve or map). The first swAxisCont describes the x-axis, the second sw AxisCont describes the y-axis, the third swAxisCont describes the z-axis. In addition to this, the axis can be denoted in swAxisIndex.
swValueCont	SwValueCont	0..1	aggr	This represents the values of a Compound Primitive Data Type. **Tags:** atp.Splitkey=swValueCont

Table A.70: ApplicationValueSpecification

Class	**ArgumentDataPrototype**			
Note	An argument of an operation, carries direction and implementation information.			
Base	*ARObject*, *AtpFeature*, *AtpPrototype*, *AutosarDataPrototype*, *DataPrototype*, *Identifiable*, *Multilanguage Referrable*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, ClientServerOperation.argument			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
direction	ArgumentDirection Enum	0..1	attr	This attribute specifies the direction of the argument.
serverArgument ImplPolicy	ServerArgumentImpl PolicyEnum	0..1	attr	This defines how the argument type of the servers `RunnableEntity` is implemented. If the attribute is not defined this has the same semantics as if the attribute is set to the value `useArgumentType` for primitive arguments and structures.

Table A.71: ArgumentDataPrototype

Enumeration	**ArgumentDirectionEnum**
Note	Use cases: • Arguments in ClientServerOperation can have different directions that need to be formally indicated because they have an impact on how the function signature looks like eventually. • Arguments in BswModuleEntry already determine a function signature, but the direction is used to specify the semantics, especially of pointer arguments.
Aggregated by	ArgumentDataPrototype.direction, DiagnosticSovdAccessArgument.direction, RunnableEntity Argument.direction, SwServiceArg.direction
Literal	***Description***
in	The argument value is passed to the callee. **Tags:** atp.EnumerationLiteralIndex=0
inout	The argument value is passed to the callee but also passed back from the callee to the caller. **Tags:** atp.EnumerationLiteralIndex=1
out	The argument value is passed from the callee to the caller. **Tags:** atp.EnumerationLiteralIndex=2

Table A.72: ArgumentDirectionEnum

Enumeration	**ArraySizeSemanticsEnum**
Note	This enumeration provides options for how the number of elements in an array object shall be interpreted.
Aggregated by	ApplicationArrayElement.arraySizeSemantics, DiagnosticDataElement.arraySizeSemantics, ImplementationDataTypeElement.arraySizeSemantics, SwTextProps.arraySizeSemantics
Literal	***Description***
fixedSize	This means that the array object will always have a fixed number of elements. **Tags:** atp.EnumerationLiteralIndex=0
variableSize	This implies that the actual number of elements in the array object might vary at run-time. The configured size represents the maximum number of elements in the array object. **Tags:** atp.EnumerationLiteralIndex=1

Table A.73: ArraySizeSemanticsEnum

Class	**ArtifactLocator**			
Note	This meta-class has the ability to define the location of an artifact that is represented by a model element, e.g. Executable. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	SoftwareCluster.artifactLocator, SoftwarePackage.artifactLocator			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
represented ModelElement	Identifiable	0..1	ref	This reference identifies the model element that is represented by the artifact. **Tags:** atp.Splitkey=representedModelElement
uri	String	0..1	attr	This attribute describes the location of the artifact.

Table A.74: ArtifactLocator

Class	***AutosarDataPrototype*** (abstract)			
Note	Base class for prototypical roles of an `AutosarDataType`.			
Base	*ARObject*, *AtpFeature*, *AtpPrototype*, *DataPrototype*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	ArgumentDataPrototype, Field, ParameterDataPrototype, PersistencyDataElement, VariableData Prototype			
Aggregated by	*AtpClassifier*.atpFeature			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
type	AutosarDataType	0..1	tref	This represents the corresponding data type. **Stereotypes:** isOfType **Tags:** atp.Splitkey=type

Table A.75: AutosarDataPrototype

Class	***AutosarDataType*** (abstract)			
Note	Abstract base class for user defined AUTOSAR data types for software.			
Base	*ARElement*, *ARObject*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *Multilanguage Referrable*, *PackageableElement*, *Referrable*			
Subclasses	*AbstractImplementationDataType*, *ApplicationDataType*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
swDataDef Props	SwDataDefProps	0..1	aggr	The properties of this AutosarDataType. **Tags:** atp.Splitkey=swDataDefProps

Table A.76: AutosarDataType

Class	***BaseType*** (abstract)			
Note	This abstract meta-class represents the ability to specify a platform dependent base type.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*			
Subclasses	SwBaseType			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
baseType Definition	BaseTypeDefinition	1	aggr	This is the actual definition of the base type. **Tags:** xml.roleElement=false xml.roleWrapperElement=false xml.sequenceOffset=20 xml.typeElement=false xml.typeWrapperElement=false

Table A.77: BaseType

Class	**BaseTypeDirectDefinition**			
Note	This BaseType is defined directly (as opposite to a derived BaseType)			
Base	*ARObject*, *BaseTypeDefinition*			
Aggregated by	*BaseType*.baseTypeDefinition			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**BaseTypeDirectDefinition**			
baseType Encoding	BaseTypeEncoding String	0..1	attr	This specifies, how an object of the current BaseType is encoded, e.g. in an ECU within a message sequence. **Tags:** xml.sequenceOffset=90
baseTypeSize	PositiveInteger	0..1	attr	Describes the length of the data type specified in the container in bits. **Tags:** xml.sequenceOffset=70
byteOrder	ByteOrderEnum	0..1	attr	This attribute specifies the byte order of the base type. **Tags:** xml.sequenceOffset=110
memAlignment	PositiveInteger	0..1	attr	This attribute describes the alignment of the memory object in bits. E.g. "8" specifies, that the object in question is aligned to a byte while "32" specifies that it is aligned four byte. If the value is set to "0" the meaning shall be interpreted as "unspecified". **Tags:** xml.sequenceOffset=100
native Declaration	NativeDeclarationString	0..1	attr	This attribute describes the declaration of such a base type in the native programming language, primarily in the Programming language C. This can then be used by a code generator to include the necessary declarations into a header file. For example BaseType with shortName: "MyUnsignedInt" native Declaration: "unsigned short" Results in typedef unsigned short MyUnsignedInt; If the attribute is not defined the referring Implementation DataTypes will not be generated as a typedef by RTE. If a nativeDeclaration type is given it shall fulfill the characteristic given by basetypeEncoding and baseType Size. This is required to ensure the consistent handling and interpretation by software components, RTE, COM and MCM systems. **Tags:** xml.sequenceOffset=120

Table A.78: BaseTypeDirectDefinition

Class	**CanXlProps**			
Note	This meta-class is used to configure Machine specific CAN XL attributes. **Tags:** atp.recommendedPackage=CanXlProps This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
canBaudrate	PositiveInteger	0..1	attr	Specifies the data segment CAN 2.0 baud rate of the CAN XL controller in bits/s.
canConfig	CanController Configuration	0..1	aggr	CAN 2.0 configuration parameters for the CAN XL controller. **Tags:** atp.Splitkey=canConfig
canFdBaudrate	PositiveInteger	0..1	attr	Specifies the data segment CAN FD baud rate of the CAN XL controller in bits/s.

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Class	**CanXlProps**			
canFdConfig	CanControllerFd Configuration	0..1	aggr	CAN FD configuration parameters for the CAN XL controller. **Tags:** atp.Splitkey=canFdConfig
canXlBaudrate	PositiveInteger	0..1	attr	Specifies the data segment CAN XL baud rate of the CAN XL controller in bits/s.
canXlConfig	CanControllerXl Configuration	0..1	aggr	CAN XL configuration parameters for the CAN XL controller. **Tags:** atp.Splitkey=canXlConfig
canXlConfig Reqs	CanControllerXl Configuration Requirements	0..1	aggr	CAN XL configuration parameter requirements for the CAN XL controller. **Tags:** atp.Splitkey=canXlConfigReqs

Table A.79: CanXlProps

Class	**CheckpointTransition**			
Note	Defines one transition between two checkpoints. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	GlobalSupervision.transition			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
source	SupervisionCheckpoint	0..1	ref	Reference to the source checkpoint for this transition. **Tags:** atp.Splitkey=source
target	SupervisionCheckpoint	0..1	ref	Reference to the target checkpoint for this transition. **Tags:** atp.Splitkey=target

Table A.80: CheckpointTransition

Class	**ClientIdRange**			
Note	This element restricts the Client Identifiers to an allowed range of numerical values on the Machine. The ClientId allows to differentiate calls from multiple clients located on the same Machine to the same method.			
Base	*ARObject*			
Aggregated by	EcuInstance.clientIdRange, MachineDesign.clientIdRange			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
lowerLimit	Limit	0..1	attr	This specifies the lower limit of the ClientIdRange. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=preCompileTime
upperLimit	Limit	0..1	attr	This specifies the upper limit of the ClientIdRange. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=preCompileTime

Table A.81: ClientIdRange

Class	**ClientServerOperation**
Note	An operation declared within the scope of a client/server interface.
Base	*ARObject*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *Referrable*

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Class	**ClientServerOperation**			
Aggregated by	ApplicationInterface.command, *AtpClassifier*.atpFeature, ClientServerInterface.operation, DiagnosticDataElementInterface.read, DiagnosticDataIdentifierInterface.read, DiagnosticDataIdentifierInterface.write, DiagnosticExtendedDataRecordInterface.provide, DiagnosticRoutineInterface.requestResult, DiagnosticRoutineInterface.start, DiagnosticRoutineInterface.stop, ServiceInterface.method			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
argument (ordered)	ArgumentDataPrototype	*	aggr	An argument of this `ClientServerOperation`. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=blueprintDerivationTime
fireAndForget	Boolean	0..1	attr	This attribute defines whether this method is a fire&forget method (true) or not (false). This Attribute is only used by the AUTOSAR Adaptive Platform.
possibleApError	ApApplicationError	*	ref	This reference identifies AdaptivePlatformApplicationErrors as a possible error raised by the enclosing ClientServerOperation. **Tags:** atp.Splitkey=possibleApError This Attribute is only used by the AUTOSAR Adaptive Platform.
possibleApErrorSet	ApApplicationErrorSet	*	ref	This reference represents the ability to refer to an entire group of ApApplicationErrors as one model element instead of having to refer to all the represented ApApplicationErrors separately. **Tags:** atp.Splitkey=possibleApErrorSet This Attribute is only used by the AUTOSAR Adaptive Platform.

Table A.82: ClientServerOperation

Class	**CmModuleInstantiation**			
Note	This meta-class represents the ability to define a definition of a Communication Management instantiation. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *NonOsModuleInstantiation*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
grant	Grant	*	ref	This reference identifies the applicable Grants for this CmModuleInstantiation. **Tags:** atp.Splitkey=grant
localComAccessControlEnabled	Boolean	0..1	attr	This switch activates the policy enforcement in Communication Management on local applications.
remoteAccessControlEnabled	Boolean	0..1	attr	This switch activates the check of the remote subject.
secOCIgnoreVerificationResult	Boolean	0..1	attr	The result of the authentication process (e.g. MAC Verify) is ignored after the first try and the SecOC proceeds like the result was a success. The calculation of the authenticator is still done, only its result will be ignored. • true: enabled (verification result is ignored). • false: disabled (verification result is NOT ignored).

Table A.83: CmModuleInstantiation

Class	ComEventGrant			
Note	This meta-class represents the ability to grant access to a ServiceInterface.event. **Tags:** atp.recommendedPackage=Grants This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *ComGrant*, *Grant*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
design	ComEventGrantDesign	0..1	ref	This reference identifies the ComEventGrantDesign that the enclosing ComEventGrant was created from. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=design
service Deployment	ServiceEvent Deployment	0..1	ref	This reference identifies the applicable deployment within the context of an AdaptivePlatformServiceInstance for which the grant applies. **Tags:** atp.Splitkey=serviceDeployment

Table A.84: ComEventGrant

Class	ComEventGrantDesign			
Note	This meta-class represents the ability to define a Grant for a ServiceInterface.event. **Tags:** atp.recommendedPackage=GrantDesigns This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *ComGrantDesign*, *GrantDesign*, *Identifiable*, *Multilanguage Referrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
event	VariableDataPrototype	0..1	iref	This reference represents the affected event. **Tags:** atp.Splitkey=event, event.contextRootSw ComponentPrototype, event.contextSwComponent Prototype, event.contextRPortPrototype, event.target Event **InstanceRef implemented by:** EventInExecutable InstanceRef

Table A.85: ComEventGrantDesign

Class	ComFieldGrant			
Note	This meta-class represents the ability to grant access to a ServiceInterface.field. **Tags:** atp.recommendedPackage=Grants This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *ComGrant*, *Grant*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
design	ComFieldGrantDesign	0..1	ref	This reference identifies the ComFieldGrantDesign that the enclosing ComFieldGrant was created from. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=design
role	FieldAccessEnum	0..1	attr	This attribute provides the ability to further specify the access to the ServiceInterface.field.



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Class	**ComFieldGrant**			
service Deployment	ServiceField Deployment	0..1	ref	This reference identifies the applicable deployment within the context of an AdaptivePlatformServiceInstance for which the grant applies. **Tags:** atp.Splitkey=serviceDeployment

Table A.86: ComFieldGrant

Class	**ComFieldGrantDesign**			
Note	This meta-class represents the ability to define a Grant for a ServiceInterface.field. **Tags:** atp.recommendedPackage=GrantDesigns This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *ComGrantDesign*, *GrantDesign*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
field	Field	0..1	iref	Reference to the affected Field in the context of an Executable. **Tags:** atp.Splitkey=field, field.contextRootSwComponentPrototype, field.contextSwComponentPrototype, field.contextRPortPrototype, field.targetField **InstanceRef implemented by:** FieldInExecutableInstanceRef
role	FieldAccessEnum	0..1	attr	This attribute provides the ability to further specify the access to the ServiceInterface.field from a design perspective.

Table A.87: ComFieldGrantDesign

Class	***ComGrant*** (abstract)			
Note	This meta-class serves as the abstract base class for defining specific ComGrants This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Grant*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Subclasses	ComEventGrant, ComFieldGrant, ComMethodGrant, ComTriggerGrant			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
remoteSubject	AbstractIamRemoteSubject	*	ref	This optional reference defines the remoteSubject that is allowed to access the defined Object via the Grant. **Tags:** atp.Splitkey=remoteSubject
serviceInstance	AdaptivePlatformServiceInstance	0..1	ref	This reference identifies the applicable AdaptivePlatformServiceInstance for which the grant applies. **Tags:** atp.Splitkey=serviceInstance

Table A.88: ComGrant

Class	**ComGrantDesign** (abstract)			
Note	This meta-class serves as an abstract base class for the description of com grants on design level. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *GrantDesign*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Subclasses	ComEventGrantDesign, ComFieldGrantDesign, ComMethodGrantDesign, ComTriggerGrantDesign			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
remoteSubject	AbstractIamRemote Subject	*	ref	This optional reference defines the remoteSubject that is allowed to access the defined Object via the Grant. **Tags:** atp.Splitkey=remoteSubject

Table A.89: ComGrantDesign

Class	**ComMethodGrant**			
Note	This meta-class represents the ability to grant access to a ServiceInterface.method. **Tags:** atp.recommendedPackage=Grants This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *ComGrant*, *Grant*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
design	ComMethodGrant Design	0..1	ref	This reference identifies the ComMethodGrantDesign that the enclosing ComMethodGrant was created from. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=design
service Deployment	ServiceMethod Deployment	0..1	ref	This reference identifies the applicable deployment within the context of an AdaptivePlatformServiceInstance for which the grant applies. **Tags:** atp.Splitkey=serviceDeployment

Table A.90: ComMethodGrant

Class	**ComMethodGrantDesign**			
Note	This meta-class represents the ability to define a Grant for a ServiceInterface.method. **Tags:** atp.recommendedPackage=GrantDesigns This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *ComGrantDesign*, *GrantDesign*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
method	ClientServerOperation	0..1	iref	This reference identifies the corresponding method. **Tags:** atp.Splitkey=method, method.contextRootSw ComponentPrototype, method.contextComponent Prototype, method.contextRPortPrototype, method.target Method **InstanceRef implemented by:** RequiredMethodIn ExecutableInstanceRef

Table A.91: ComMethodGrantDesign

Class	ComOfferServiceGrant			
Note	This meta-class represents the ability to grant the offering of a service. **Tags:** atp.recommendedPackage=Grants This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Grant*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
design	ComOfferServiceGrantDesign	0..1	ref	This reference identifies the ComOfferServiceGrantDesign that the enclosing ComOfferServiceGrant was created from. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=design
remoteSubject	AbstractIamRemoteSubject	0..1	ref	This optional reference defines the remoteSubject that is allowed to access the defined Object via the Grant. **Tags:** atp.Splitkey=remoteSubject
serviceInstance	AdaptivePlatformServiceInstance	0..1	ref	This reference identifies the AdaptivePlatformService Instances for which the grant applies. **Tags:** atp.Splitkey=serviceInstance

Table A.92: ComOfferServiceGrant

Class	ComOfferServiceGrantDesign			
Note	This meta-class represents the ability to define a Grant for offering a service. **Tags:** atp.recommendedPackage=GrantDesigns This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *GrantDesign*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
providedServicePort	PPortPrototype	0..1	iref	This instanceRef identifies the PPortPrototype on which the service shall be offered. **Tags:** atp.Splitkey=providedServicePort, providedServicePort.contextRootSwComponentPrototype, providedServicePort.contextComponentPrototype, providedServicePort.targetPPortPrototype **InstanceRef implemented by:** PPortPrototypeInExecutableInstanceRef

Table A.93: ComOfferServiceGrantDesign

Class	ComTriggerGrant			
Note	This meta-class represents the ability to grant access to a ServiceInterface.trigger **Tags:** atp.recommendedPackage=Grants This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *ComGrant*, *Grant*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**

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Class	ComTriggerGrant			
design	ComTriggerGrant Design	0..1	ref	This reference identifies the ComTriggerGrantDesign that the enclosing ComTriggerGrant was created from **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=design
service Deployment	ServiceEvent Deployment	0..1	ref	This reference identifies the applicable deployment within the context of an AdaptivePlatformServiceInstance for which the grant applies. **Tags:** atp.Splitkey=serviceDeployment

Table A.94: ComTriggerGrant

Class	ComTriggerGrantDesign			
Note	This meta-class represents the ability to define a Grant for a ServiceInterface.trigger. **Tags:** atp.recommendedPackage=GrantDesigns This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *ComGrantDesign*, *GrantDesign*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
trigger	Trigger	0..1	iref	This reference represents the affected trigger. **Tags:** atp.Splitkey=trigger, trigger.contextComponent Prototype, trigger.contextRootSwComponentPrototype, trigger.contextRPortPrototype, trigger.targetTrigger **InstanceRef implemented by:** TriggerInExecutable InstanceRef

Table A.95: ComTriggerGrantDesign

Class	*CommConnectorPort* (abstract)			
Note	The Ecu communication relationship defines which signals, Pdus and frames are actually received and transmitted by this ECU. For each signal, Pdu or Frame that is transmitted or received and used by the Ecu an association between an ISignalPort, IPduPort or FramePort with the corresponding Triggering shall be created. An ISignalPort shall be created only if the corresponding signal is handled by COM (RTE or Signal Gateway). If a Pdu Gateway ECU only routes the Pdu without being interested in the content only a FramePort and an IPduPort needs to be created.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	FramePort, IPduPort, ISignalPort			
Aggregated by	*CommunicationConnector*.ecuCommPortInstance			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
communication Direction	Communication DirectionType	0..1	attr	Communication Direction of the Connector Port (input or output Port).

Table A.96: CommConnectorPort

Class	«atpVariation» ***CommunicationCluster*** (abstract)			
Note	The CommunicationCluster is the main element to describe the topological connection of communicating ECUs. A cluster describes the ensemble of ECUs, which are linked by a communication medium of arbitrary topology (bus, star, ring, ...). The nodes within the cluster share the same communication protocol, which may be event-triggered, time-triggered or a combination of both. A CommunicationCluster aggregates one or more physical channels. **Tags:** vh.latestBindingTime=postBuild			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FibexElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Subclasses	*AbstractCanCluster*, EthernetCluster, FlexrayCluster, LinCluster, UserDefinedCluster			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
baudrate	PositiveUnlimitedInteger	0..1	attr	Channels speed in bits/s.
comMLight Timeout	TimeValue	0..1	attr	Defines the timeout (in seconds) after COMM_FULL_COMMUNICATION sub-state COMM_FULL_COM_READY_SLEEP is left in the ComM channel state machine.
physical Channel	PhysicalChannel	*	aggr	This relationship defines which channel element belongs to which cluster. A channel shall be assigned to exactly one cluster, whereas a cluster may have one or more channels. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=physicalChannel, physicalChannel.shortName, physicalChannel.variationPoint.shortLabel vh.latestBindingTime=systemDesignTime
protocolName	String	0..1	attr	The name of the protocol used.
protocolVersion	String	0..1	attr	The version of the protocol used.

Table A.97: CommunicationCluster

Class	***CommunicationConnector*** (abstract)			
Note	The connection between the referencing ECU and the referenced channel via the referenced controller. Connectors are used to describe the bus interfaces of the ECUs and to specify the sending/receiving behavior. Each CommunicationConnector has a reference to exactly one communicationController. Note: Several CommunicationConnectors can be assigned to one PhysicalChannel in the scope of one ECU Instance.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	*AbstractCanCommunicationConnector*, EthernetCommunicationConnector, FlexrayCommunication Connector, UserDefinedCommunicationConnector			
Aggregated by	EcuInstance.connector, MachineDesign.communicationConnector			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	***CommunicationConnector*** (abstract)			
commController	Communication Controller	0..1	ref	Reference to the communication controller. The CommunicationConnector and referenced CommunicationController shall be aggregated by the same ECUInstance. The communicationController can be referenced by several CommunicationConnector elements. This is important for the FlexRay Bus. FlexRay communicates via two physical channels. But only one controller in an ECU is responsible for both channels. Thus, two connectors (for channel A and for channel B) shall reference to the same controller. **Tags:** atp.Splitkey=commController
createEcu WakeupSource	Boolean	0..1	attr	If this parameter is available and set to true then a channel wakeup source shall be created for the Physical Channel referencing this CommunicationConnector.
explicitWakeup Channel	PhysicalChannel	*	ref	Defines a restriction which PhysicalChannels shall be woken up if this CommunicationConnector is the wakeup source. If not defined, then no restriction applies. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=explicitWakeupChannel, explicitWakeup Channel.physicalChannel, explicitWakeup Channel.variationPoint.shortLabel vh.latestBindingTime=postBuild
explicitWakeup Pnc	PncMappingIdent	*	ref	Defines a restriction which PNCs shall be woken up if this CommunicationConnector is the wakeup source. If not defined, then no restriction applies. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=explicitWakeupPnc, explicitWakeupPnc.pnc MappingIdent, explicitWakeupPnc.variationPoint.short Label vh.latestBindingTime=postBuild
nmVariant	NmVariantEnum	0..1	attr	Defines the functionality of Network Management.
pncFilterArray Mask (ordered)	PositiveInteger	*	attr	Bit mask for NM-Pdu Payload used to configure the NM filter mask for the Network Management.

Table A.98: CommunicationConnector

Enumeration	**CommunicationDirectionType**
Note	Describes the communication direction.
Aggregated by	*CommConnectorPort*.communicationDirection, *IEEE1722TpConnection*.communicationDirection, IPSecRule.direction, ISignalIPduGroup.communicationDirection
Literal	***Description***
in	Reception (Input) **Tags:** atp.EnumerationLiteralIndex=0
out	Transmission (Output) **Tags:** atp.EnumerationLiteralIndex=1

Table A.99: CommunicationDirectionType

Class	**CompositionSwComponentType**			
Note	A `CompositionSwComponentType` aggregates `SwComponentPrototype`s (that in turn are typed by `SwComponentType`)s as well as `SwConnector`s for primarily connecting `SwComponentPrototype`s among each others and towards the surface of the `CompositionSwComponentType`. By this means, a hierarchical structures of software-components can be created. **Tags:** atp.recommendedPackage=SwComponentTypes			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *SwComponentType*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
component	SwComponent Prototype	*	aggr	The instantiated components that are part of this composition. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=component, component.shortName, component.variationPoint.shortLabel vh.latestBindingTime=postBuild
connector	SwConnector	*	aggr	`SwConnector`s have the principal ability to establish a connection among `PortPrototype`s. They can have many roles in the context of a `CompositionSwComponentType`. Details are refined by subclasses. The aggregation of `SwConnector`s is subject to variability with the purpose to support variant data flow. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=connector, connector.shortName, connector.variationPoint.shortLabel vh.latestBindingTime=postBuild
constantValue Mapping	ConstantSpecification MappingSet	*	ref	Reference to the `ConstantSpecificationMapping` to be applied for initValues of `PPortComSpec`s and `RPortComSpec`. **Tags:** atp.Splitkey=constantValueMapping
dataType Mapping	DataTypeMappingSet	*	ref	Reference to the `DataTypeMappingSet` to be applied for the used `ApplicationDataType`s in `ServiceInterface`s. **Tags:** atp.Splitkey=dataTypeMapping
physical Dimension Mapping	PhysicalDimension MappingSet	0..1	ref	This reference identifies the `PhysicalDimensionMappingSet` that is applicable in the context of the enclosing `CompositionSwComponentType`. The `PhysicalDimensionMapping`s contained in the `PhysicalDimensionMappingSet` shall be taken into account for the assessment of the compatibility of `PhysicalDimension`s in the context of creation of a `PortInterfaceMapping` in the scope of the `CompositionSwComponentType`. **Tags:** atp.Splitkey=physicalDimensionMapping

Table A.100: CompositionSwComponentType

Class	**CompuMethod**
Note	This meta-class represents the ability to express the relationship between a physical value and the mathematical representation. Note that this is still independent of the technical implementation in data types. It only specifies the formula how the internal value corresponds to its physical pendant. **Tags:** atp.recommendedPackage=CompuMethods

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Class	**CompuMethod**			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
compuInternal ToPhys	Compu	0..1	aggr	This specifies the computation from internal values to physical values. **Tags:** atp.Splitkey=compuInternalToPhys xml.sequenceOffset=80
compuPhysTo Internal	Compu	0..1	aggr	This represents the computation from physical values to the internal values. **Tags:** atp.Splitkey=compuPhysToInternal xml.sequenceOffset=90
displayFormat	DisplayFormatString	0..1	attr	This property specifies, how the physical value shall be displayed e.g. in documents or measurement and calibration tools. **Tags:** xml.sequenceOffset=20
unit	Unit	0..1	ref	This is the physical unit of the Physical values for which the CompuMethod applies. **Tags:** atp.Splitkey=unit xml.sequenceOffset=30

Table A.101: CompuMethod

Class	**ConstantReference**			
Note	Instead of defining this value inline, a constant is referenced.			
Base	*ARObject*, *ValueSpecification*			
Aggregated by	ApplicationAssocMapElementValueSpecification.key, ApplicationAssocMapElementValue Specification.value, ArrayValueSpecification.element, CalibrationParameterValue.applInitValue, CalibrationParameterValue.implInitValue, ConstantSpecification.valueSpec, CryptoService Key.developmentValue, DiagnosticEnvDataCondition.compareValue, DiagnosticEnvDataElement Condition.compareValue, DiagnosticEnvSovdDataCondition.compareValue, FieldSenderComSpec.init Value, ISignal.initValue, ISignal.timeoutSubstitutionValue, NonqueuedReceiverComSpec.initValue, NonqueuedReceiverComSpec.timeoutSubstitutionValue, NonqueuedSenderComSpec.initValue, Nv ProvideComSpec.ramBlockInitValue, NvProvideComSpec.romBlockInitValue, NvRequireComSpec.init Value, ParameterDataPrototype.initValue, ParameterProvideComSpec.initValue, ParameterRequireCom Spec.initValue, PersistencyDataRequiredComSpec.initValue, PersistencyKeyValuePair.initValue, Port DefinedArgumentValue.value, PortPrototypeBlueprintInitValue.value, RecordValueSpecification.field, *StateManagementCompareCondition*.compareValue, SwDataDefProps.invalidValue, VariableData Prototype.initValue			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
constant	ConstantSpecification	0..1	ref	The referenced constant. **Tags:** atp.Splitkey=constant

Table A.102: ConstantReference

Class	**CouplingPort**
Note	A CouplingPort is used to connect a CouplingElement with an EcuInstance or two CouplingElements with each other via a CouplingPortConnection. Optionally, the CouplingPort may also have a reference to a macMulticastGroup and a defaultVLAN.

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Class	**CouplingPort**			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	CouplingElement.couplingPort, EthernetCommunicationController.couplingPort			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
connection Negotiation Behavior	EthernetConnection NegotiationEnum	0..1	attr	Specifies the connection negotiation of the CouplingPort.
couplingPort Details	CouplingPortDetails	0..1	aggr	Defines more details of a CouplingPort in case a more specific configuration is required. **Tags:** atp.Splitkey=couplingPortDetails
couplingPort Role	CouplingPortRoleEnum	0..1	attr	Defines the role this CouplingPort takes in the context of the CouplingElement.
defaultVlan	EthernetPhysical Channel	0..1	ref	The vLanIdentifier of the referenced VLAN is the Default-PVID (port VLAN ID). A Port VLAN ID is a default VLAN ID that is assigned to an access CouplingPort to designate the VLAN segment to which this port is connected. Also, if a CouplingPort has not been configured with any VLAN memberships, the virtual switch's Port VLAN ID (pvid) becomes the default VLAN ID for the ports connection. This identifier/tag is added for incoming untagged messages at the port (ingress tagging). For outgoing messages with this identifier, the tag is removed at the port (egress untagging, depending on the Vlan Membership.sendActivity). **Tags:** atp.Splitkey=defaultVlan
macAddress VlanAssignment	MacAddressVlan Membership	*	aggr	Statically defines the assignment of MAC-Multicast-Addresses, optionally together with VLANs, to this CouplingPort. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=macAddressVlanAssignment, macAddress VlanAssignment.shortName, macAddressVlan Assignment.variationPoint.shortLabel vh.latestBindingTime=postBuild
macLayerType	EthernetMacLayerType Enum	0..1	attr	Specifies the mac layer type of the CouplingPort.
macSecProps	MacSecProps	*	aggr	Properties to configure MACsec (Media access control security) and the MKA (MACsec Key Agreement) for the CouplingPort (PHY). **Tags:** atp.Splitkey=macSecProps atp.Status=candidate
physicalLayer Type	EthernetPhysicalLayer TypeEnum	0..1	attr	Specifies the physical layer type of the CouplingPort.
plcaProps	PlcaProps	0..1	aggr	Optional properties for configuration of PLCA (Physical Layer Collision Avoidance) in case 10-BASE-T1S Ethernet is used and PLCA is enabled on the Coupling Port (PHY). **Tags:** atp.Splitkey=plcaProps
pncMapping	PncMappingIdent	*	ref	Reference to the partial networks this CouplingPort participates in. **Tags:** atp.Splitkey=pncMapping
receiveActivity	EthernetSwitchVlan IngressTagEnum	0..1	attr	Defines the handling of frames at the ingress port.

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Class	**CouplingPort**			
vlan Membership	VlanMembership	*	aggr	Messages of VLANs that are defined here can be communicated via the CouplingPort. **Tags:** atp.Splitkey=vlanMembership
wakeupSleep OnDataline Config	EthernetWakeupSleep OnDatalineConfig	0..1	ref	Optional reference to EthernetWakeupSleepOnDataline Config. **Tags:** atp.Splitkey=wakeupSleepOnDatalineConfig

Table A.103: CouplingPort

Class	***CppImplementationDataType*** (abstract)			
Note	This meta-class represents the way to specify a reusable data type definition taken as a the basis for a C++ language binding This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractImplementationDataType*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *Autosar DataType*, *CollectableElement*, *CppImplementationDataTypeContextTarget*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Subclasses	CustomCppImplementationDataType, StdCppImplementationDataType			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
arraySize	PositiveInteger	0..1	attr	This attribute can be used to specify the array size if the enclosing CppImplementationDataType has array semantics. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=preCompileTime
headerFile	String	0..1	attr	Configuration of the Header File with the custom class declaration.
namespace (ordered)	SymbolProps	*	aggr	This aggregation allows for the definition an own namespace for the enclosing CppImplementationData Type.
subElement (ordered)	CppImplementation DataTypeElement	*	aggr	This represents the collection of sub-elements of the enclosing CppImplementationDataType
template Argument (ordered)	CppTemplateArgument	*	aggr	This aggregation allows for the specification of properties of template arguments
typeEmitter	NameToken	0..1	attr	This attribute can be taken to control how the respective CppImplementationDataType is contributed to the language binding.
typeReference	CppImplementation DataType	0..1	ref	This reference shall be defined to define a type reference (a.k.a. typedef). **Tags:** atp.Splitkey=typeReference

Table A.104: CppImplementationDataType

Class	**CppImplementationDataTypeElement**
Note	Declares a data object which is locally aggregated. Such an element can only be used within the scope where it is aggregated. A CppImplementationDataTypeElement is used to represent an element of a structure, defining its type. This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARObject*, *AbstractImplementationDataTypeElement*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *CppImplementationDataTypeContextTarget*, *Identifiable*, *MultilanguageReferrable*, *Referrable*

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Class	CppImplementationDataTypeElement			
Aggregated by	*AtpClassifier*.atpFeature, *CppImplementationDataType*.subElement			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
isOptional	Boolean	0..1	attr	This attribute represents the ability to declare the enclosing CppImplementationDataTypeElement as optional. This means the that, at runtime, the Cpp ImplementationDataTypeElement may or may not have a valid value and shall therefore be ignored. The underlying runtime software provides means to set the CppImplementationDataTypeElement as not valid at the sending end of a communication and determine its validity at the receiving end.
swDataDef Props	SwDataDefProps	0..1	aggr	This aggregation allows for the definition of qualifying properties of the enclosing CppImplementationDataType Element. **Tags:** atp.Splitkey=swDataDefProps
typeReference	CppImplementation DataTypeElement Qualifier	0..1	aggr	This aggregation defines the type of the Cpp ImplementationDataTypeElement and determines whether in C++ the CppImplementationDataTypeElement is defined inside or outside of the enclosing Cpp ImplementationDataType. **Tags:** atp.Splitkey=typeReference

Table A.105: CppImplementationDataTypeElement

Class	CppImplementationDataTypeElementQualifier			
Note	This element qualifies the typeReference of the CppImplementationDataTypeElement to the Cpp ImplementationDataType. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	CppImplementationDataTypeElement.typeReference			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
inplace	Boolean	0..1	attr	This attribute defines whether the member type of the CppImplementationDataTypeElement in C++ is an embedded type element inside of the enclosing struct (true) or whether the type declaration is defined outside of the struct.
typeReference	CppImplementation DataType	0..1	ref	This reference defines a type reference. **Tags:** atp.Splitkey=typeReference

Table A.106: CppImplementationDataTypeElementQualifier

Class	CppTemplateArgument			
Note	This meta-class has the ability to define properties for template arguments. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	*CppImplementationDataType*.templateArgument			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
allocator	Allocator	0..1	ref	This reference identifies the applicable allocator.

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Class	**CppTemplateArgument**			
category	CategoryString	0..1	attr	This attribute shall be used to contribute further clarification regarding the semantics of the enclosing Cpp TemplateArgument.
inplace	Boolean	0..1	attr	This attribute specifies whether the shortName of the referenced templateType is used in the code generation and the type declaration is defined outside of the enclosing CppImplementationDataType (true) or whether the type definition is embedded inside of the enclosing CppImplementationDataType and the shortName is ignored (false).
templateType	CppImplementation DataType	0..1	ref	This reference identifies the data type of the specific template argument required for the language binding.

Table A.107: CppTemplateArgument

Class	**CryptoAlgorithmDescription**			
Note	This meta-class is used to provide properties of the crypto algorithm. **Tags:** atp.Status=candidate This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	CryptoKeySlot.algorithmDescription			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
cryptoAlgorithmId	String	0..1	attr	This attribute describes the identity of the crypto algorithm associated with the key stored in this key slot
cryptoKeyType	CryptoKeyTypeEnum	0..1	attr	This attribute describes the type of the cryptographic key to be stored in this key slot.

Table A.108: CryptoAlgorithmDescription

Class	**CryptoCertificateGroupInterface**			
Note	This meta-class provides the ability to define a PortInterface for a group of CryptoCertificates. **Tags:** atp.Status=candidate atp.recommendedPackage=CryptoInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *CryptoInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
capacity	PositiveInteger	0..1	attr	Capacity of the certificate group in bytes of DER serialized certificates. **Tags:** atp.Status=candidate
writeAccess	Boolean	0..1	attr	This attribute defines whether the application has write-access to the CryptoCertificateGroup (true) or only read-access (false).

Table A.109: CryptoCertificateGroupInterface

Class	**CryptoCertificateGroupToPortPrototypeMapping**			
Note	This meta-class represents the ability to define a mapping between a CryptoCertificateGroup on target-configuration level to a given PortPrototype that is typed by a CryptoCertificateGroupInterface. **Tags:** atp.Status=candidate atp.recommendedPackage=CryptoMappipngs This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
certificateGroup	CryptoCertificateGroup	0..1	ref	This reference identifies the refernce group mapped to the PortPrototype. **Tags:** atp.Splitkey=certificateGroup atp.Status=candidate
portPrototype	RPortPrototype	0..1	iref	This reference represents the mapped PortPrototype. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=portPrototype, portPrototype.contextRootSw ComponentPrototype, portPrototype.contextComponent Prototype, portPrototype.targetRPortPrototype atp.Status=candidate **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef
process	Process	0..1	ref	This reference represents the process required as context for the mapping.This reference represents the process required as context for the mapping. **Tags:** atp.Splitkey=process atp.Status=candidate
writeAccess	Boolean	0..1	attr	This attribute defines whether the application has write-access to the `CryptoCertificateGroup` (true) or only read-access (false).

Table A.110: CryptoCertificateGroupToPortPrototypeMapping

Class	**CryptoCertificateInterface**			
Note	This meta-class provides the ability to define a PortInterface for a CryptoCertificate. **Tags:** atp.Status=candidate atp.recommendedPackage=CryptoInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *CryptoInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
writeAccess	Boolean	0..1	attr	This attribute defines whether the application has write-access to the CryptoCertificate (true) or only read-access (false). **Tags:** atp.Status=candidate

Table A.111: CryptoCertificateInterface

Class	**CryptoCertificateToPortPrototypeMapping**			
Note	This meta-class represents the ability to define a mapping between a CryptoCertificate on target-configuration level to a given PortPrototype that is typed by a CryptoCertificateInterface. **Tags:** atp.recommendedPackage=CryptoCertificateToPortPrototypeMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
crypto Certificate	CryptoCertificate	0..1	ref	This reference represents the mapped cryptoCertificate. **Tags:** atp.Splitkey=cryptoCertificate
portPrototype	RPortPrototype	0..1	iref	This reference represents the mapped PortPrototype. **Tags:** atp.Splitkey=portPrototype, portPrototype.context RootSwComponentPrototype, portPrototype.context ComponentPrototype, portPrototype.targetRPort Prototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef
process	Process	0..1	ref	This reference represents the process required as context for the mapping. **Tags:** atp.Splitkey=process
writeAccess	Boolean	0..1	attr	This attribute defines whether the application has write-access to the CryptoCertificate (true) or only read-access (false).

Table A.112: CryptoCertificateToPortPrototypeMapping

Class	**CryptoKeySlotClientInterface**			
Note	This meta-class provides the ability to define a PortInterface restricted to **using** Crypto Key Slots. **Tags:** atp.Status=candidate atp.recommendedPackage=CryptoInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractCryptoKeySlotInterface*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *CryptoInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Port Interface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.113: CryptoKeySlotClientInterface

Class	**CryptoKeySlotDesign**			
Note	This meta-class represents a key slot on the design level. This class is used to create a model of the usage of key slots so that owners and users of the key slot can be described, as the basis for consistency checking of the overall design. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	MachineDesign.cryptoKeySlot			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**CryptoKeySlotDesign**			
algorithm Description	CryptoKeySlotDesign Description	*	aggr	This aggregation contains the collection of crypto algorithm descriptions that can be used in the context of the enclosing crypto key slot design. **Tags:** atp.Splitkey=algorithmDescription
owner	CryptoKeySlotUsage Design	*	ref	This reference attributes an owner of the enclosing crypto key slot design. **Tags:** atp.Splitkey=owner
shared	Boolean	0..1	attr	This attribute controls whether the cryptographic key is shared with at least one user.
user	CryptoKeySlotUsage Design	*	ref	This reference attributes a user of the enclosing crypto key slot design. **Tags:** atp.Splitkey=user

Table A.114: CryptoKeySlotDesign

Class	**CryptoKeySlotDesignDescription**			
Note	This meta-class is used to provide properties of the crypto algorithm on design level. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	CryptoKeySlotDesign.algorithmDescription			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
cryptoAlgorithm Id	String	0..1	attr	This attribute describes the identity of the crypto algorithm associated with the key stored in this key slot.
cryptoObject Type	String	0..1	attr	This attribute describes the type of the cryptographic object to be stored in this key slot.

Table A.115: CryptoKeySlotDesignDescription

Class	**CryptoKeySlotInterface**			
Note	This meta-class provides the ability to define a PortInterface for **using and modifying** Crypto Key Slots. **Tags:** atp.Status=candidate atp.recommendedPackage=CryptoInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractCryptoKeySlotInterface*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *CryptoInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Port Interface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
–	–	–	–	–

Table A.116: CryptoKeySlotInterface

Class	**CryptoKeySlotToClientPortPrototypeMapping**
Note	This meta-class represents the ability to define a mapping between a CryptoKeySlot on deployment level to a given PortPrototype that is typed by a CryptoKeyClientSlotInterface (this means only read is supported). **Tags:** atp.recommendedPackage=CryptoKeySlotMappings This Class is only used by the AUTOSAR Adaptive Platform.

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Class	CryptoKeySlotToClientPortPrototypeMapping			
Base	*ARElement*, *ARObject*, *AbstractCryptoKeySlotToPortPrototypeMapping*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
–	–	–	–	–

Table A.117: CryptoKeySlotToClientPortPrototypeMapping

Class	CryptoKeySlotToPortPrototypeMapping			
Note	This meta-class represents the ability to define a mapping between a CryptoKeySlot on target-configuration level to a given PortPrototype that is typed by a CryptoKeySlotInterface. **Tags:** atp.recommendedPackage=CryptoKeySlotMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractCryptoKeySlotToPortPrototypeMapping*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
–	–	–	–	–

Table A.118: CryptoKeySlotToPortPrototypeMapping

Class	CryptoKeySlotUsageDesign			
Note	This meta-class represents the concrete usage (on design level) of a cryptographic key. **Tags:** atp.recommendedPackage=CryptoKeySlotDesigns This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	CryptoKeySlotUserDesign.keySlotUsage			
Attribute	Type	Mult.	Kind	Note
–	–	–	–	–

Table A.119: CryptoKeySlotUsageDesign

Class	CryptoProviderInterface			
Note	This meta-class provides the ability to define a PortInterface for a CryptoProvider. **Tags:** atp.Status=candidate atp.recommendedPackage=CryptoInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *CryptoInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
–	–	–	–	–

Table A.120: CryptoProviderInterface

Class	**CryptoProviderToPortPrototypeMapping**			
Note	This meta-class represents the ability to define a mapping between a CryptoProvider on deployment level to a given PortPrototype that is typed by a CryptoProviderInterface. **Tags:** atp.recommendedPackage=CryptoProviderToPortPrototypeMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
cryptoProvider	CryptoProvider	0..1	ref	This reference represents the mapped cryptoProvider. **Tags:** atp.Splitkey=cryptoProvider
portPrototype	RPortPrototype	0..1	iref	This reference represents the mapped PortPrototype. **Tags:** atp.Splitkey=portPrototype, portPrototype.context RootSwComponentPrototype, portPrototype.context ComponentPrototype, portPrototype.targetRPort Prototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef
process	Process	0..1	ref	This reference represents the process required as context for the mapping. **Tags:** atp.Splitkey=process

Table A.121: CryptoProviderToPortPrototypeMapping

Class	**CryptoServiceCertificate**			
Note	This meta-class represents the ability to model a cryptographic certificate. **Tags:** atp.recommendedPackage=CryptoServiceCertificates			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
algorithmFamily	CryptoCertificate AlgorithmFamilyEnum	0..1	attr	This attribute represents a description of the family of crypto algorithm used to generate public key and signature of the cryptographic certificate.
format	CryptoCertificateFormat Enum	0..1	attr	This attribute can be used to provide information about the format used to create the certificate
maximum Length	PositiveInteger	0..1	attr	This attribute represents the ability to define the maximum length of the certificate in bytes.
nextHigher Certificate	CryptoService Certificate	0..1	ref	The reference identifies the next higher certificate in the certificate chain. **Tags:** atp.Splitkey=nextHigherCertificate
serverName Identification	String	0..1	attr	Server Name Indication (SNI) is needed if the IP address hosts multiple servers (on the same port), each of them using a different certificate. If the client sends the SNI to the Server in the client hello, the server looks the SNI up in its certificate list and uses the certificate identified by the SNI.

Table A.122: CryptoServiceCertificate

Class	CustomCppImplementationDataType			
Note	This meta-class represents the way to specify a data type definition that is taken as the basis for a C++ language binding to a custom implementation that is declared in the configured header file. The Short Name of this CustomCppImplementationDataType defines the Class-Name of the custom implementation. **Tags:** atp.recommendedPackage=CppImplementationDataTypes This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractImplementationDataType*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *Autosar DataType*, *CollectableElement*, *CppImplementationDataType*, *CppImplementationDataTypeContext Target*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.123: CustomCppImplementationDataType

Class	DataConstr			
Note	This meta-class represents the ability to specify constraints on data. **Tags:** atp.recommendedPackage=DataConstrs			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
dataConstrRule	DataConstrRule	*	aggr	This is one particular rule within the data constraints. **Tags:** atp.Splitkey=dataConstrRule xml.roleElement=true xml.roleWrapperElement=true xml.sequenceOffset=30 xml.typeElement=false xml.typeWrapperElement=false

Table A.124: DataConstr

Class	DataConstrRule			
Note	This meta-class represents the ability to express one specific data constraint rule.			
Base	*ARObject*			
Aggregated by	DataConstr.dataConstrRule			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
constrLevel	Integer	0..1	attr	This attribute describes the category of a constraint. One of its functions is in the area of constraint violation, where it can be used from a certain level, to produce error messages. The lower the level, the more stringent the check. Used to distinguish hard or soft limits. **Tags:** xml.sequenceOffset=20
internalConstrs	InternalConstrs	0..1	aggr	Describes the limitations applicable on the internal domain (as opposed to the physical domain). **Tags:** atp.Splitkey=internalConstrs xml.sequenceOffset=40

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Class	DataConstrRule			
physConstrs	PhysConstrs	0..1	aggr	Describes the limitations applicable on the physical domain (as opposed to the internal domain). **Tags:** atp.Splitkey=physConstrs xml.sequenceOffset=30

Table A.125: DataConstrRule

Class	*DataPrototype* (abstract)			
Note	Base class for prototypical roles of any data type.			
Base	*ARObject*, *AtpFeature*, *AtpPrototype*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	*ApplicationCompositeElementDataPrototype*, *AutosarDataPrototype*			
Aggregated by	*AtpClassifier*.atpFeature			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
swDataDef Props	SwDataDefProps	0..1	aggr	This property allows to specify data definition properties which apply on data prototype level. **Tags:** atp.Splitkey=swDataDefProps

Table A.126: DataPrototype

Class	DataPrototypeInPortInterfaceRef			
Note	This class represents a RootDataPrototype that is typed by an ApplicationDataType or Implementation DataType or a DataTypeElement that is aggregated within a composite application data type (record or array).			
Base	*ARObject*, *DataPrototypeReference*			
Aggregated by	DataPrototypeTransformationProps.dataPrototypeInPortInterfaceRef, SignalServiceTranslationElement Props.element, TransmissionComSpecProps.onChangeDataPrototype			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
dataPrototypeIn ServiceInterface	DataPrototype	0..1	iref	This element defines a reference to a DataPrototype in the context of a ServiceInterface. **Tags:** atp.Splitkey=dataPrototypeInServiceInterface, data PrototypeInServiceInterface.rootDataPrototype, data PrototypeInServiceInterface.contextDataPrototype, data PrototypeInServiceInterface.targetDataPrototype atp.Status=draft **InstanceRef implemented by:** DataPrototypeInService InterfaceInstanceRef This Attribute is only used by the AUTOSAR Adaptive Platform.

Table A.127: DataPrototypeInPortInterfaceRef

Class	DataPrototypeInServiceInterfaceInstanceRef			
Note	This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AtpInstanceRef*, *DataPrototypeInPortInterfaceInstanceRef*			
Aggregated by	DataPrototypeInPortInterfaceRef.dataPrototypeInServiceInterface, DataPrototypeInServiceInterface Ref.dataPrototype, SignalBasedFireAndForgetMethodToISignalTriggeringMapping.dataPrototypeIn MethodArgumentInstanceRef			
Attribute	**Type**	**Mult.**	**Kind**	**Note**

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Class	**DataPrototypeInServiceInterfaceInstanceRef**			
base	ServiceInterface	0..1	ref	**Stereotypes:** atpDerived
contextData Prototype (ordered)	ApplicationComposite ElementDataPrototype	*	ref	**Tags:** xml.sequenceOffset=20
rootData Prototype	AutosarDataPrototype	0..1	ref	**Tags:** xml.sequenceOffset=10
targetData Prototype	DataPrototype	0..1	ref	**Tags:** xml.sequenceOffset=30

Table A.128: DataPrototypeInServiceInterfaceInstanceRef

Class	**DataPrototypeInServiceInterfaceRef**			
Note	This meta-class represents the ability to refer to an AUTOSAR DataPrototype in the context of a Service Interface. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	SignalBasedEventElementToISignalTriggeringMapping.dataPrototypeInServiceInterfaceRef, SignalBasedFieldToISignalTriggeringMapping.dataPrototypeInServiceInterfaceRef, SomeipDataPrototypeTransformationProps.dataPrototype			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataPrototype	DataPrototype	0..1	iref	This element represents the ability to: • refer to a DataPrototype in the context of a Service Interface. • refer to the internal structure of a DataPrototype in which is typed by an ApplicationDatatype the context of a ServiceInterface. **Tags:** atp.Splitkey=dataPrototype, dataPrototype.root DataPrototype, dataPrototype.contextDataPrototype, data Prototype.targetDataPrototype **InstanceRef implemented by:** DataPrototypeInService InterfaceInstanceRef
elementInImpl Datatype	PortInterfaceElementIn Implementation DatatypeRef	0..1	aggr	This element represents the ability to refer to the internal structure of an AutosarDataPrototype which is typed by an ImplementationDatatype in the context of a Service Interface. **Tags:** atp.Splitkey=elementInImplDatatype

Table A.129: DataPrototypeInServiceInterfaceRef

Class	***DataPrototypeReference*** (abstract)			
Note	This meta-class provides the ability to reference a DataPrototype.			
Base	*ARObject*			
Subclasses	DataPrototypeInPortInterfaceRef, ImplementationDataTypeElementInPortInterfaceRef			
Aggregated by	DataPrototypeTransformationProps.dataPrototypeInPortInterfaceRef, SignalServiceTranslationElement Props.element, TransmissionComSpecProps.onChangeDataPrototype			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.130: DataPrototypeReference

Class	DataTypeMap			
Note	This class represents the relationship between ApplicationDataType and its implementing AbstractImplementationDataType.			
Base	ARObject			
Aggregated by	DataTypeMappingSet.dataTypeMap			
Attribute	Type	Mult.	Kind	Note
applicationDataType	ApplicationDataType	0..1	ref	This is the corresponding ApplicationDataType **Tags:** atp.Splitkey=applicationDataType
implementationDataType	AbstractImplementationDataType	0..1	ref	This is the corresponding AbstractImplementationDataType. **Tags:** atp.Splitkey=implementationDataType

Table A.131: DataTypeMap

Class	DataTypeMappingSet			
Note	This class represents a list of mappings between ApplicationDataTypes and ImplementationDataTypes. In addition, it can contain mappings between ImplementationDataTypes and ModeDeclarationGroups. **Tags:** atp.recommendedPackage=DataTypeMappingSets			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
dataTypeMap	DataTypeMap	*	aggr	This is one particular association between an ApplicationDataType and its AbstractImplementationDataType. **Tags:** atp.Splitkey=dataTypeMap
modeRequestTypeMap	ModeRequestTypeMap	*	aggr	This is one particular association between an ModeDeclarationGroup and its AbstractImplementationDataType. **Tags:** atp.Splitkey=modeRequestTypeMap

Table A.132: DataTypeMappingSet

Class	DdsDomainRange			
Note	DDS Domain ID range. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	DdsSecureGovernance.domainId			
Attribute	Type	Mult.	Kind	Note
max	PositiveInteger	0..1	attr	Upper bound of the DdsDomainRange.
min	PositiveInteger	0..1	attr	Lower bound of the DdsDomainRange.

Table A.133: DdsDomainRange

Class	DdsEventDeployment
Note	DDS configuration settings for an Event. This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *ServiceEventDeployment*, *ServiceInterfaceDeploymentElement*



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Class	**DdsEventDeployment**			
Aggregated by	DdsFieldDeployment.notifier, *ServiceInterfaceDeployment*.eventDeployment			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
eventTopic AccessRule	DdsTopicAccessRule	0..1	ref	DDS Security access rule applicable to the DDS Topics used for the service interface event. **Tags:** atp.Splitkey=eventTopicAccessRule
topicName	String	0..1	attr	Name of the DDS Topic associated with the Event.
transport Protocol	String	*	attr	This attribute defines over which Transport Layer Protocol(s) this event is intended to be sent.

Table A.134: DdsEventDeployment

Class	**DdsEventQosProps**			
Note	Configuration properties of the Event using DDS as the underlying network binding. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *DdsQosProps*			
Aggregated by	DdsProvidedServiceInstance.eventQosProps, DdsRequiredServiceInstance.eventQosProps			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
event	ServiceEvent Deployment	0..1	ref	Reference to an event that is provided. **Tags:** atp.Splitkey=event

Table A.135: DdsEventQosProps

Class	**DdsFieldQosProps**			
Note	Configuration properties of the Field interaction when using DDS as the underlying network binding. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *DdsQosProps*			
Aggregated by	DdsProvidedServiceInstance.fieldNotifierQosProps, DdsRequiredServiceInstance.fieldNotifierQosProps			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
field	ServiceField Deployment	0..1	ref	Reference to the field. **Tags:** atp.Splitkey=field

Table A.136: DdsFieldQosProps

Enumeration	**DdsProtectionKindEnum**
Note	Supported cryptographic transformations (extended). This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	DdsSecureGovernance.discoveryProtectionKind, DdsSecureGovernance.livelinessProtectionKind, DdsSecureGovernance.rtpsProtectionKind, DdsTopicAccessRule.dataProtectionKind, DdsTopic AccessRule.metadataProtectionKind
Literal	***Description***
encryptAndSign	encryption and MAC transformations (in that precise order) are applied **Tags:** atp.EnumerationLiteralIndex=2
encryptAndSign WithOrigin Authentication	similar to "EncryptAndSign" but with additional authentication codes produced under different secret keys, which prevents receiving peers from impersonating a specific sender **Tags:** atp.EnumerationLiteralIndex=4

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Enumeration	**DdsProtectionKindEnum**
none	no transformation is applied **Tags:** atp.EnumerationLiteralIndex=0
sign	Message Authentication Code (MAC) is applied, no encryption **Tags:** atp.EnumerationLiteralIndex=1
signWithOrigin Authentication	similar to "sign" but with additional authentication codes produced under different secret keys, which prevents receiving peers from impersonating a specific sender **Tags:** atp.EnumerationLiteralIndex=3

Table A.137: DdsProtectionKindEnum

Class	**DdsProvidedServiceInstance**			
Note	This meta-class represents the ability to describe the existence and configuration of a provided service instance in a concrete implementation on top of DDS. **Tags:** atp.recommendedPackage=ServiceInstances This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AdaptivePlatformServiceInstance*, *CollectableElement*, *DdsQosProps*, *DdsServiceInstanceProps*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *ProvidedApServiceInstance*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
discoveryType	DdsServiceInstance DiscoveryTypeEnum	0..1	attr	Discovery protocol.
eventQosProps	DdsEventQosProps	*	aggr	List of configuration properties for the Events that are provided by the Service Instance. **Tags:** atp.Splitkey=eventQosProps
fieldNotifierQos Props	DdsFieldQosProps	*	aggr	List of configuration properties for Field notifiers that are provided by the Service Instance. **Tags:** atp.Splitkey=fieldNotifierQosProps
resource IdentifierType	DdsServiceInstance ResourceIdentifierType Enum	0..1	attr	Type of resource identification scheme.
serviceInstance Id	PositiveInteger	0..1	attr	Identification number that is used by DDS to identify DomainParticipants associated with an instance of the service.

Table A.138: DdsProvidedServiceInstance

Class	***DdsQosProps*** (abstract)			
Note	QoS configuration properties for the DDS entities associated with an event, method, or field provided by or requested from a Service Instance using DDS as the underlying network binding. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Subclasses	DdsEventQosProps, DdsFieldQosProps, *DdsServiceInstanceProps*			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
qosProfile	String	0..1	attr	Identifies a group of QoS Policies that apply to the DDS entities associated with the event, method, field, or the service instance.

Table A.139: DdsQosProps

Class	**DdsRequiredServiceInstance**			
Note	This meta-class represents the ability to describe the existence and configuration of a required service instance in a concrete implementation on top of DDS. **Tags:** atp.recommendedPackage=ServiceInstances This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AdaptivePlatformServiceInstance*, *CollectableElement*, *DdsQosProps*, *DdsServiceInstanceProps*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *RequiredApServiceInstance*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
blocklisted Version	DdsServiceVersion	*	aggr	Collection of blocklisted versions. **Tags:** atp.Splitkey=blocklistedVersion
discoveryType	DdsServiceInstance DiscoveryTypeEnum	0..1	attr	Discovery protocol.
eventQosProps	DdsEventQosProps	*	aggr	List of configuration properties for the Events that are required by the Service Instance. **Tags:** atp.Splitkey=eventQosProps
fieldNotifierQos Props	DdsFieldQosProps	*	aggr	List of configuration properties for Field notifiers that are required by the Service Instance. **Tags:** atp.Splitkey=fieldNotifierQosProps
requiredService InstanceId	AnyServiceInstanceId	0..1	attr	This attribute represents the ability to describe the required service instance ID.

Table A.140: DdsRequiredServiceInstance

Class	**DdsRule**			
Note	Configuration of a DDS firewall rule			
Base	*ARObject*			
Aggregated by	FirewallRule.ddsRule			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
appId	PositiveInteger	0..1	attr	Filter for DDSI-RTPS messages in which the appId in the DDSI-RTPS header and the INFO_DST (0x0E) submessage matches.
hostId	PositiveInteger	0..1	attr	Filter for DDSI-RTPS messages in which the hostId in the DDSI-RTPS header and the INFO_DST (0x0E) submessage matches.
instanceId	PositiveInteger	0..1	attr	Filter for DDSI-RTPS messages in which the instanceId in the DDSI-RTPS header and the INFO_DST (0x0E) submessage matches.
majorProtocol Version	PositiveInteger	0..1	attr	Filter for DDSI-RTPS messages in which the major ProtocolVersion in the DDSI-RTPS header matches.
minorProtocol Version	PositiveInteger	0..1	attr	Filter for DDSI-RTPS messages in which the minor ProtocolVersion in the DDSI-RTPS header matches.
productId	PositiveInteger	0..1	attr	Filter for DDSI-RTPS messages in which the productId in the DDSI-RTPS header matches.
readerEntityId	PositiveInteger	0..1	attr	Filter for DDSI-RTPS messages in which the readerEntity ID in a DDSI-RTPS submessage matches
submessage Type	PositiveInteger	0..1	attr	Defines the allowed submessage type in the DDSI-RTPS message
vendorId	PositiveInteger	0..1	attr	Filter for DDSI-RTPS messages in which the vendorId in the DDSI-RTPS header matches.
writerEntityId	PositiveInteger	0..1	attr	Filter for DDSI-RTPS messages in which the writerEntity ID in a DDSI-RTPS submessage matches

Table A.141: DdsRule

Class	DdsSecureComProps			
Note	Identity and governance information of participants in case of DDS Security. **Tags:** atp.recommendedPackage=SecureComProps This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *SecureComProps*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
governance	DdsSecureGovernance	0..1	ref	This attribute defines general DDS Security communication properties applicable to the DDS domain(s) in which the subject operates. **Tags:** atp.Splitkey=governance atp.Status=candidate
identity	CryptoCertificate	0..1	ref	This attribute defines the cryptographic identity of the subject. **Tags:** atp.Splitkey=identity

Table A.142: DdsSecureComProps

Class	DdsSecureGovernance			
Note	Configuration of DDS Security for all applications joining a specific set of DDS Domains. **Tags:** atp.Status=candidate atp.recommendedPackage=DdsSecureGovernances This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
allowUnauthen-ticated Participants	Boolean	0..1	attr	Defines whether unauthenticated participants can join this domain. **Tags:** atp.Status=candidate
discovery ProtectionKind	DdsProtectionKind Enum	0..1	attr	Defines the kind of cryptographic transformation to apply in DDS discovery communication. **Tags:** atp.Status=candidate
domainId	DdsDomainRange	*	aggr	Set of domains to be covered by this property set. **Tags:** atp.Splitkey=domainId, domainId.shortName atp.Status=candidate
enableJoin AccessControl	Boolean	0..1	attr	Defines whether access control is to be enforced upon joining this domain. **Tags:** atp.Status=candidate
identity Certificate Authority	CryptoCertificate	0..1	ref	Certificate representing the identity certificate authority applicable to the domain(s) specified by domainsIds. **Tags:** atp.Splitkey=identityCertificateAuthority atp.Status=candidate
liveliness ProtectionKind	DdsProtectionKind Enum	0..1	attr	Defines the kind of cryptographic transformation to apply in DDS liveliness communication. **Tags:** atp.Status=candidate

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Class	**DdsSecureGovernance**			
permission Certificate Authority	CryptoCertificate	0..1	ref	Certificate representing the permissions certificate authority applicable to the domain(s) specified by domainsIds. **Tags:** atp.Splitkey=permissionCertificateAuthority atp.Status=candidate
rtpsProtection Kind	DdsProtectionKind Enum	0..1	attr	Defines the kind of cryptographic transformation to apply to whole DDS RTPS. **Tags:** atp.Status=candidate

Table A.143: DdsSecureGovernance

Enumeration	**DdsServiceInstanceDiscoveryTypeEnum**
Note	Supported discovery schemes for DDS Service Instances. This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	DdsProvidedServiceInstance.discoveryType, DdsRequiredServiceInstance.discoveryType
Literal	*Description*
domainParticipant UserDataQos	The USER_DATA QoS policy is used to advertise and discover available Service Instances hosted by each Domain Participant. **Tags:** atp.EnumerationLiteralIndex=0
topic	A purpose-specific Topic is used to convey availability of Service Instances and how to bind against them. **Tags:** atp.EnumerationLiteralIndex=1

Table A.144: DdsServiceInstanceDiscoveryTypeEnum

Class	***DdsServiceInstanceProps*** (abstract)			
Note	Common configuration properties for the DDS entities provided by or requested from a Service Instance using DDS as the underlying network binding. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *DdsQosProps*			
Subclasses	DdsProvidedServiceInstance, DdsRequiredServiceInstance			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
domainId	Integer	0..1	attr	This attribute identifies the DDS Domain the Service Instance shall join.

Table A.145: DdsServiceInstanceProps

Enumeration	**DdsServiceInstanceResourceIdentifierTypeEnum**
Note	Supported Resource Identification schemes for DDS Service Instances. This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	DdsProvidedServiceInstance.resourceIdentifierType
Literal	*Description*

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Enumeration	**DdsServiceInstanceResourceIdentifierTypeEnum**
instanceId	In-band instance identification fields are used to discriminate samples related to specific Service Instances sharing the same DDS Topics • Partitions: - • Topics: ara.com://services/<InterfaceId>/<Major>.<<Minor>/<TopicName> **Tags:** atp.EnumerationLiteralIndex=2
partition	The DDS PARTITION QoS policy is used to isolate DDS Topics related to specific Service Instances • Partitions: ara.com://services/<InterfaceId>/<InstanceId> • Topics: ara.com://services/<InterfaceId>/<Major>.<Minor>/<TopicName> **Tags:** atp.EnumerationLiteralIndex=0
topicPrefix	Unique prefixes are assigned to DDS Topics related to specific Service Instances • Partitions: - • Topics: ara.com://services/<InterfaceId>/<InstanceId>/<TopicName> **Tags:** atp.EnumerationLiteralIndex=1

Table A.146: DdsServiceInstanceResourceIdentifierTypeEnum

Class	**DdsServiceInstanceToMachineMapping**			
Note	This meta-class allows to map DdsServiceInstances to a CommunicationConnector of a Machine. **Tags:** atp.recommendedPackage=ServiceInstanceToMachineMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *ServiceInstanceToMachineMapping*, *UploadableDesignElement*, *Uploadable PackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
secureCom PropsForDds	DdsSecureComProps	0..1	ref	Reference to SecureComProps applicable to the service instance. **Tags:** atp.Splitkey=secureComPropsForDds

Table A.147: DdsServiceInstanceToMachineMapping

Class	**DdsServiceInterfaceDeployment**			
Note	DDS configuration settings for a ServiceInterface. **Tags:** atp.recommendedPackage=ServiceInterfaceDeployments This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *ServiceInterfaceDeployment*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
fieldReplyTopic Name	String	0..1	attr	Name of the DDS Reply Topic associated with the Field.
fieldRequest TopicName	String	0..1	attr	Name of the DDS Request Topic associated with the Field.
fieldTopics AccessRule	DdsTopicAccessRule	0..1	ref	DDS Security access rule applicable to the DDS Topics used for service interface field access methods (Get, Set). **Tags:** atp.Splitkey=fieldTopicsAccessRule

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Class	**DdsServiceInterfaceDeployment**			
methodReply TopicName	String	0..1	attr	Name of the DDS Reply Topic associated with the Method.
methodRequest TopicName	String	0..1	attr	Name of the DDS Request Topic associated with the Method.
methodTopics AccessRule	DdsTopicAccessRule	0..1	ref	DDS Security access rule applicable to the DDS Topics used for service interface methods. **Tags:** atp.Splitkey=methodTopicsAccessRule
serviceInterface Id	String	0..1	attr	Unique Identifier that identifies the ServiceInterface in DDS. This Identifier is encoded in the USER_DATA QoS of the DomainParticipant associated with the Service Instance and its value is propagated by DDS Discovery messages.
transport Protocol	String	*	attr	This attribute defines over which Transport Layer Protocol(s) this Method is intended to be sent.

Table A.148: DdsServiceInterfaceDeployment

Class	**DdsTopicAccessRule**			
Note	DDS Topic access rule definition. **Tags:** atp.recommendedPackage=DdsTopicAccessRules This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataProtection Kind	DdsProtectionKind Enum	0..1	attr	Defines the data protection policy applicable to metadata related to the DDS Topic(s).
enable Discovery Protection	Boolean	0..1	attr	Defines whether discovery protection mechanisms should apply to the DDS Topic(s).
enable Liveliness Protection	Boolean	0..1	attr	Defines whether liveliness protection mechanisms should apply to the DDS Topic(s).
enableRead AccessControl	Boolean	0..1	attr	Defines whether read access control mechanisms should apply to the DDS Topic(s).
enableWrite AccessControl	Boolean	0..1	attr	Defines whether write access control mechanisms should apply to the DDS Topic(s).
metadata ProtectionKind	DdsProtectionKind Enum	0..1	attr	Defines the data protection policy applicable to metadata related to the DDS Topic(s).

Table A.149: DdsTopicAccessRule

Class	**DeadlineSupervision**			
Note	Defines an DeadlineSupervision for one transition. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *PhmSupervision*, *Referrable*			
Aggregated by	GlobalSupervision.deadlineSupervision			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
maxDeadline	TimeValue	0..1	attr	Defines the longest time span before which the deadline is considered to be met for transition.

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Class	**DeadlineSupervision**			
minDeadline	TimeValue	0..1	attr	Defines the shortest time span after which the deadline is considered to be met for transition.
transition	CheckpointTransition	0..1	ref	Reference to the transition in the context of a Deadline Supervision. **Tags:** atp.Splitkey=transition

Table A.150: DeadlineSupervision

Class	***DiagnosticAbstractParameter*** (abstract)			
Note	This meta-class represents an abstract base class for modeling a diagnostic parameter.			
Base	*ARObject*			
Subclasses	DiagnosticParameter, DiagnosticParameterElement			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
bitOffset	PositiveInteger	0..1	attr	This represents the bitOffset of the DiagnosticParameter. The value of the bitOffset shall always be interpreted as relative to the start of the enclosing DiagnosticData Identifier, DiagnosticParameterIdentifier, or Diagnostic RoutineSubfunction. **Stereotypes:** atpIdentityContributor **Tags:** atp.Status=candidate
dataElement	DiagnosticDataElement	0..1	aggr	This represents the related dataElement of the Diagnostic Parameter **Stereotypes:** atpVariation **Tags:** atp.Splitkey=dataElement, dataElement.shortName, data Element.variationPoint.shortLabel vh.latestBindingTime=postBuild
parameterSize	PositiveInteger	0..1	attr	This attribute allows for the specification of the parameter size. This information is relevant if there is a gap between one diagnostic parameter and the following diagnostic parameter (or the tail of the telegram). The unit is bit and the values shall be multiples of 8. **Tags:** atp.Status=candidate

Table A.151: DiagnosticAbstractParameter

Class	**DiagnosticAuthTransmitCertificate**			
Note	This meta-class represents the sub-function to transmit a certificate **Tags:** atp.recommendedPackage=DiagnosticAuthTransmitCertificates			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticAuthentication*, *DiagnosticCommonElement*, *DiagnosticServiceInstance*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
certificate Evaluation	DiagnosticAuthTransmit CertificateEvaluation	*	aggr	This aggregation represents a collection of certificate evaluation configurations. **Tags:** atp.Splitkey=certificateEvaluation, certificate Evaluation.shortName

Table A.152: DiagnosticAuthTransmitCertificate

Class	**DiagnosticAuthentication** (abstract)			
Note	This meta-class represents the ability to configure the usage of the UDS service Authentication in the Diagnostic extract.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticServiceInstance*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Subclasses	DiagnosticAuthTransmitCertificate, DiagnosticAuthenticationConfiguration, DiagnosticDeAuthentication, DiagnosticProofOfOwnership, DiagnosticVerifyCertificateBidirectional, DiagnosticVerifyCertificate Unidirectional			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
authentication Class	Diagnostic AuthenticationClass	0..1	ref	This represents the corresponding "class", i.e. this meta-class provides properties that are shared among all instances of applicable sub-classes of DiagnosticService Instance. The subclasses that affected by this pattern implement references to the applicable "class"-role that substantiate this abstract reference. **Tags:** atp.Splitkey=authenticationClass

Table A.153: DiagnosticAuthentication

Class	**DiagnosticAuthenticationInterface**			
Note	This meta-class represents the ability to implement a focused PortInterface for handling the diagnostic service "authentication" on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.154: DiagnosticAuthenticationInterface

Class	**DiagnosticAuthenticationPortMapping**			
Note	This mapping class identifies the PortPrototype in the application software that handles the client authentication. **Tags:** atp.recommendedPackage=DiagnosticPortMapppings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
diagnostic Authentication	Diagnostic Authentication	0..1	ref	Reference to the DiagnosticAuthentication that is assigned to a SWC service port. **Tags:** atp.Splitkey=diagnosticAuthentication

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Class	**DiagnosticAuthenticationPortMapping**			
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic AuthenticationPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

Table A.155: DiagnosticAuthenticationPortMapping

Class	**DiagnosticClearCondition**			
Note	This meta-class describes a clear condition for diagnostic purposes. **Tags:** atp.recommendedPackage=DiagnosticConditions This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticCondition*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
–	–	–	–	–

Table A.156: DiagnosticClearCondition

Class	**DiagnosticClearConditionPortMapping**			
Note	Defines to which SWC service ports the DiagnosticClearCondition is mapped. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
clearCondition	DiagnosticClear Condition	0..1	ref	Reference to the ClearCondition which is mapped to a SWC service port. **Tags:** atp.Splitkey=clearCondition
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

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Class	**DiagnosticClearConditionPortMapping**			
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic ClearConditionMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.157: DiagnosticClearConditionPortMapping

Class	«atpVariation» **DiagnosticCommonProps**			
Note	This meta-class aggregates a number of common properties that are shared among a diagnostic extract. **Tags:** vh.latestBindingTime=codeGenerationTime			
Base	*ARObject*			
Aggregated by	DiagnosticContributionSet.commonProperties			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
authentication Timeout	TimeValue	0..1	attr	This attribute defines the time (in seconds) that the authentication state is maintained in default-session if there is no communication from the authenticated client.
debounce AlgorithmProps	DiagnosticDebounce AlgorithmProps	*	aggr	Defines the used debounce algorithms relevant in the context of the enclosing DiagnosticCommonProps. Usually, there is a variety of debouncing algorithms to take into account and therefore the multiplicity of this aggregation is set to 0..*. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=debounceAlgorithmProps, debounce AlgorithmProps.shortName, debounceAlgorithm Props.variationPoint.shortLabel vh.latestBindingTime=postBuild
default Endianness	ByteOrderEnum	0..1	attr	Defines the default endianness of the data belonging to a DID or RID which is applicable if the DiagnosticData Element does not define the endianness via the swData DefProps.baseType attribute.
diagnostic Address	SoftwareCluster DiagnosticAddress	*	aggr	"This aggregation represents the collection of diagnostic addresses that apply for the SoftwareClusterDesign. **Tags:** atp.Splitkey=diagnosticAddress, diagnostic Address.componentQualifier, diagnostic Address.diagnosticAddress xml.namePlural=DIAGNOSTIC-ADDRESSES This Attribute is only used by the AUTOSAR Adaptive Platform.
event Combination Reporting Behavior	DiagnosticEvent CombinationReporting BehaviorEnum	0..1	attr	In case of EventCombination on Retrieval, this attribute specifies if a specific order of reporting is to be maintained.

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Class	«atpVariation» **DiagnosticCommonProps**			
external Authentication	DiagnosticExternal Authentication Identification	*	aggr	This aggregation supports the configuration of the authentication of diagnostic clients. **Tags:** atp.Splitkey=externalAuthentication This Attribute is only used by the AUTOSAR Adaptive Platform.
maxNumberOf Request Correctly Received Response Pending	PositiveInteger	0..1	attr	Maximum number of negative responses with response code 0x78 (requestCorrectlyReceived-ResponsePending) allowed per request. DCM will send a negative response with response code 0x10 (generalReject), in case the limit value gets reached. Value 0xFF means that no limit number of NRC 0x78 response apply.
occurrence Counter Processing	DiagnosticOccurrence CounterProcessing Enum	0..1	attr	This attribute defines the consideration of the fault confirmation process for the occurrence counter.
resetConfirmed BitOnOverflow	Boolean	0..1	attr	This attribute defines whether the confirmed bit is reset or not while an event memory entry will be displaced or could not acquire an entry in the event memory.
resetPendingBit OnOverflow	Boolean	0..1	attr	This attribute defines whether the pending bit is reset or not while an event memory entry will be displaced or could not acquire an entry in the event memory. In order to be compliant to ISO 14229-1 [3], this parameter needs to be set to "false".
responseOnAll RequestSids	Boolean	0..1	attr	If set to FALSE the DCM will not respond to diagnostic request that contains a service ID which is in the range from 0x40 to 0x7F or in the range from 0xC0 to 0xFF (Response IDs).
responseOn Second Declined Request	Boolean	0..1	attr	Defines the reaction upon a second request (ClientB) that can not be processed (e.g. due to priority assessment). TRUE: when the second request (Client B) can not be processed, it shall be answered with NRC21 BusyRepeat Request. FALSE: when the second request (Client B) can not be processed, it shall not be responded.
sovdProperties	DiagnosticSovdProps	0..1	aggr	This aggregation contains the definition of common properties that are specific for SOVD. **Tags:** atp.Splitkey=sovdProperties This Attribute is only used by the AUTOSAR Adaptive Platform.
typeOfEvent Combination Supported	DiagnosticEvent CombinationBehavior Enum	0..1	attr	Select type of Event Combination support.

Table A.158: DiagnosticCommonProps

Class	**DiagnosticConditionInterface**			
Note	This meta-class represents the ability to implement a PortInterface to process requests for diagnostic conditions on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.159: DiagnosticConditionInterface

Class	**DiagnosticContributionSet**			
Note	This meta-class represents a root node of a diagnostic extract. It bundles a given set of diagnostic model elements. The granularity of the DiagonsticContributionSet is arbitrary in order to support the aspect of decentralized configuration, i.e. different contributors can come up with an own DiagnosticContribution Set. **Tags:** atp.recommendedPackage=DiagnosticContributionSets			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
common Properties	DiagnosticCommon Props	0..1	aggr	This attribute represents a collection of diagnostic properties that are shared among the entire Diagnostic ContributionSet. **Tags:** atp.Splitkey=commonProperties
element	DiagnosticCommon Element	*	ref	This represents a DiagnosticCommonElement considered in the context of the DiagnosticContributionSet **Stereotypes:** atpVariation **Tags:** atp.Splitkey=element, element.diagnosticCommon Element, element.variationPoint.shortLabel vh.latestBindingTime=postBuild
serviceTable	DiagnosticServiceTable	*	ref	This represents the collection of DiagnosticServiceTables to be considered in the scope of this Diagnostic ContributionSet. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=serviceTable, serviceTable.diagnosticService Table, serviceTable.variationPoint.shortLabel vh.latestBindingTime=postBuild

Table A.160: DiagnosticContributionSet

Class	**DiagnosticDTCInformationInterface**			
Note	This meta-class represents the ability to implement a PortInterface to access the properties of DTCs on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.161: DiagnosticDTCInformationInterface

Class	**DiagnosticDataElement**			
Note	This meta-class represents the ability to describe a concrete piece of data to be taken into account for diagnostic purposes.			
Base	*ARObject*, *DiagnosticServiceMappingDiagTarget*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*DiagnosticAbstractParameter*.dataElement			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
arraySize Semantics	ArraySizeSemantics Enum	0..1	attr	This attribute controls the meaning of the value of the array size.

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Class	**DiagnosticDataElement**			
maxNumberOf Elements	PositiveInteger	0..1	attr	The existence of this attribute turns the data instance into an array of data. The attribute determines the size of the array in terms of how many elements the array can take.
scalingInfoSize	PositiveInteger	0..1	attr	Size in bytes of scaling information for the DiagnosticData Element if used with DiagnosticReadScalingDataBy Identifier
swDataDef Props	SwDataDefProps	0..1	aggr	This property allows to specify data definition properties in order to support the definition of e.g. computation formulae and data constraints. **Tags:** atp.Splitkey=swDataDefProps

Table A.162: DiagnosticDataElement

Class	**DiagnosticDataElementInterface**			
Note	This meta-class represents the ability to implement a element-of-DID-focused PortInterface for diagnostics on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticAbstract DataIdentifierInterface*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
read	ClientServerOperation	0..1	aggr	This represents the method to read the content of an element of a diagnostic data identifier. **Tags:** atp.Splitkey=read, read.shortName

Table A.163: DiagnosticDataElementInterface

Class	**DiagnosticDataIdentifier**			
Note	This meta-class represents the ability to model a diagnostic data identifier (DID) that is fully specified regarding the payload at configuration-time. **Tags:** atp.recommendedPackage=DiagnosticDataIdentifiers			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticAbstractDataIdentifier*, *DiagnosticCommon Element*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataElement	DiagnosticParameter	*	aggr	This is the dataElement associated with the Diagnostic DataIdentifier. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=dataElement, dataElement.bitOffset, data Element.ident.shortName, dataElement.variation Point.shortLabel vh.latestBindingTime=postBuild
didSize	PositiveInteger	0..1	attr	This attribute indicates the size in bytes of the Diagnostic DataIdentifier.
representsVin	Boolean	0..1	attr	This attributes indicates whether the specific Diagnostic DataIdentifier represents the vehicle identification.

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Class	**DiagnosticDataIdentifier**			
supportInfoByte	DiagnosticSupportInfo Byte	0..1	aggr	This attribute represents the supported information associated with the DiagnosticDataIdentifier. **Tags:** atp.Splitkey=supportInfoByte

Table A.164: DiagnosticDataIdentifier

Class	**DiagnosticDataIdentifierGenericInterface**			
Note	This meta-class represents the ability to implement a generic DID-focused PortInterface for diagnostics on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticAbstract DataIdentifierInterface*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.165: DiagnosticDataIdentifierGenericInterface

Class	**DiagnosticDataIdentifierInterface**			
Note	This meta-class represents the ability to implement a DID-focused PortInterface for diagnostics on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticAbstract DataIdentifierInterface*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
read	ClientServerOperation	0..1	aggr	This represents the method to read the content of a diagnostic data identifier. **Tags:** atp.Splitkey=read, read.shortName
write	ClientServerOperation	0..1	aggr	This represents the method to write the contents of a diagnostic data identifier. **Tags:** atp.Splitkey=write, write.shortName

Table A.166: DiagnosticDataIdentifierInterface

Class	**DiagnosticDataPortMapping**			
Note	This meta-class provides the ability to define a diagnostic access to an entire DID. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**DiagnosticDataPortMapping**			
diagnosticData Element	DiagnosticDataElement	0..1	ref	This reference represents the applicable DiagnosticData Element. **Tags:** atp.Splitkey=diagnosticDataElement
diagnosticData Identifier	DiagnosticDataIdentifier	0..1	ref	This reference represents the applicable DiagnosticData Identfiier. **Tags:** atp.Splitkey=diagnosticDataIdentifier
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This reference identifies the applicable PPortPrototype from which that data is obtained. The reference has the ability to point into the component hierarchy (under possible consideration of the rootSoftwareComposition). **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

Table A.167: DiagnosticDataPortMapping

Class	**DiagnosticDoIPActivationLineInterface**			
Note	This meta-class represents the ability to implement a PortInterface to implement the DoIPActivationLine on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.168: DiagnosticDoIPActivationLineInterface

Class	***DiagnosticDoIPCustomPayloadAbstractPortMapping*** (abstract)			
Note	This meta-class serves as an abstract base class for all mapping classes that deal with custom DoIP payloads. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Subclasses	DiagnosticDoIPCustomPayloadRxPortMapping, DiagnosticDoIPCustomPayloadTxPortMapping			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
payloadTypeId	PositiveInteger	0..1	attr	This attribute provides the numerical type Id of the payload reserved for manufacturer-specific use according to the ISO DoIP standard [4].

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Class	***DiagnosticDoIPCustomPayloadAbstractPortMapping*** (abstract)			
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

Table A.169: DiagnosticDoIPCustomPayloadAbstractPortMapping

Class	**DiagnosticDoIPCustomPayloadRxInterface**			
Note	This meta-class is used to type a `PPortPrototype` over which custom DoIp payloads can be received for further processing in the application software. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticDoIPAbstractCustomPayloadInterface*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.170: DiagnosticDoIPCustomPayloadRxInterface

Class	**DiagnosticDoIPCustomPayloadRxPortMapping**			
Note	This mapping class identifies a `PPortPrototype` in the application software that sends out custom Do IP payload. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticDoIPCustomPayloadAbstractPortMapping*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
pPortPrototypeInExecutable	PPortPrototype	0..1	iref	This identifies the PPortPrototype for which the DiagnosticDoIPCustomPayloadAbstractPortMapping is applicable. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPortPrototypeInExecutable.contextRootSwComponentPrototype, pPortPrototypeInExecutable.contextComponentPrototype, pPortPrototypeInExecutable.targetPPortPrototype **InstanceRef implemented by:** PPortPrototypeInExecutableInstanceRef

Table A.171: DiagnosticDoIPCustomPayloadRxPortMapping

Class	**DiagnosticDoIPCustomPayloadTxInterface**
Note	This meta-class is used to type an `RPortPrototype` over which custom DoIP payloads can be sent out by the application software. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.

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Class	DiagnosticDoIPCustomPayloadTxInterface			
Base	ARElement, ARObject, AtpBlueprint, AtpClassifier, AtpType, CollectableElement, DiagnosticDoIPAbstractCustomPayloadInterface, DiagnosticPortInterface, Identifiable, MultilanguageReferrable, PackageableElement, PortInterface, Referrable			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
–	–	–	–	–

Table A.172: DiagnosticDoIPCustomPayloadTxInterface

Class	DiagnosticDoIPCustomPayloadTxPortMapping			
Note	This mapping class identifies an RPortPrototype in the application software that sends out custom Do IP payload. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	ARElement, ARObject, CollectableElement, DiagnosticCommonElement, DiagnosticDoIPCustomPayloadAbstractPortMapping, DiagnosticMapping, DiagnosticSwMapping, Identifiable, MultilanguageReferrable, PackageableElement, Referrable			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
rPortPrototypeInExecutable	RPortPrototype	0..1	iref	This identifies the RPortPrototype for which the Abstract DoIpCustomPayloadTxPortMapping is applicable. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPortPrototypeInExecutable.contextRootSwComponentPrototype, rPortPrototypeInExecutable.contextComponentPrototype, rPortPrototypeInExecutable.targetRPortPrototype **InstanceRef implemented by:** RPortPrototypeInExecutableInstanceRef

Table A.173: DiagnosticDoIPCustomPayloadTxPortMapping

Class	DiagnosticDoIPEntityIdentificationInterface			
Note	This meta-class represents the ability to implement a PortInterface to implement the DoIP Entity Identification on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	ARElement, ARObject, AtpBlueprint, AtpClassifier, AtpType, CollectableElement, DiagnosticPortInterface, Identifiable, MultilanguageReferrable, PackageableElement, PortInterface, Referrable			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
–	–	–	–	–

Table A.174: DiagnosticDoIPEntityIdentificationInterface

Class	DiagnosticDoIPGroupIdentificationInterface
Note	This meta-class represents the ability to implement a PortInterface to implement the DoIP Group Identification on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.

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Class	DiagnosticDoIPGroupIdentificationInterface			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.175: DiagnosticDoIPGroupIdentificationInterface

Class	DiagnosticDoIPPowerModeInterface			
Note	This meta-class represents the ability to implement a PortInterface to implement the DoIP Power Mode on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.176: DiagnosticDoIPPowerModeInterface

Class	DiagnosticDoIpActivationLinePortMapping			
Note	This mapping class identifies the PortPrototype in the application software that handles the DoIP activation line. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractDoIpPortMapping*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
network Configuration Design	DoIpNetwork ConfigurationDesign	0..1	ref	This reference identifies the applicable DoIpNetwork ConfigurationDesign. **Tags:** atp.Splitkey=networkConfigurationDesign

Table A.177: DiagnosticDoIpActivationLinePortMapping

Class	DiagnosticDoIpEntityIdentificationPortMapping			
Note	This mapping class identifies the PortPrototype in the application software that handles the DoIP identity identification. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractDoIpPortMapping*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.178: DiagnosticDoIpEntityIdentificationPortMapping

Class	DiagnosticDoIpGroupIdentificationPortMapping			
Note	This mapping class identifies the PortPrototype in the application software that handles the DoIP group identification. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractDoIpPortMapping*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.179: DiagnosticDoIpGroupIdentificationPortMapping

Class	DiagnosticDoIpPowerModePortMapping			
Note	This mapping class identifies the PortPrototype in the application software that handles the DoIP power mode. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractDoIpPortMapping*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.180: DiagnosticDoIpPowerModePortMapping

Class	DiagnosticEcuReset			
Note	This represents an instance of the "ECU Reset" diagnostic service. **Tags:** atp.recommendedPackage=DiagnosticEcuResets			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticServiceInstance*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
customSub Function Number	PositiveInteger	0..1	attr	This attribute shall be used to define a custom sub-function number if none of the standardized values of category shall be used.
ecuResetClass	DiagnosticEcuReset Class	0..1	ref	This reference substantiates that abstract reference in the role serviceClass for this specific concrete class. Thereby, the reference represents the ability to access shared attributes among all DiagnosticEcuReset in the given context. **Tags:** atp.Splitkey=ecuResetClass

Table A.181: DiagnosticEcuReset

Class	**DiagnosticEnableCondition**			
Note	Specification of an enable condition. **Tags:** atp.recommendedPackage=DiagnosticConditions			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticCondition*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.182: DiagnosticEnableCondition

Class	**DiagnosticEnableConditionPortMapping**			
Note	Defines to which SWC service ports the DiagnosticEnableCondition is mapped. **Tags:** atp.recommendedPackage=DiagnosticPortMappings			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
enableCondition	DiagnosticEnable Condition	0..1	ref	Reference to the EnableCondition which is mapped to a SWC service port. **Tags:** atp.Splitkey=enableCondition
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process This Attribute is only used by the AUTOSAR Adaptive Platform.
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic EnableConditionPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef This Attribute is only used by the AUTOSAR Adaptive Platform.

Table A.183: DiagnosticEnableConditionPortMapping

Class	**DiagnosticEnvDataElementCondition**			
Note	This meta-class represents the ability to formulate a diagnostic environment condition based on the value of a data element owned by the application software.			
Base	*ARObject*, *DiagnosticEnvCompareCondition*, *DiagnosticEnvConditionFormulaPart*			
Aggregated by	DiagnosticEnvConditionFormula.part			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
compareValue	ValueSpecification	0..1	aggr	This aggregation represents the definition of the compare value against which the value taken from the application software shall be compared.

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Class	**DiagnosticEnvDataElementCondition**			
dataPrototype	DataPrototype	0..1	iref	This instanceRef represent the ability to access a data element owned by the application software on the AUTOSAR classic platform. **InstanceRef implemented by:** DataPrototypeInSystem InstanceRef
pPortPrototype	PPortPrototype	0..1	iref	This instanceRef identifies the PortPrototype from which the relevant information for the environment condition can be obtained. This InstanceRef is only relevant for the adaptive platform. **Stereotypes:** atpUriDef **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef This Attribute is only used by the AUTOSAR Adaptive Platform.
process	ProcessDesign	0..1	ref	This reference identifies the applicable ProcessDesign. This Attribute is only used by the AUTOSAR Adaptive Platform.
swDataDef Props	SwDataDefProps	0..1	aggr	Via this aggregation it is possible to describe the properties of the data that is obtained from the application for the environmental condition.

Table A.184: DiagnosticEnvDataElementCondition

Class	**DiagnosticEnvSovdDataCondition**			
Note	A DiagnosticEnvSovdDataCondition is an atomic condition that compares the current value of the referenced DiagnosticSovdContentElement with a constant value defined by the ValueSpecification. All compareTypes are supported. **Tags:** atp.Status=candidate This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *DiagnosticEnvCompareCondition*, *DiagnosticEnvConditionFormulaPart*			
Aggregated by	DiagnosticEnvConditionFormula.part			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
compareValue	ValueSpecification	0..1	aggr	This attribute represents a fixed compare value taken to evaluate the compare condition. **Tags:** atp.Status=candidate
contentElement	DiagnosticSovdContent Element	0..1	ref	This reference represents the related diagnostic SOVD content element. **Tags:** atp.Status=candidate

Table A.185: DiagnosticEnvSovdDataCondition

Class	**DiagnosticEvent**			
Note	This element is used to configure DiagnosticEvents. **Tags:** atp.recommendedPackage=DiagnosticEvents			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *Identifiable*, *Multilanguage Referrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**DiagnosticEvent**			
associated Event Identification	PositiveInteger	0..1	attr	This attribute represents the identification number that is associated with the enclosing DiagnosticEvent and allows to identify it when placed into a snapshot record or extended data record storage. This value can be reported as internal data element in snapshot records or extended data records.
clearEvent Allowed Behavior	DiagnosticClearEvent AllowedBehaviorEnum	0..1	attr	This attribute defines the resulting UDS status byte for the related event, which shall not be cleared according to the ClearEventAllowed callback
confirmation Threshold	PositiveInteger	0..1	attr	This attribute defines the number of operation cycles with a failed result before a confirmed DTC is set to 1. The semantic of this attribute is a by "1" increased value compared to the confirmation threshold of the "trip counter" mentioned in ISO 14229-1 in figure D.4. A value of "1" defines the immediate confirmation of the DTC along with the first reported failed. This is also sometimes called "zero trip DTC". A value of "2" defines a DTC confirmation in the operation cycle after the first occurred failed. A value of "2" is typically used in the US for OBD DTC confirmation. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=postBuild
connected Indicator	DiagnosticConnected Indicator	*	aggr	Event specific description of Indicators. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=connectedIndicator, connected Indicator.shortName, connectedIndicator.variation Point.shortLabel vh.latestBindingTime=postBuild
prestorage FreezeFrame	Boolean	0..1	attr	This attribute describes whether the Prestorage of Freeze Frames is supported by the assigned event or not. true: Prestorage of FreezeFrames is supported fFalse: Prestorage of FreezeFrames is not supported
prestored Freezeframe StoredInNvm	Boolean	0..1	attr	If the Event uses a prestored freeze-frame (using the operations PrestoreFreezeFrame and ClearPrestored FreezeFrame of the service interface DiagnosticMonitor) this attribute indicates if the Event requires the data to be stored in non-volatile memory. TRUE = Dem shall store the prestored data in non-volatile memory, FALSE = Data can be lost at shutdown (not stored in Nvm)
recoverableIn SameOperation Cycle	Boolean	0..1	attr	If the attribute is set to true then reporting PASSED will reset the indication of a failed test in the current operation cycle. If the attribute is set to false then reporting PASSED will be ignored and not lead to a reset of the indication of a failed test.

Table A.186: DiagnosticEvent

Class	**DiagnosticEventInterface**
Note	This meta-class represents the ability to implement a PortInterface to access the properties of diagnostic events on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*

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Class	**DiagnosticEventInterface**			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.187: DiagnosticEventInterface

Class	**DiagnosticEventPortMapping**			
Note	Defines to which SWC service ports the DiagnosticEvent is mapped. **Tags:** atp.recommendedPackage=DiagnosticPortMappings			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
diagnosticEvent	DiagnosticEvent	0..1	ref	Reference to the DiagnosticEvent that is assigned to SWC service ports. **Tags:** atp.Splitkey=diagnosticEvent
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process This Attribute is only used by the AUTOSAR Adaptive Platform.
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic EventPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef This Attribute is only used by the AUTOSAR Adaptive Platform.

Table A.188: DiagnosticEventPortMapping

Class	**DiagnosticExtendedDataRecord**			
Note	Description of an extended data record. **Tags:** atp.recommendedPackage=DiagnosticExtendedDataRecords			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *Identifiable*, *Multilanguage Referrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
customTrigger	String	0..1	attr	This attribute shall be taken to verbally describe the nature of the custom trigger.
element (ordered)	DiagnosticExtended DataRecordElement	*	aggr	This aggregation represents the collection of elements of the enclosing Extentded Data Record.
recordNumber	PositiveInteger	0..1	attr	This attribute specifies an unique identifier for an extended data record.

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Class	**DiagnosticExtendedDataRecord**			
trigger	DiagnosticRecord TriggerEnum	0..1	attr	This attribute specifies the primary trigger to allocate an event memory entry.
update	Boolean	0..1	attr	This attribute defines when an extended data record is captured. true: This extended data record is captured every time. false: This extended data record is only captured for new event memory entries.

Table A.189: DiagnosticExtendedDataRecord

Class	**DiagnosticExtendedDataRecordClientPortMapping**			
Note	This mapping class identifies a PortPrototype in the application software that provides data to an external data record. **Tags:** atp.recommendedPackage=DiagnosticPortMappppings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process
recordElement	DiagnosticExtended DataRecordElement	0..1	ref	This reference identifies the mapped element of an extended data record. **Tags:** atp.Splitkey=recordElement
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This reference identifies the applicable RPortPrototype from which that data is obtained. The reference has the ability to point into the component hierarchy (under possible consideration of the rootSoftwareComposition). **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.190: DiagnosticExtendedDataRecordClientPortMapping

Class	**DiagnosticExtendedDataRecordElement**			
Note	This meta-class represents an element of an extended data record. Such an element represents a primitive data object or a fixed-size array of primitive data objects without further internal structure (no structure allowed).			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	DiagnosticExtendedDataRecord.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**DiagnosticExtendedDataRecordElement**			
numberOf Elements	PositiveInteger	0..1	attr	The existence of this attribute turns the data instance into a fixed-size array of data. The attribute determines the size of the array in terms of how many elements the array shall take. The aggregation of SwDataDefProps (especially with respect to SwBaseType) applies specifically to an element of the array (as a representation of all array elements) instead of the entire array itself!
swDataDef Props	SwDataDefProps	0..1	aggr	This aggregation allows for the specification of various properties for the enclosing element. **Tags:** atp.Splitkey=swDataDefProps

Table A.191: DiagnosticExtendedDataRecordElement

Class	**DiagnosticExtendedDataRecordInterface**			
Note	This meta-class represents the ability to implement a focused PortInterface for providing values to an extended data record from within an application. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
provide	ClientServerOperation	0..1	aggr	This represents the method to proovide the content of an element of a diagnostic extended data record. **Tags:** atp.Splitkey=provide, provide.shortName

Table A.192: DiagnosticExtendedDataRecordInterface

Class	**DiagnosticExternalAuthenticationInterface**			
Note	This meta-class represents the ability to implement a focused PortInterface for handling the diagnostic client authentication (i.e. convey the Authentication state to the Diagnostic Server instance of the DM) on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.193: DiagnosticExternalAuthenticationInterface

Class	**DiagnosticExternalAuthenticationPortMapping**
Note	This mapping class identifies the PortPrototype in the application software that handles the external authentication. **Tags:** atp.recommendedPackage=DiagnosticPortMapppings This Class is only used by the AUTOSAR Adaptive Platform.

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Class	DiagnosticExternalAuthenticationPortMapping			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic ClientAuthenticationPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.194: DiagnosticExternalAuthenticationPortMapping

Class	DiagnosticGenericUdsInterface			
Note	This meta-class represents the ability to implement a generic UDS PortInterface for diagnostics on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.195: DiagnosticGenericUdsInterface

Class	DiagnosticIndicatorInterface			
Note	This meta-class represents the ability to implement a PortInterface to implement indicator functionality on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.196: DiagnosticIndicatorInterface

Class	DiagnosticIndicatorPortMapping			
Note	Defines to which SWC service ports the DiagnosticIndicator is mapped. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
indicator	DiagnosticIndicator	0..1	ref	Reference to the DiagnosticIndicator which is mapped to a SWC service port. **Tags:** atp.Splitkey=indicator
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic IndicatorMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.197: DiagnosticIndicatorPortMapping

Class	DiagnosticInputOutputControlGenericInterface			
Note	This meta-class represents the ability to implement a generic I/O-Control-focused PortInterface for UDS diagnostics on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticAbstract InputOutputControlInterface*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.198: DiagnosticInputOutputControlGenericInterface

Class	DiagnosticInputOutputControlInterface			
Note	This meta-class represents the ability to implement an I/O Control PortInterface for UDS diagnostics on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticAbstract InputOutputControlInterface*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.199: DiagnosticInputOutputControlInterface

Class	**DiagnosticInputOutputControlPortMapping**			
Note	This meta-class provides the ability to implement a DID-focused I/O Control. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
diagnosticData Identifier	DiagnosticDataIdentifier	0..1	ref	This reference represents the applicable DiagnosticData Identfiier. **Tags:** atp.Splitkey=diagnosticDataIdentifier
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This reference identifies the applicable PPortPrototype on which the I/O Control is executed. The reference has the ability to point into the component hierarchy (under possible consideration of the rootSoftwareComposition). **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	ProcessDesign	0..1	ref	This reference represents the identification of the design-time representation for the Process that owns the reference. **Tags:** atp.Splitkey=process

Table A.200: DiagnosticInputOutputControlPortMapping

Class	***DiagnosticMapping*** (abstract)			
Note	Abstract element for different kinds of diagnostic mappings.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *Identifiable*, *Multilanguage Referrable*, *PackageableElement*, *Referrable*			
Subclasses	DiagnosticEdrDataProviderMapping, DiagnosticEventToDebounceAlgorithmMapping, DiagnosticEventTo EnableConditionGroupMapping, DiagnosticEventToOperationCycleMapping, DiagnosticEventToSecurity EventMapping, DiagnosticEventToTroubleCodeUdsMapping, DiagnosticFimAliasEventGroupMapping, DiagnosticFimAliasEventMapping, DiagnosticInhibitSourceEventMapping, DiagnosticMasterToSlave EventMapping, DiagnosticProvidedDataMapping, DiagnosticSecureCodingMapping, DiagnosticSovd ConfigContentMapping, *DiagnosticSwMapping*, DiagnosticTroubleCodeUdsToClearConditionGroup Mapping, DiagnosticTroubleCodeUdsToTroubleCodeObdMapping			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.201: DiagnosticMapping

Class	**DiagnosticMemoryDestinationPortMapping**
Note	Defines to which SWC service ports the DiagnosticMemoryDestination. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*

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Class	**DiagnosticMemoryDestinationPortMapping**			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
memory Destination	DiagnosticMemory Destination	0..1	ref	Reference to the MemoryDestination which is mapped to a SWC service port. **Tags:** atp.Splitkey=memoryDestination
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic MemoryDestinationMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.202: DiagnosticMemoryDestinationPortMapping

Class	**DiagnosticMonitorInterface**			
Note	This meta-class represents the ability to implement a monitor-focused PortInterface for diagnostics on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.203: DiagnosticMonitorInterface

Class	**DiagnosticMonitorPortMapping**			
Note	Defines to which SWC service port the Diagnostic Monitor is mapped. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
diagnosticEvent	DiagnosticEvent	0..1	ref	Reference to the DiagnosticEvent that is assigned to SWC service ports. **Tags:** atp.Splitkey=diagnosticEvent

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Class	**DiagnosticMonitorPortMapping**			
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic MonitorPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.204: DiagnosticMonitorPortMapping

Class	**DiagnosticMultipleConditionInterface**			
Note	This meta-class represents the ability to implement a condition-focused PortInterface for diagnostics on the adaptive platform. In contrast to the DiagnosticConditionInterface, the DiagnosticMultipleCondition Interface allows for handling more than one condition in the scope of a single PortPrototype. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticMultiple ResourceInterface*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
–	–	–	–	–

Table A.205: DiagnosticMultipleConditionInterface

Class	**DiagnosticMultipleConditionPortMapping**			
Note	Defines to which SWC service port that can handle a collection of diagostic conditions the specific condition is mapped. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticMultipleResourcePortMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
diagnostic Condition	DiagnosticCondition	0..1	ref	Reference to the DiagnosticCondition which is mapped to a SWC service port. **Tags:** atp.Splitkey=diagnosticCondition
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

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Class	**DiagnosticMultipleConditionPortMapping**			
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic ConditionPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.206: DiagnosticMultipleConditionPortMapping

Class	**DiagnosticMultipleEventInterface**			
Note	This meta-class represents the ability to implement a event-focused PortInterface for diagnostics on the adaptive platform. In contrast to the DiagnosticEventInterface, the DiagnosticMultipleMonitorInterface allows for handling more than one event in the scope of a single PortPrototype. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticMultiple ResourceInterface*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.207: DiagnosticMultipleEventInterface

Class	**DiagnosticMultipleEventPortMapping**			
Note	Defines to which SWC service port that can handle a collection of event status the specific event is mapped. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticMultipleResourcePortMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
diagnosticEvent	DiagnosticEvent	0..1	ref	Reference to the DiagnosticEvent that is assigned to a SWC service port. **Tags:** atp.Splitkey=diagnosticEvent
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

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Class	**DiagnosticMultipleEventPortMapping**			
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic MonitorMultipleEventPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.208: DiagnosticMultipleEventPortMapping

Class	**DiagnosticMultipleMonitorInterface**			
Note	This meta-class represents the ability to implement a monitor-focused PortInterface for diagnostics on the adaptive platform. In contrast to the DiagnosticMonitorInterface, the DiagnosticMultipleMonitor Interface allows for handling more than one event in the scope of a single PortPrototype. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticMultiple ResourceInterface*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
–	–	–	–	–

Table A.209: DiagnosticMultipleMonitorInterface

Class	**DiagnosticMultipleMonitorPortMapping**			
Note	Defines to which SWC service port that can handle a collection of monitors the specific event is mapped **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticMultipleResourcePortMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
diagnosticEvent	DiagnosticEvent	0..1	ref	Reference to the DiagnosticEvent that is assigned to a SWC service port. **Tags:** atp.Splitkey=diagnosticEvent
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

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Class	**DiagnosticMultipleMonitorPortMapping**			
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic MonitorMultipleMonitorPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.210: DiagnosticMultipleMonitorPortMapping

Class	**DiagnosticOperationCycle**			
Note	Definition of an operation cycle that is the base of the event qualifying and for Dem scheduling. **Tags:** atp.recommendedPackage=DiagnosticOperationCycles			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *Identifiable*, *Multilanguage Referrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
type	DiagnosticOperation CycleTypeEnum	0..1	attr	Operation cycles types for the Dem.

Table A.211: DiagnosticOperationCycle

Class	**DiagnosticOperationCycleInterface**			
Note	This meta-class represents the ability to implement a PortInterface to process requests for operation cycles on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
–	–	–	–	–

Table A.212: DiagnosticOperationCycleInterface

Class	**DiagnosticOperationCyclePortMapping**			
Note	Defines to which SWC service ports the DiagnosticOperationCycle is mapped. **Tags:** atp.recommendedPackage=DiagnosticPortMappings			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
operationCycle	DiagnosticOperation Cycle	0..1	ref	Reference to the DiagnosticOperationCycle that is assigned to SWC service ports. **Tags:** atp.Splitkey=operationCycle

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Class	**DiagnosticOperationCyclePortMapping**			
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process This Attribute is only used by the AUTOSAR Adaptive Platform.
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic OperationCyclePortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef This Attribute is only used by the AUTOSAR Adaptive Platform.

Table A.213: DiagnosticOperationCyclePortMapping

Class	**DiagnosticProvidedDataMapping**			
Note	This represents the ability to define the nature of a data access for a DiagnosticDataElement based on a data provider that cannot be modeled explicitly. **Tags:** atp.recommendedPackage=DiagnosticMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataElement	DiagnosticDataElement	0..1	ref	This represents the DiagnosticDataElement to which the internal data is mapped, further qualified by the DiagnosticProvidedDataMapping.dataProvider. **Tags:** atp.Splitkey=dataElement
dataProvider	NameToken	0..1	attr	This represents the ability to further specify the data provider.

Table A.214: DiagnosticProvidedDataMapping

Class	**DiagnosticRoutineInterface**			
Note	This meta-class represents the ability to implement a routine-focused PortInterface for diagnostics on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticAbstract RoutineInterface*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**DiagnosticRoutineInterface**			
requestResult	ClientServerOperation	0..1	aggr	This represents the request result method of the diagnostic routine. **Tags:** atp.Splitkey=requestResult, requestResult.shortName
start	ClientServerOperation	0..1	aggr	This represents the start method of the diagnostic routine. **Tags:** atp.Splitkey=start, start.shortName
stop	ClientServerOperation	0..1	aggr	This represents the stop method of the diagnostic routine. **Tags:** atp.Splitkey=stop, stop.shortName

Table A.215: DiagnosticRoutineInterface

Class	**DiagnosticSecurityLevel**			
Note	This meta-class represents the ability to define a security level considered for diagnostic purposes. **Tags:** atp.recommendedPackage=DiagnosticSecurityLevels			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
accessDataRecordSize	PositiveInteger	0..1	attr	This represents the size of the AccessDataRecord used in GetSeed. Unit:byte.
keySize	PositiveInteger	0..1	attr	This represents the size of the security key. Unit: byte.
numFailedSecurityAccess	PositiveInteger	0..1	attr	This represents the number of failed security accesses after which the delay time is activated.
securityDelayTime	TimeValue	0..1	attr	This represents the delay time after a failed security access. Unit: second.
seedSize	PositiveInteger	0..1	attr	This represents the size of the security seed. Unit: byte.

Table A.216: DiagnosticSecurityLevel

Class	**DiagnosticSecurityLevelInterface**			
Note	This meta-class represents the ability to implement a security-level-focused PortInterface for diagnostics on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
–	–	–	–	–

Table A.217: DiagnosticSecurityLevelInterface

Class	**DiagnosticSecurityLevelPortMapping**
Note	Defines to which SWC service ports the DiagnosticSecurityLevel is mapped. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.

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Class	**DiagnosticSecurityLevelPortMapping**			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic SecurityLevelMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process
securityLevel	DiagnosticSecurityLevel	0..1	ref	Reference to the SecurityLevel which is mapped to a SWC service port. **Tags:** atp.Splitkey=securityLevel

Table A.218: DiagnosticSecurityLevelPortMapping

Class	**DiagnosticServiceGenericMapping**			
Note	This meta-class represents the ability to implement a generic generic mapping for select diagnostics services on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
diagnostic ServiceInstance	DiagnosticService Instance	0..1	ref	Reference to the ServiceInstance mapped to a SWC service port. **Tags:** atp.Splitkey=diagnosticServiceInstance
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic ServiceGenericMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

Table A.219: DiagnosticServiceGenericMapping

Class	DiagnosticServiceValidationConfiguration			
Note	This meta-class has the ability to configure the order of manufacturer/supplier-checks. **Tags:** atp.recommendedPackage=DiagnosticValueConfigurations This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	SoftwareClusterDiagnosticDeploymentProps.validationConfiguration			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
manufacturer ValidationOrder (ordered)	DiagnosticService ValidationMapping	*	ref	This reference defines the order in which validations created by manufacturer are executed.
sovdValidation Order (ordered)	DiagnosticSovdService ValidationPortMapping	*	ref	This reference defines the order in which validations of SOVD requests are executed.
supplier ValidationOrder (ordered)	DiagnosticService ValidationMapping	*	ref	This reference defines the order in which validations created by supplier are executed.

Table A.220: DiagnosticServiceValidationConfiguration

Class	DiagnosticServiceValidationInterface			
Note	This meta-class represents the ability to implement a PortInterface to process requests for service validation on the adaptive platform. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.221: DiagnosticServiceValidationInterface

Class	DiagnosticServiceValidationMapping			
Note	This meta-class provides the ability to specify manufacturer/supplier checks to be executed before diagnostic services can be processed. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This mapping identifies a PortPrototype typed by a DiagnosticValidationInterface in which a manufacturer/ supplier-specific check is executed. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef

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Class	DiagnosticServiceValidationMapping			
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

Table A.222: DiagnosticServiceValidationMapping

Class	DiagnosticSovdAccessArgument			
Note	This meta-class represents a single data element used in the context of reading or writing data using SOVD This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	DiagnosticSovdAccessOperation.argument			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
contentObject	VariableDataPrototype	0..1	aggr	This aggregation represents the ability to specify further information about the argument. **Tags:** atp.Splitkey=contentObject, contentObject.shortName
direction	ArgumentDirectionEnum	0..1	attr	This attribute specifies the direction of the argument.
isOptional	Boolean	0..1	attr	This attribute defines whether the enclosing DiagnosticSovdAccessArgument is considered optional in the context of reading or writing data using SOVD.

Table A.223: DiagnosticSovdAccessArgument

Class	DiagnosticSovdAccessOperation			
Note	This meta-class represents a directional access to data for SOVD. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	DiagnosticSovdContentElementInterface.read, DiagnosticSovdContentInterface.read, DiagnosticSovdContentInterface.write, DiagnosticSovdOperationInterface.readStatus, DiagnosticSovdOperationInterface.start, DiagnosticSovdOperationInterface.terminate			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
argument	DiagnosticSovdAccessArgument	*	aggr	This riole represents a specific data element used for reading or writing with SOVD. **Tags:** atp.Splitkey=argument

Table A.224: DiagnosticSovdAccessOperation

Class	DiagnosticSovdArrayContentElement			
Note	This meta-class represents the ability to define a DiagnosticSovdCompositeContentElement with array semantics. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *DiagnosticAbstractSovdContent*, *DiagnosticSovdCompositeContentElement*, *DiagnosticSovdContentElement*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	DiagnosticSovdArrayContentElement.element, DiagnosticSovdContent.element, DiagnosticSovdRecordContentElement.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**

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Class	**DiagnosticSovdArrayContentElement**			
element	DiagnosticSovdContentElement	0..1	aggr	This aggregation represents the specification of the nature of an element of an enclosing DiagnosticSovdArrayContentElement. It is only necessary to aggregate one element because the array semantics requires that all elements of the array have the same nature. **Tags:** atp.Splitkey=element, element.shortName xml.sequenceOffset=100
maxNumberOfElements	PositiveInteger	0..1	attr	This attribute specifies the maximum number of elements expected in the array. **Tags:** xml.sequenceOffset=20
minNumberOfElements	PositiveInteger	0..1	attr	This attribute specifies the minimum number of elements expected in the array. **Tags:** xml.sequenceOffset=10

Table A.225: DiagnosticSovdArrayContentElement

Class	**DiagnosticSovdAuthorizationInterface**			
Note	This meta-class is used to type a PPortPrototype for implementing the SOVD authorization. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPortInterface*, *DiagnosticSovdPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
–	–	–	–	–

Table A.226: DiagnosticSovdAuthorizationInterface

Class	**DiagnosticSovdAuthorizationPortMapping**			
Note	This mapping class identifies the PortPrototype in the application software that handles the SOVD authorization. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
pPortPrototypeInExecutable	PPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic SovdAuthorizationPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPortPrototypeInExecutable.contextRootSwComponentPrototype, pPortPrototypeInExecutable.contextComponentPrototype, pPortPrototypeInExecutable.targetPPortPrototype **InstanceRef implemented by:** PPortPrototypeInExecutableInstanceRef

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Class	DiagnosticSovdAuthorizationPortMapping			
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

Table A.227: DiagnosticSovdAuthorizationPortMapping

Class	DiagnosticSovdBulkData			
Note	This meta-class represents a "Bulk Data" SOVD service instance. **Tags:** atp.recommendedPackage=DiagnosticSovdServiceInstances This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticSovdService Instance*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
bulkData Category	String	0..1	attr	This attribute provides a categorization of the bulk data.

Table A.228: DiagnosticSovdBulkData

Class	DiagnosticSovdBulkDataInterface			
Note	This meta-class is used to type a PPortPrototype for implementing the SOVD bulk data transmission. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *DiagnosticSovdPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Port Interface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.229: DiagnosticSovdBulkDataInterface

Class	DiagnosticSovdBulkDataPortMapping			
Note	This mapping associates a PPortPrototype typed by a DiagnosticSovdBulkDataInterface to the corresponding SOVD service instance that is modeled as DiagnosticSovdBulkData. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**

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Class	**DiagnosticSovdBulkDataPortMapping**			
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic SovdBulkDataPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process
serviceInstance	DiagnosticSovdBulk Data	0..1	ref	This reference identifies the applicable diagnostic SOVD service instance. **Tags:** atp.Splitkey=serviceInstance

Table A.230: DiagnosticSovdBulkDataPortMapping

Class	**DiagnosticSovdConfigContentMapping**			
Note	This mapping associates an SOVD configuration parameter service instance to an SOVD content. **Tags:** atp.recommendedPackage=DiagnosticMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
content	DiagnosticSovdContent	0..1	ref	This reference identifies the applicable SOVD content. **Tags:** atp.Splitkey=content
serviceInstance	DiagnosticSovd ConfigurationParameter	0..1	ref	This reference identifies the applicable service instance. **Tags:** atp.Splitkey=serviceInstance

Table A.231: DiagnosticSovdConfigContentMapping

Class	***DiagnosticSovdConfiguration*** (abstract)			
Note	This abstract meta-class represents a "configuration" SOVD service instance. The concrete nature of the service instance is defined by sub-classes. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticSovdService Instance*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Subclasses	DiagnosticSovdConfigurationBulkData, DiagnosticSovdConfigurationParameter			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
–	–	–	–	–

Table A.232: DiagnosticSovdConfiguration

Class	DiagnosticSovdConfigurationInterface			
Note	This meta-class is used to configure a PortInterface for the exchange of configuration content. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPortInterface*, *DiagnosticSovdPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
–	–	–	–	–

Table A.233: DiagnosticSovdConfigurationInterface

Class	DiagnosticSovdConfigurationParameter			
Note	This meta-class represents a "Configuration Parameter" SOVD service instance. **Tags:** atp.recommendedPackage=DiagnosticSovdServiceInstances This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticSovdConfiguration*, *DiagnosticSovdServiceInstance*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
–	–	–	–	–

Table A.234: DiagnosticSovdConfigurationParameter

Class	DiagnosticSovdConfigurationPortMapping			
Note	This mapping associates a PPortPrototype typed by a DiagnosticSovdConfigurationInterface to the corresponding SOVD service instance that is modeled as DiagnosticSovdConfiguration. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
pPortPrototypeInExecutable	PPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic SovdConfigurationPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPortPrototypeInExecutable.contextRootSwComponentPrototype, pPortPrototypeInExecutable.contextComponentPrototype, pPortPrototypeInExecutable.targetPPortPrototype **InstanceRef implemented by:** PPortPrototypeInExecutableInstanceRef
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

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Class	DiagnosticSovdConfigurationPortMapping			
serviceInstance	DiagnosticSovd Configuration	0..1	ref	This reference identifies the applicable diagnostic SOVD service instance. **Tags:** atp.Splitkey=serviceInstance

Table A.235: DiagnosticSovdConfigurationPortMapping

Class	DiagnosticSovdContent			
Note	This meta-class represents a data packet exchanged between am SOVD Tester and an SOVD server. The semantics is very close to the semantics of a UDS DID, with some extensions. **Tags:** atp.recommendedPackage=DiagnosticSovdContents This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticAbstractSovdContent*, *DiagnosticCommon Element*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
element	DiagnosticSovdContent Element	*	aggr	This aggregation identifies the collection of elements of the enclosing DiagnosticSovdContent. **Tags:** atp.Splitkey=element, element.shortName

Table A.236: DiagnosticSovdContent

Class	***DiagnosticSovdContentElement*** (abstract)			
Note	This meta-class represents an element of a DiagnosticSovdContent. When compared to the modeling of a UDS DID, this class would correspond to a mixture of DiagnosticParameter and DiagnosticData Element. The concrete semantics of a DiagnosticSovdContentElement is defined by its subclasses. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *DiagnosticAbstractSovdContent*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	*DiagnosticSovdCompositeContentElement*, DiagnosticSovdPrimitiveContentElement			
Aggregated by	DiagnosticSovdArrayContentElement.element, DiagnosticSovdContent.element, DiagnosticSovdRecord ContentElement.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
isOptional	Boolean	0..1	attr	This attribute defines whether the enclosing Diagnostic SovdContentElement is considered optional. Note that array elements cannot be declared optional.

Table A.237: DiagnosticSovdContentElement

Class	DiagnosticSovdContentElementInterface			
Note	This meta-class is used to type a PPortPrototype for reading and/or writing a single data element as part of a bigger data packet using SOVD. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticAbstract SovdContentInterface*, *DiagnosticPortInterface*, *DiagnosticSovdPortInterface*, *Identifiable*, *Multilanguage Referrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**

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Class	DiagnosticSovdContentElementInterface			
read	DiagnosticSovdAccessOperation	0..1	aggr	This role represents the read access to content elements in the context of the enclosing DiagnosticSovdContentElementInterface. **Tags:** atp.Splitkey=read

Table A.238: DiagnosticSovdContentElementInterface

Class	DiagnosticSovdContentInterface			
Note	This meta-class is used to type a PPortPrototype for reading and/or writing data using SOVD. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticAbstractSovdContentInterface*, *DiagnosticPortInterface*, *DiagnosticSovdPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
read	DiagnosticSovdAccessOperation	0..1	aggr	This role represents the read access to "SOVD data" in the context of the enclosing DiagnosticSovdContentInterface. **Tags:** atp.Splitkey=read
write	DiagnosticSovdAccessOperation	0..1	aggr	This role represents the write access to "SOVD data" in the context of the enclosing DiagnosticSovdContentInterface. **Tags:** atp.Splitkey=write

Table A.239: DiagnosticSovdContentInterface

Class	DiagnosticSovdContentPortMapping			
Note	This mapping associates a PPortPrototype typed by either a DiagnosticSovdContentInterface or a DiagnosticSovdContentElementInterface to the corresponding SOVD content that is modeled as DiagnosticAbstractSovdContent. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
content	DiagnosticAbstractSovdContent	0..1	ref	This reference identifies the applicable content for the mapping. **Tags:** atp.Splitkey=content

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Class	**DiagnosticSovdContentPortMapping**			
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic SovdContentPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

Table A.240: DiagnosticSovdContentPortMapping

Class	**DiagnosticSovdData**			
Note	This meta-class represents a "Data" SOVD service instance. **Tags:** atp.recommendedPackage=DiagnosticSovdServiceInstances This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticSovdService Instance*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
sovdData Category	DiagnosticSovdData Category	0..1	ref	This reference identifies the SOVD category that applies to the enclosing SOVD data. **Tags:** atp.Splitkey=sovdDataCategory atp.Status=candidate
sovdGroup	DiagnosticSovdGroup	*	ref	This reference identifies the collection of SOVD groups in which the enclosing SOVD data is a "member". **Tags:** atp.Splitkey=sovdGroup atp.Status=candidate
target	DiagnosticSovdContent	0..1	ref	Thsi reference identifies the content that the Diagnostic SovdData service instance is responsible for. **Tags:** atp.Splitkey=target

Table A.241: DiagnosticSovdData

Class	**DiagnosticSovdDataCategory**
Note	This meta-class represents the primary filter criterion for the access to SOVD data. **Tags:** atp.Status=candidate atp.recommendedPackage=DiagnosticDataCategorys This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *Identifiable*, *Multilanguage Referrable*, *PackageableElement*, *Referrable*
Aggregated by	ARPackage.element

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Class	**DiagnosticSovdDataCategory**			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
group	DiagnosticSovdGroup	*	ref	This reference identifies the SOVD groups in which the SOVD category is a "member". **Tags:** atp.Splitkey=group atp.Status=candidate

Table A.242: DiagnosticSovdDataCategory

Class	**DiagnosticSovdFaultMemoryAccess**			
Note	This meta-class represents the ability to access (read/get and delete) the fault memory. **Tags:** atp.recommendedPackage=DiagnosticSovdServiceInstances This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticSovdService Instance*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.243: DiagnosticSovdFaultMemoryAccess

Class	**DiagnosticSovdGroup**			
Note	This meta-class represents the secondary filter criterion for the access to SOVD data **Tags:** atp.Status=candidate atp.recommendedPackage=DiagnosticSovdGroups This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *Identifiable*, *Multilanguage Referrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.244: DiagnosticSovdGroup

Class	**DiagnosticSovdLog**			
Note	This meta-class represents a "Log" SOVD service instance. **Tags:** atp.recommendedPackage=DiagnosticSovdServiceInstances This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticSovdService Instance*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.245: DiagnosticSovdLog

Class	DiagnosticSovdMethod			
Note	A DiagnosticSovdMethod represents a re-usable complex operation (that consists of primitive operations) in the context of the communication of an SOVD server. **Tags:** atp.recommendedPackage=DiagnosticSovdMethods This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
delete	DiagnosticSovdMethodPrimitive	*	aggr	This represents the "delete" method primitive. **Tags:** atp.Splitkey=delete, delete.shortName
get	DiagnosticSovdMethodPrimitive	*	aggr	This represents the "get" method primitive. **Tags:** atp.Splitkey=get, get.shortName
post	DiagnosticSovdMethodPrimitive	*	aggr	This represents the "post" method primitive. **Tags:** atp.Splitkey=post, post.shortName
put	DiagnosticSovdMethodPrimitive	*	aggr	This represents the "delete" method primitive. **Tags:** atp.Splitkey=put, put.shortName

Table A.246: DiagnosticSovdMethod

Class	DiagnosticSovdMethodPrimitive			
Note	This meta-class represents a primitive operation inside a DiagnosticSovdMethod. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	DiagnosticSovdMethod.delete, DiagnosticSovdMethod.get, DiagnosticSovdMethod.post, DiagnosticSovdMethod.put			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
accessPermission	DiagnosticAccessPermission	0..1	ref	This reference identifes the applicable access permission. **Tags:** atp.Splitkey=accessPermission

Table A.247: DiagnosticSovdMethodPrimitive

Class	DiagnosticSovdOperation			
Note	This meta-class represents a "Operation" SOVD service instance. **Tags:** atp.recommendedPackage=DiagnosticSovdServiceInstances This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticSovdServiceInstance*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
proximityProofRequired	Boolean	0..1	attr	If true, the execution of the operation requires proof of co-location, and the offline capability description includes the attribute x-sovd-proximity-proof-required in the Path Item object. An SOVD client can use this information to filter operations in advance if a co-location proof cannot be provided. **Tags:** atp.Status=candidate

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Class	**DiagnosticSovdOperation**			
readStatus	DiagnosticSovd OperationGetStatus	0..1	aggr	This aggregation identifies the "read status" operation primitive. **Tags:** atp.Splitkey=readStatus
start	DiagnosticSovd OperationStart	0..1	aggr	This aggregation identifies the "start" operation primitive. **Tags:** atp.Splitkey=start
terminate	DiagnosticSovd OperationStop	0..1	aggr	This aggregation identifies the "terminate" operation primitive. **Tags:** atp.Splitkey=terminate

Table A.248: DiagnosticSovdOperation

Class	**DiagnosticSovdOperationInterface**			
Note	This meta-class is used to type a PPortPrototype for implementing the SOVD operation. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *DiagnosticSovdPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Port Interface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
readStatus	DiagnosticSovdAccess Operation	0..1	aggr	This role represents the "readStatus" primitive within an "SOVD operation" in the context of the enclosing DiagnosticSovdOperationInterface. **Tags:** atp.Splitkey=readStatus xml.sequenceOffset=120
start	DiagnosticSovdAccess Operation	0..1	aggr	This role represents the "start" primitive within an "SOVD operation" in the context of the enclosing DiagnosticSovd OperationInterface. **Tags:** atp.Splitkey=start xml.sequenceOffset=100
terminate	DiagnosticSovdAccess Operation	0..1	aggr	This role represents the "terminate" primitive within an "SOVD operation" in the context of the enclosing DiagnosticSovdOperationInterface. **Tags:** atp.Splitkey=terminate xml.sequenceOffset=110

Table A.249: DiagnosticSovdOperationInterface

Class	**DiagnosticSovdOperationPortMapping**			
Note	This mapping associates a PPortPrototype typed by a DiagnosticSovdOperationInterface to the corresponding SOVD operation. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*

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Class	**DiagnosticSovdOperationPortMapping**			
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic SovdOperationPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process
sovdOperation	DiagnosticSovd Operation	0..1	ref	This reference identifies the applicable DiagnosticSovd Operation. **Tags:** atp.Splitkey=sovdOperation

Table A.250: DiagnosticSovdOperationPortMapping

Class	**DiagnosticSovdPrimitiveContentElement**			
Note	This meta-class represents a primitive leaf element of a DiagnosticSovdContent. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *DiagnosticAbstractSovdContent*, *DiagnosticSovdContentElement*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	DiagnosticSovdArrayContentElement.element, DiagnosticSovdContent.element, DiagnosticSovdRecordContentElement.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
swDataDef Props	SwDataDefProps	0..1	aggr	This aggregation represents the applicable data defnition properties. **Tags:** atp.Splitkey=swDataDefProps xml.sequenceOffset=100
type	DiagnosticSovdPrimitive ContentTypeEnum	0..1	attr	This attribute denotes the type of the primitive content element. **Tags:** xml.sequenceOffset=10

Table A.251: DiagnosticSovdPrimitiveContentElement

Class	**DiagnosticSovdProximityChallengeInterface**			
Note	This meta-class is used to type a PPortPrototype for implementing the SOVD proximity challenge. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *DiagnosticSovdPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Port Interface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
–	–	–	–	–

Table A.252: DiagnosticSovdProximityChallengeInterface

Class	DiagnosticSovdProximityChallengePortMapping			
Note	This mapping class identifies the PortPrototype in the application software that handles the SOVD proximity challenge. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic SovdProximityChallengePortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

Table A.253: DiagnosticSovdProximityChallengePortMapping

Class	***DiagnosticSovdServiceInstance*** (abstract)			
Note	This abstract class serves as the base class for the configuration of SOVD service instances. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *Identifiable*, *Multilanguage Referrable*, *PackageableElement*, *Referrable*			
Subclasses	DiagnosticSovdBulkData, *DiagnosticSovdConfiguration*, DiagnosticSovdData, DiagnosticSovdFault MemoryAccess, DiagnosticSovdLog, DiagnosticSovdOperation, DiagnosticSovdUpdate			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
method	DiagnosticSovdMethod	0..1	ref	This reference identifies the applicable SOVD method. **Tags:** atp.Splitkey=method

Table A.254: DiagnosticSovdServiceInstance

Class	DiagnosticSovdServiceValidationInterface			
Note	This meta-class is used to type a PPortPrototype for implementing the SOVD service validation. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *DiagnosticSovdPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Port Interface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.255: DiagnosticSovdServiceValidationInterface

Class	DiagnosticSovdServiceValidationPortMapping			
Note	This mapping class identifies the PortPrototype in the application software that handles the SOVD service validation. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic SovdValidationPortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process

Table A.256: DiagnosticSovdServiceValidationPortMapping

Class	DiagnosticSovdUpdate			
Note	This meta-class represents a "Update" SOVD service instance. **Tags:** atp.recommendedPackage=DiagnosticSovdServiceInstances This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticSovdService Instance*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.257: DiagnosticSovdUpdate

Class	DiagnosticSovdUpdateInterface			
Note	This meta-class is used to type a PPortPrototype for implementing the SOVD update procedure. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPort Interface*, *DiagnosticSovdPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Port Interface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.258: DiagnosticSovdUpdateInterface

Class	**DiagnosticSovdUpdatePortMapping**			
Note	This mapping associates a PPortPrototype typed by an DiagnosticSovdUpdateInterface with the corresponding SOVD service instance that is modeled as a DiagnosticSovdUpdate. **Tags:** atp.recommendedPackage=DiagnosticPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *DiagnosticSwMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This aggregation allows for the usage of the Diagnostic SovdUpdatePortMapping on the AUTOSAR adaptive platform. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	ProcessDesign	0..1	ref	Reference to the representation of a Process that is required because the mapping could be different for different Processes referring to a specific Executable. **Tags:** atp.Splitkey=process
serviceInstance	DiagnosticSovdUpdate	0..1	ref	This reference identifies the applicable diagnostic SOVD service instance. **Tags:** atp.Splitkey=serviceInstance atp.Status=candidate

Table A.259: DiagnosticSovdUpdatePortMapping

Class	***DiagnosticSwMapping*** (abstract)			
Note	This represents the ability to define a mapping between a diagnostic information (at this point there is no way to become more specific about the semantics) to a software-component.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Subclasses	*AbstractDoIpPortMapping*, DiagnosticAuthenticationPortMapping, DiagnosticClearConditionPort Mapping, DiagnosticDataPortMapping, *DiagnosticDoIPCustomPayloadAbstractPortMapping*, Diagnostic EdrSenderPortMapping, DiagnosticEdrServerPortMapping, DiagnosticEnableConditionPortMapping, DiagnosticEventPortMapping, DiagnosticExtendedDataRecordClientPortMapping, DiagnosticExternal AuthenticationPortMapping, DiagnosticFimFunctionMapping, DiagnosticIndicatorPortMapping, DiagnosticInputOutputControlPortMapping, DiagnosticMemoryDestinationPortMapping, Diagnostic MonitorPortMapping, *DiagnosticMultipleResourcePortMapping*, DiagnosticOperationCyclePortMapping, DiagnosticSecurityLevelPortMapping, DiagnosticServiceDataMapping, DiagnosticServiceGeneric Mapping, DiagnosticServiceSwMapping, DiagnosticServiceValidationMapping, DiagnosticSovd AuthorizationPortMapping, DiagnosticSovdBulkDataPortMapping, DiagnosticSovdConfigurationPort Mapping, DiagnosticSovdContentPortMapping, DiagnosticSovdOperationPortMapping, DiagnosticSovd ProximityChallengePortMapping, DiagnosticSovdServiceValidationPortMapping, DiagnosticSovdUpdate PortMapping, ISignalPortToDiagnosticEventMapping			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.260: DiagnosticSwMapping

Class	**DiagnosticTransmitCertificateInterface**			
Note	This meta-class represents the ability to implement the transmit-certificate functionality on application software level. **Tags:** atp.recommendedPackage=DiagnosticPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *DiagnosticPortInterface*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.261: DiagnosticTransmitCertificateInterface

Class	**DiagnosticTroubleCodeUds**			
Note	This element is used to describe diagnostic trouble codes (DTCs). **Tags:** atp.recommendedPackage=DiagnosticTroubleCodes			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticTroubleCode*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
considerPtoStatus	Boolean	0..1	attr	This attribute describes the affection of the event by the Dem PTO handling. true: the event is affected by the Dem PTO handling. false: the event is not affected by the Dem PTO handling. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=postBuild
eventReadinessGroup	EventObdReadinessGroup	0..1	aggr	This attribute specifies the Event OBD Readiness group for PID $01 and PID $41 computation. This attribute is only applicable for emission-related ECUs. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=eventReadinessGroup, eventReadinessGroup.eventObdReadinessGroup, eventReadinessGroup.variationPoint.shortLabel vh.latestBindingTime=postBuild
functionalUnit	PositiveInteger	0..1	attr	This attribute specifies a 1-byte value which identifies the corresponding basic vehicle / system function which reports the DTC. This parameter is necessary for the report of severity information. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=postBuild
obdDtcValue3Byte	PositiveInteger	0..1	attr	3 Byte OBD DTC value based on the definition from SAE J2012. The existence of this attribute is only required if separated UDS and OBD DTC values are used for SAE J1979-2. If this attribute does not exist, then UDS DTC values are used with J1979-2. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=postBuild
severity	DiagnosticUdsSeverityEnum	0..1	attr	DTC severity according to ISO 14229-1. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=postBuild

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Class	**DiagnosticTroubleCodeUds**			
troubleCode Props	DiagnosticTroubleCode Props	0..1	ref	Defined properties associated with the DemDTC. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=troubleCodeProps, troubleCode Props.diagnosticTroubleCodeProps, troubleCode Props.variationPoint.shortLabel vh.latestBindingTime=postBuild
udsDtcValue	PositiveInteger	0..1	attr	Unique Diagnostic Trouble Code value for UDS. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=postBuild
wwhObdDtc Class	DiagnosticWwhObdDtc ClassEnum	0..1	attr	This attribute is used to identify (if applicable) the corresponding severity class of an WWH-OBD DTC. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=postBuild

Table A.262: DiagnosticTroubleCodeUds

Class	**DiagnosticTroubleCodeUdsToClearConditionGroupMapping**			
Note	This meta-class provides the ability to map a DiagnosticClearConditionGroup to a collection of Diagnostic TroubleCodeUds. **Tags:** atp.recommendedPackage=DiagnosticMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *DiagnosticCommonElement*, *DiagnosticMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
clearCondition Group	DiagnosticClear ConditionGroup	0..1	ref	Thi reference identifies the applicable DiagnosticClear ConditionGroup. **Tags:** atp.Splitkey=clearConditionGroup
troubleCodeUds	DiagnosticTroubleCode Uds	0..1	ref	This reference identifies the DiagnosticTroubleCodeUds that are relevant for the mapping. **Tags:** atp.Splitkey=troubleCodeUds

Table A.263: DiagnosticTroubleCodeUdsToClearConditionGroupMapping

Class	**DltApplication**			
Note	This meta-class represents the application from which the log and trace message originates.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	DltEcu.application			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
application Description	String	0..1	attr	This attribute can be used to describe the applicationId that is used in the log and trace message in more detail.
applicationId	String	0..1	attr	This attribute identifies the SW-C/BSW module in the log and trace message.

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Class	DltApplication			
context	DltContext	*	ref	Definition of ContextIds for the Application. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=context, context.dltContext, context.variationPoint.shortLabel vh.latestBindingTime=systemDesignTime

Table A.264: DltApplication

Class	DltApplicationToProcessMapping			
Note	This element assigns a DltApplicationId to a Process. **Tags:** atp.recommendedPackage=DltApplicationToProcessMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
dltApplication	DltApplication	0..1	ref	Reference to a DltApplication that defines the application Id **Tags:** atp.Splitkey=dltApplication
process	Process	0..1	ref	Reference to the process that is assigned to a Log And Trace applicationId. **Tags:** atp.Splitkey=process

Table A.265: DltApplicationToProcessMapping

Class	DltContext			
Note	This meta-class represents the Context that groups Log and Trace messages that are generated by an application. **Tags:** atp.recommendedPackage=DltContexts			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
contextDescription	String	0..1	attr	This attribute can be used to describe the contextId that is used in the log and trace message in more detail.
contextId	String	0..1	attr	This attribute is used to group log and trace messages produced by an application to distinguish functionality.
dltMessage	DltMessage	*	ref	Group of Log and Trace messages assigned to the Dlt Context **Stereotypes:** atpVariation **Tags:** atp.Splitkey=dltMessage, dltMessage.dltMessage, dltMessage.variationPoint.shortLabel vh.latestBindingTime=systemDesignTime

Table A.266: DltContext

Class	DltEcu			
Note	This element represents an Ecu or Machine that produces logging and tracing information. **Tags:** atp.recommendedPackage=DltEcus			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
application	DltApplication	*	aggr	Application on DltEcu that provides log or trace data. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=application, application.shortName, application.variationPoint.shortLabel vh.latestBindingTime=systemDesignTime
ecuId	String	0..1	attr	This attribute defines the name of the ECU for use within the Dlt protocol.

Table A.267: DltEcu

Class	DltLogSink			
Note	The meta-class defines the output sink for DltLogMessages **Tags:** atp.recommendedPackage=DltLogSinks This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
bufferOutput	Boolean	0..1	attr	This attribute defines whether a buffer is used in case that the output sink is the console.
defaultLog Threshold	LogTraceDefaultLog LevelEnum	0..1	attr	This attribute allows to set a log level Threshold for Log Level filtering.
defaultTrace State	Boolean	0..1	attr	This attributes defines the default trace status.
endpoint Configuration	PlatformModule EthernetEndpoint Configuration	0..1	ref	Network configuration (Protocol, Port, IP Address) for transmission of dlt messages on a specific VLAN. **Tags:** atp.Splitkey=endpointConfiguration
logChannelId	String	0..1	attr	This attribute identifies the LogChannel for usage within the Log And Trace protocol.
nonVerbose Mode	Boolean	0..1	attr	This attribute defines whether this DltLogSink supports non-Verbose Dlt messages. If disabled only verbose mode messages shall be used.
path	UriString	0..1	attr	This attribute defines the path to the file that is used as output sink.
queueSize	PositiveInteger	0..1	attr	Length of the queue (in which messages can be stored before processing) in the unit "Log message".
segmentation Supported	Boolean	0..1	attr	If enabled, segmentation will be used for DLT messages that are larger than EthernetCommunication Connector.maximumTransmissionUnit referenced via Dlt LogSink.endpointConfiguration.

Table A.268: DltLogSink

Class	**DltLogSinkToPortPrototypeMapping**			
Note	This meta-class maps a PortPrototype to an output sink of a log and trace message. **Tags:** atp.recommendedPackage=DltLogSinkToPortPrototypeMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dltContext	DltContext	0..1	ref	Assignement of the DltContext that groups log and trace messages that will be transmitted to the DltLogSink. **Tags:** atp.Splitkey=dltContext
dltLogSink	DltLogSink	*	ref	Reference to the output sink to which the log or trace message will be transmitted, **Tags:** atp.Splitkey=dltLogSink
dltSessionId	PositiveInteger	0..1	attr	This attribute allows distinguishing log/trace messages from different instances of the same SW-C.
pPortPrototype	PPortPrototype	0..1	iref	Reference to PPortPrototype that is mapped to the DltLog Sink. **Tags:** atp.Splitkey=pPortPrototype, pPort Prototype.contextRootSwComponentPrototype, pPort Prototype.contextComponentPrototype, pPort Prototype.targetPPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	Process	0..1	ref	This reference represents the process required as context for the mapping. **Tags:** atp.Splitkey=process
rPortPrototype	RPortPrototype	0..1	iref	Reference to RPortPrototype that is mapped to a DltLog Sink **Tags:** atp.Splitkey=rPortPrototype, rPortPrototype.context RootSwComponentPrototype, rPortPrototype.context ComponentPrototype, rPortPrototype.targetRPort Prototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.269: DltLogSinkToPortPrototypeMapping

Enumeration	**DoIpEidRetrievalEnum**
Note	Enumeration with options to retrieve EID. This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	DoIpNetworkConfiguration.eidRetrieval, DoIpNetworkConfigurationDesign.eidRetrieval
Literal	***Description***
eidUseApi	API DiagnosticDoIPEntityIdentification is used to retrieve eid **Tags:** atp.EnumerationLiteralIndex=1
eidUseConfigValue	eid is configured manually by `DoIpFunctionalClusterDesign.eid`. **Tags:** atp.EnumerationLiteralIndex=2
eidUseMac	MAC of the network interface is used as eid **Tags:** atp.EnumerationLiteralIndex=0

Table A.270: DoIpEidRetrievalEnum

Class	**DoIpFunctionalClusterDesign**			
Note	This meta-class defines the attributes for the DoIP configuration settings in the MachineDesign. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AbstractFunctionalClusterDesign*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	MachineDesign.functionalClusterDesign			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
doIpLogical Address	DoIpLogicalAddress	0..1	aggr	This aggregation contains information about the DoIP logical address. **Tags:** atp.Splitkey=doIpLogicalAddress, doIpLogical Address.shortName
doIpProtocol Version	PositiveInteger	0..1	attr	Configures the DoIP protocol version used in the generic DoIP header. The valid range of this parameter is defined by the always latest release of ISO 13400-2 and can be extended with every new release of the ISO document. As example a value of 0x03 defines the ISO 13400-2:2019 release.
eid	PositiveUnlimitedInteger	0..1	attr	Configured EID (Entity ID) used for VehicleIdentification Request.
entityStatusMax ByteFieldUse	Boolean	0..1	attr	This attribute is used to distinguish the optional support of the Max data size element of a diagnostic entity status response.
maxRequest Bytes	PositiveInteger	0..1	attr	Specifies the maximum allowed bytes of a DoIP message request without the DoIP header.
network Interface	DoIpNetwork ConfigurationDesign	*	aggr	This element collects DoIP properties that are network interface specific. **Tags:** atp.Splitkey=networkInterface, network Interface.shortName
request Configuration Design	DoIpRequest ConfigurationDesign	*	aggr	Request configuration that is used to determine whether an incoming DiagnosticMessage request needs to be interpreted as PHYSICAL or FUNCTIONAL. Any request with target address not within the configured target address range will be rejected. **Tags:** atp.Splitkey=requestConfigurationDesign

Table A.271: DoIpFunctionalClusterDesign

Class	**DoIpInstantiation**			
Note	This meta-class defines the attributes for the DoIP configuration on a specific machine. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *NonOsModuleInstantiation*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
doIpDesign	DoIpFunctionalCluster Design	0..1	ref	Reference to the DoIP Design that this DoIpInstantiation implements. **Tags:** atp.Splitkey=doIpDesign
gid	PositiveUnlimitedInteger	0..1	attr	Configured GID (Group ID) used for VehicleIdentification Request. If configured, take this value (and set "Further action required" byte to 0x00="No further action required"), if not configured use ServiceInterface Do IPGroupIdentification to retrieve GID and 'further action required' values.

Table A.272: DoIpInstantiation

Class	**DoIpLogicalAddress**			
Note	This meta-class describes the DoIP logical address. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	DoIpFunctionalClusterDesign.doIpLogicalAddress			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
logicalAddress	PositiveInteger	0..1	attr	This attribute holds the DoIP logical address.

Table A.273: DoIpLogicalAddress

Class	**DoIpNetworkConfiguration**			
Note	This element collects DoIP properties that are network interface specific. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
eidRetrieval	DoIpEidRetrievalEnum	0..1	attr	This attribute defines how DoIp Entitiy Identification is retrieved.
isActivationLine Dependent	Boolean	0..1	attr	This attribute defines whether the network interface • is started "on-demand" when an activation line is sensed or • is always available.
maxInitial Vehicle Announcement Time	TimeValue	0..1	attr	Upper bound for the time to wait in [s] for sending first vehicle announcement message after IP address assignment. Represents parameter A_DoIP_Announce_ Wait of ISO 13400-2:2019. The value of this timing shall be determined randomly in the closed interval [0..max InitialVehicleAnnouncementTime].
maxTester Connections	PositiveInteger	0..1	attr	Maximum amount of tester connections that shall be maintained at one time before alive check is performed.
network Configuration	PlatformModule EthernetEndpoint Configuration	*	ref	Network configuration (Protocol, Port, IP Address) for transmission of DoIP messages on a specific VLAN. **Tags:** atp.Splitkey=networkConfiguration
network Configuration Design	DoIpNetwork ConfigurationDesign	0..1	ref	Reference to the DoIP network configuration design that this DoIpNetworkConfiguration implements. **Tags:** atp.Splitkey=networkConfigurationDesign
network InterfaceId	PositiveInteger	0..1	attr	This attribute defines the identifier for the DoIPInterface.
tcpAliveCheck Response Timeout	TimeValue	0..1	attr	Timeout in [s] for waiting for a response to an Alive Check request before the connection is considered to be disconnected. Represents parameter T_TCP_AliveCheck of ISO 13400-2:2019.
tcpGeneral InactivityTime	TimeValue	0..1	attr	Timeout in [s] for maximum inactivity of a TCP socket connection before the DoIP module will close the according socket connection. Represents parameter T_ TCP_General_Inactivity of ISO 13400-2:2019.
tcpInitial InactivityTime	TimeValue	0..1	attr	Timeout in [s] used for initial inactivity of a connected TCP socket connection directly after socket connection. Represents parameter T_TCP_Initial_Inactivity of ISO 13400-2:2019.
vehicle Announcement Count	PositiveInteger	0..1	attr	Number of vehicle announcement messages on IP address assignment. Represents parameter A_DoIP_ Announce_Num of ISO 13400-2:2019.

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Class	**DoIpNetworkConfiguration**			
vehicle Announcement Interval	TimeValue	0..1	attr	Time to wait in [s] for sending subsequent vehicle announcement messages. Represents parameter A_Do IP_Announce_Interval of ISO 13400-2:2019.
vehicle Identification SyncStatus	Boolean	0..1	attr	Defines if the optional VIN/GID synchronization status is used additionally in the vehicle identification/ announcement.

Table A.274: DoIpNetworkConfiguration

Class	**DoIpNetworkConfigurationDesign**			
Note	This element collects DoIP properties that are network interface specific. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	DoIpFunctionalClusterDesign.networkInterface			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
eidRetrieval	DoIpEidRetrievalEnum	0..1	attr	This attribute defines how DoIp Entitiy Identification is retrieved.
isActivationLine Dependent	Boolean	0..1	attr	This attribute defines whether the network interface • is started "on-demand" when an activation line is sensed or • is always available.
maxInitial Vehicle Announcement Time	TimeValue	0..1	attr	Upper bound for the time to wait in [s] for sending first vehicle announcement message after IP address assignment. Represents parameter A_DoIP_Announce_ Wait of ISO 13400-2:2019. The value of this timing shall be determined randomly in the closed interval [0..max InitialVehicleAnnouncementTime].
maxTester Connections	PositiveInteger	0..1	attr	Maximum amount of tester connections that shall be maintained at one time before alive check is performed.
network Configuration	PlatformModule EthernetEndpoint Configuration	*	ref	Network configuration (Protocol, Port, IP Address) for transmission of DoIP messages on a specific VLAN. **Tags:** atp.Splitkey=networkConfiguration
network InterfaceId	PositiveInteger	0..1	attr	This attribute defines the identifier for the DoIPInterface.
tcpAliveCheck Response Timeout	TimeValue	0..1	attr	Timeout in [s] for waiting for a response to an Alive Check request before the connection is considered to be disconnected. Represents parameter T_TCP_AliveCheck of ISO 13400-2:2019.
tcpGeneral InactivityTime	TimeValue	0..1	attr	Timeout in [s] for maximum inactivity of a TCP socket connection before the DoIP module will close the according socket connection. Represents parameter T_ TCP_General_Inactivity of ISO 13400-2:2019.
tcpInitial InactivityTime	TimeValue	0..1	attr	Timeout in [s] used for initial inactivity of a connected TCP socket connection directly after socket connection. Represents parameter T_TCP_Initial_Inactivity of ISO 13400-2:2019.
tlsCertificate Availability Behavior	TlsCertificateAvailability Enum	0..1	attr	Defines the DoIP behavior in case DoIP is configured to require always a TLS connection but no valid TLS certificate is present (available).
tpConnection	GenericTpConnection	*	ref	Reference to a TpConnection that identifies the receiver(s) of a particular communication **Tags:** atp.Splitkey=tpConnection

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Class	**DoIpNetworkConfigurationDesign**			
vehicle Announcement Count	PositiveInteger	0..1	attr	Number of vehicle announcement messages on IP address assignment. Represents parameter A_DoIP_ Announce_Num of ISO 13400-2:2019.
vehicle Announcement Interval	TimeValue	0..1	attr	Time to wait in [s] for sending subsequent vehicle announcement messages. Represents parameter A_Do IP_Announce_Interval of ISO 13400-2:2019.
vehicle Identification SyncStatus	Boolean	0..1	attr	Defines if the optional VIN/GID synchronization status is used additionally in the vehicle identification/ announcement.

Table A.275: DoIpNetworkConfigurationDesign

Class	**DoIpRequestConfiguration**			
Note	This meta-class specifies a range of target addresses and its interpretation as either physical or functional request. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
endAddress	PositiveInteger	0..1	attr	End address for range of target-addresses (including this address).
requestType	RequestTypeEnum	0..1	attr	Determines the type of request.
startAddress	PositiveInteger	0..1	attr	Start address for range of target-addresses (including this address).

Table A.276: DoIpRequestConfiguration

Class	**DoIpRequestConfigurationDesign**			
Note	This meta-class specifies a range of target addresses and its interpretation as either physical or functional request. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	DoIpFunctionalClusterDesign.requestConfigurationDesign			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
endAddress	PositiveInteger	0..1	attr	End address for range of target-addresses (including this address).
requestType	RequestTypeEnum	0..1	attr	Determines the type of request.
startAddress	PositiveInteger	0..1	attr	Start address for range of target-addresses (including this address).

Table A.277: DoIpRequestConfigurationDesign

Class	**E2EProfileCompatibilityProps**			
Note	This meta-class collects settings for configuration of the E2E state machine. **Tags:** atp.recommendedPackage=E2EProfileCompatibilityPropsCollection			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**E2EProfileCompatibilityProps**			
combinedNo DataInitCount	Boolean	0..1	attr	E2E State machine behavior concerning counting of detected counter errors and missing messages in states NODATA and INIT • value = 0 (false) or not defined: counting of detected counter errors and missing messages in states NODATA and INIT are counted per state separated (Autosar R23-11 or former behavior) • value = 1 (true): counting of detected counter errors and missing messages in states NODATA and INIT are counted in total
transitToInvalid Extended	Boolean	0..1	attr	E2E State machine behavior concerning transition from NODATA/INIT to INVALID value=0 (false): no direct transition from NODATA to INVALID, no transition from INIT to INVALID due to counter-related faults (Autosar R19-11 or former behavior) value=1 (true): direct transition from NODATA to INVALID covered, transition from INIT to INVALID due to counter-related faults covered (state machine extended)

Table A.278: E2EProfileCompatibilityProps

Class	**E2EProfileConfiguration**			
Note	This element holds E2E profile specific configuration settings. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	E2EProfileConfigurationSet.e2eProfileConfiguration			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
clearFromValid ToInvalid	Boolean	0..1	attr	Clear monitoring window on transition from state Valid to state Invalid.
dataIdMode	DataIdModeEnum	0..1	attr	This attribute describes the inclusion mode that is used to include the implicit Data ID in the one-byte CRC.
e2eProfile Compatibility Props	E2EProfileCompatibility Props	0..1	ref	Reference to additional settings for the E2E state machine. **Tags:** atp.Splitkey=e2eProfileCompatibilityProps
maxDelta Counter	PositiveInteger	0..1	attr	Maximum allowed difference between two counter values of two consecutively received valid messages. For example, if the receiver gets data with counter 1 and Max DeltaCounter is 3, then at the next reception the receiver can accept Counters with values 2, 3 or 4.
maxErrorState Init	PositiveInteger	0..1	attr	Maximal number of checks in which ProfileStatus equal to E2E_P_ERROR was determined, within the last Window Size checks, for the state E2E_SM_INIT.
maxErrorState Invalid	PositiveInteger	0..1	attr	Maximal number of checks in which ProfileStatus equal to E2E_P_ERROR was determined, within the last Window Size checks, for the state E2E_SM_INVALID.
maxErrorState Valid	PositiveInteger	0..1	attr	Maximal number of checks in which ProfileStatus equal to E2E_P_ERROR was determined, within the last Window Size checks, for the state E2E_SM_VALID.
minOkStateInit	PositiveInteger	0..1	attr	Minimal number of checks in which ProfileStatus equal to E2E_P_OK was determined, within the last WindowSize checks, for the state E2E_SM_INIT.

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Class	**E2EProfileConfiguration**			
minOkState Invalid	PositiveInteger	0..1	attr	Minimal number of checks in which ProfileStatus equal to E2E_P_OK was determined, within the last WindowSize checks, for the state E2E_SM_INVALID.
minOkState Valid	PositiveInteger	0..1	attr	Minimal number of checks in which ProfileStatus equal to E2E_P_OK was determined, within the last WindowSize checks, for the state E2E_SM_VALID.
profileName	NameToken	0..1	attr	Definition of the E2E profile.
windowSizeInit	PositiveInteger	0..1	attr	Size of the monitoring window of state Init for the E2E state machine.
windowSize Invalid	PositiveInteger	0..1	attr	Size of the monitoring window of state Invalid for the E2E state machine.
windowSize Valid	PositiveInteger	0..1	attr	Size of the monitoring window of state Valid for the E2E state machine.

Table A.279: E2EProfileConfiguration

Class	**EcuInstance**			
Note	ECUInstances are used to define the ECUs used in the topology. The type of the ECU is defined by a reference to an ECU specified with the ECU resource description. **Tags:** atp.recommendedPackage=EcuInstances			
Base	*ARObject*, *CollectableElement*, *FibexElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
associated Consumed Provided ServiceInstance Group	ConsumedProvided ServiceInstanceGroup	*	ref	With this reference it is possible to identify which ConsumedProvidedServiceInstanceGroups are applicable for which ECUInstance. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=associatedConsumedProvidedService InstanceGroup, associatedConsumedProvidedService InstanceGroup.consumedProvidedServiceInstanceGroup, associatedConsumedProvidedServiceInstance Group.variationPoint.shortLabel vh.latestBindingTime=postBuild
associatedPdur IPduGroup	PdurIPduGroup	*	ref	With this reference it is possible to identify which PduR IPdu Groups are applicable for which Communication Connector/ ECU. **Tags:** atp.Splitkey=associatedPdurIPduGroup
channel Synchronous Wakeup	Boolean	0..1	attr	If this parameter is available and set to true, then all available channels will be woken up as soon as at least one channel wakeup occurs. If PNCs are configured, then all PNCs will be requested upon a channel wakeup.
clientIdRange	ClientIdRange	0..1	aggr	Restriction of the Client Identifier for this Ecu to an allowed range of numerical values. The Client Identifier of the transaction handle is generated by the client RTE for inter-Ecu Client/Server communication. **Tags:** atp.Splitkey=clientIdRange
commController	Communication Controller	*	aggr	CommunicationControllers of the ECU. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=commController, commController.short Name, commController.variationPoint.shortLabel vh.latestBindingTime=postBuild

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Class	**EcuInstance**			
connector	Communication Connector	*	aggr	All channels controlled by a single controller. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=connector, connector.shortName, connector.variationPoint.shortLabel vh.latestBindingTime=postBuild
firewallRule	StateDependentFirewall	*	ref	Firewall rules defined in the context of an EcuInstance. **Tags:** atp.Splitkey=firewallRule
pncNmRequest	Boolean	0..1	attr	Defines if this EcuInstance shall request Nm on all its PhysicalChannels which have Nm variant set to FULL each time a PNC is requested.
pncPrepare SleepTimer	TimeValue	0..1	attr	Time in seconds the PNC state machine shall wait in PNC_PREPARE_SLEEP.
pnc Synchronous Wakeup	Boolean	0..1	attr	If this parameter is available and set to true then all available PNCs will be woken up as soon as a channel wakeup occurs. This is ensured by adding all PNCs to all channel wakeup sources during upstream mapping.
pnResetTime	TimeValue	0..1	attr	Specifies the runtime of the reset timer in seconds. This reset time is valid for the reset of PN requests in the EIRA and in the ERA.

Table A.280: EcuInstance

Class	**End2EndEventProtectionProps**			
Note	This element allows to protect an event or a field notifier with an E2E profile. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*AdaptivePlatformServiceInstance*.e2eEventProtectionProps			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataId (ordered)	PositiveInteger	*	attr	This represents a unique numerical identifier for the referenced event or field notifier that is included in the CRC calculation. Note: ID is used for protection against masquerading. The details concerning the maximum number of values (this information is specific for each E2E profile) applicable for this attribute are controlled by a semantic constraint that depends on the category of the EndToEnd Protection.
dataLength	PositiveInteger	0..1	attr	Length of payload including E2E header in bits.
dataUpdate Period	TimeValue	0..1	attr	This attribute describes the period in which the applications are assumed to process E2E-protected messages. The middleware does not use this attribute at all.
e2eProfile Configuration	E2EProfileConfiguration	0..1	ref	Reference to E2E profile configuration settings that are valid to protect the referenced event or field notifier. **Tags:** atp.Splitkey=e2eProfileConfiguration
event	ServiceEvent Deployment	0..1	ref	Reference to an event that is protected by the E2E profile. **Tags:** atp.Splitkey=event
maxDataLength	PositiveInteger	0..1	attr	Maximum length of payload including E2E header in bits.
minDataLength	PositiveInteger	0..1	attr	Minimum length of payload including E2E header in bits.

Table A.281: End2EndEventProtectionProps

Class	**End2EndMethodProtectionProps**			
Note	This element allows to protect a method, a field setter or a field getter with an E2E profile. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*AdaptivePlatformServiceInstance*.e2eMethodProtectionProps			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataId (ordered)	PositiveInteger	*	attr	This represents a numerical identifier that is included in the CRC calculation. This dataId is used for call and response. Note: ID is used for protection against masquerading. The details concerning the maximum number of values (this information is specific for each E2E profile) applicable for this attribute are controlled by a semantic constraint that depends on the category of the EndToEnd Protection.
dataLength	PositiveInteger	0..1	attr	Length of payload including E2E header in bits.
dataUpdate Period	TimeValue	0..1	attr	This attribute describes the period in which the applications are assumed to process E2E-protected messages. The middleware does not use this attribute at all.
e2eProfile Configuration	E2EProfileConfiguration	0..1	ref	Reference to E2E profile configuration settings that are valid to protect the referenced method, field getter or field setter. **Tags:** atp.Splitkey=e2eProfileConfiguration
maxDataLength	PositiveInteger	0..1	attr	Maximum length of payload including E2E header in bits.
method	ServiceMethod Deployment	0..1	ref	Reference to a method, a field getter or a field setter that is protected by the E2E profile. **Tags:** atp.Splitkey=method
minDataLength	PositiveInteger	0..1	attr	Minimum length of payload including E2E header in bits.
sourceId	PositiveInteger	0..1	attr	This represents a unique numerical identifier identifying the source of a certain transmission. In case of C/S communication, this ID uniquely identifies the client. Note: ID is used for protection against masquerading. The details concerning the maximum number of values (this information is specific for each E2E profile) applicable for this attribute are controlled by a semantic constraint that depends on the category of the EndToEnd Protection.

Table A.282: End2EndMethodProtectionProps

Class	**EnterExitTimeout**			
Note	This meta-class represents the ability to specify a pair of timeouts, one for entering, and one for exiting. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	Machine.defaultApplicationTimeout, StartupConfig.timeout, StateDependentStartupConfig.timeout			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
enterTimeout Value	TimeValue	0..1	attr	This attribute represents the value of the enter timeout in seconds.
exitTimeout Value	TimeValue	0..1	attr	This attribute represents the value of the exit timeout in seconds.

Table A.283: EnterExitTimeout

Class	**EthernetCommunicationConnector**			
Note	Ethernet specific attributes to the CommunicationConnector.			
Base	*ARObject*, *CommunicationConnector*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	EcuInstance.connector, MachineDesign.communicationConnector			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
apApplication Endpoint	ApApplicationEndpoint	*	aggr	Collection of Application Addresses that are used on the CommunicationConnector. **Tags:** atp.Splitkey=apApplicationEndpoint, apApplication Endpoint.shortName This Attribute is only used by the AUTOSAR Adaptive Platform.
canXlProps	CanXlProps	*	ref	If the Ethernet frames handled by this Ethernet CommunicationConnector are tunneled through CAN XL, then this reference shall refer the CanXlProps which contains the specific configuration parameters of the CAN XL controller of the physical CAN XL connection to be used for tunneling. **Tags:** atp.Splitkey=canXlProps This Attribute is only used by the AUTOSAR Adaptive Platform.
maximum Transmission Unit	PositiveInteger	0..1	attr	This attribute specifies the maximum transmission unit in bytes.
neighborCache Size	PositiveInteger	0..1	attr	This attribute specifies the size of neighbor cache or ARP table in units of entries.
unicastNetwork Endpoint	NetworkEndpoint	*	ref	Network Endpoint that defines the IPAddress of the machine. **Tags:** atp.Splitkey=unicastNetworkEndpoint This Attribute is only used by the AUTOSAR Adaptive Platform.

Table A.284: EthernetCommunicationConnector

Class	«atpVariation» **EthernetCommunicationController**			
Note	Ethernet specific communication port attributes.			
Base	*ARObject*, *CommunicationController*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	EcuInstance.commController, MachineDesign.communicationController			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
canXlConfig	AbstractCan Communication Controller	0..1	ref	If the Ethernet frames handled by this Ethernet CommunicationController are to be tunneled through CAN XL, then this reference shall refer to the Abstract CanCommunicationController that aggregates the Can ControllerXlConfiguration of the physical CAN XL channel to be used for tunneling. **Tags:** atp.Splitkey=canXlConfig
couplingPort	CouplingPort	*	aggr	Optional CouplingPort that can be used to connect the ECU to a CouplingElement (e.g. a switch). **Tags:** atp.Splitkey=couplingPort, couplingPort.shortName
macLayerType	EthernetMacLayerType Enum	0..1	attr	Specifies the mac layer type of the ethernet controller.
macUnicast Address	MacAddressString	0..1	attr	Media Access Control address (MAC address) that uniquely identifies each EthernetCommunication Controller in the network.

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Class	«atpVariation» **EthernetCommunicationController**			
maximum ReceiveBuffer Length	Integer	0..1	attr	Determines the maximum receive buffer length (frame length) in bytes.
maximum TransmitBuffer Length	Integer	0..1	attr	Determines the maximum transmit buffer length (frame length) in bytes.
slaveActAs Passive Communication Slave	Boolean	0..1	attr	This attribute specifies if the EcuInstance is acting as a passive communication slave on the connected Physical Channel. This is used for EthernetCommunication Controllers that use Ethernet hardware which supports wake-up and sleep on the network (e.g. Open Alliance TC10 compliant Ethernet hardware).
slaveQualified UnexpectedLink DownTime	TimeValue	0..1	attr	This attribute specifies time when an unexpected link down is evaluated as link down and indicated to the AUTOSAR communication stack.

Table A.285: EthernetCommunicationController

Class	***EthernetMacRawDataStreamMapping*** (abstract)			
Note	This meta-class serves as the abstract bases class for the ability to map a PortPrototype to an Ethernet-Mac-layer based communication. **Tags:** atp.Status=candidate This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *RawDataStreamMapping*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Subclasses	*IEEE1722RawDataStreamMapping*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
localComm Connector	EthernetCommunication Connector	0..1	ref	This reference represents the CommunicationConnector taken for Mac-based data communication. **Tags:** atp.Splitkey=localCommConnector atp.Status=candidate
socketOption	String	*	attr	This attribute represents the ability to specify non-formal socket options that might only be valid for specific platforms. AUTOSAR does not define a standardized meaning for the possible values of this attribute. **Tags:** atp.Status=candidate

Table A.286: EthernetMacRawDataStreamMapping

Class	**EthernetPhysicalChannel**			
Note	The EthernetPhysicalChannel represents a VLAN or an untagged channel. An untagged channel is modeled as an EthernetPhysicalChannel without an aggregated VLAN.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *PhysicalChannel*, *Referrable*			
Aggregated by	*CommunicationCluster*.physicalChannel			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
comMLight Timeout	TimeValue	0..1	attr	Defines the timeout (in seconds) after COMM_FULL_ COMMUNICATION sub-state COMM_FULL_COM_ READY_SLEEP is left in the ComM channel state machine.

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Class	**EthernetPhysicalChannel**			
network Endpoint	NetworkEndpoint	*	aggr	Collection of NetworkEndpoints that are used in the VLan. **Tags:** atp.Splitkey=networkEndpoint, network Endpoint.shortName
vlan	VlanConfig	0..1	aggr	VLAN Configuration. **Tags:** atp.Splitkey=vlan, vlan.shortName

Table A.287: EthernetPhysicalChannel

Class	**EthernetRawDataStreamLocalEndpointConfig**			
Note	This meta-class has the ability to act as a wrapper for the configuration of the remote endpoint in the context of a raw data stream mapping. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	*EthernetRawDataStreamMapping*.localEndpointConfig			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
localComm Connector	EthernetCommunication Connector	0..1	ref	This attribute represents the CommunicationConnector taken for socket-based data communication. **Tags:** atp.Splitkey=localCommConnector
localTcpPort	ApApplicationEndpoint	0..1	ref	This aggregation represents the configuration of a local TCP port number. **Tags:** atp.Splitkey=localTcpPort
localUdpPort	ApApplicationEndpoint	0..1	ref	This aggregation represents the configuration of a local unicast UDP port number. **Tags:** atp.Splitkey=localUdpPort

Table A.288: EthernetRawDataStreamLocalEndpointConfig

Class	***EthernetRawDataStreamMapping*** (abstract)			
Note	This meta-class serves as the abstract bases class for the ability to map a PortPrototype to a Ethernet-based communication channel. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *RawDataStreamMapping*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Subclasses	EthernetRawDataStreamClientMapping, EthernetRawDataStreamServerMapping			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
localEndpoint Config	EthernetRawData StreamLocalEndpoint Config	0..1	aggr	This aggregation is used to configure the credentials of the endpoint. **Tags:** atp.Splitkey=localEndpointConfig
socketOption	String	*	attr	This attribute represents the ability to specify non-formal socket options that might only be valid for specific platforms. AUTOSAR does not define a standardized meaning for the possible values of this attribute.
tlsSecureCom Props	TlsSecureComProps	0..1	ref	This reference provides the ability to define TLS-related properties for the enclosing SocketRawDataStream Mapping. **Tags:** atp.Splitkey=tlsSecureComProps

Table A.289: EthernetRawDataStreamMapping

Class	EthernetRawDataStreamRemoteClientConfig			
Note	This meta-class has the ability to act as a wrapper for the configuration of the remote server in the context of a raw data stream client mapping. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	EthernetRawDataStreamServerMapping.remoteClientConfig			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
multicast Credentials	RawDataStream EthernetUdpCredentials	0..1	aggr	This aggregation represents the configuration of multicast credentials for communication with a remote raw data stream client. **Tags:** atp.Splitkey=multicastCredentials
unicastUdp Credentials	RawDataStream EthernetUdpCredentials	0..1	aggr	This aggregation represents the configuration of a remote raw data stream client that communicates via unicast over UDP. **Tags:** atp.Splitkey=unicastUdpCredentials

Table A.290: EthernetRawDataStreamRemoteClientConfig

Class	EthernetRawDataStreamServerMapping			
Note	This meta-class represents the ability to map a server PortPrototype to a Ethernet-based communication channel. **Tags:** atp.recommendedPackage=RawDataStreamingMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *EthernetRawDataStreamMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *RawDataStreamMapping*, *Referrable*, *Uploadable DeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
remoteClient Config	EthernetRawData StreamRemoteClient Config	0..1	aggr	This aggregation is used to configure the credentials of the remote client. **Tags:** atp.Splitkey=remoteClientConfig

Table A.291: EthernetRawDataStreamServerMapping

Class	Executable			
Note	This meta-class represents an executable program. **Tags:** atp.recommendedPackage=Executables This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpClassifier*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
implementation Props	Executable ImplementationProps	*	aggr	This aggregation contains the collection of implementation-specific properties necessary to properly build the enclosing Executable. **Tags:** atp.Splitkey=implementationProps
minimumTimer Granularity	TimeValue	0..1	attr	This attribute describes the minimum timer resolution (TimeValue of one tick) that is required by the Executable.
reporting Behavior	ExecutionState ReportingBehavior Enum	0..1	attr	this attribute controls the execution state reporting behavior of the enclosing Executable.

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Class	**Executable**			
rootSw Component Prototype	RootSwComponent Prototype	0..1	aggr	This represents the root SwCompositionPrototype of the Executable. This aggregation is required (in contrast to a direct reference of a SwComponentType) in order to support the definition of instanceRefs in Executable context. **Tags:** atp.Splitkey=rootSwComponentPrototype, rootSw ComponentPrototype.shortName
suspendToRam Awareness	SuspendToRam AwarenessEnum	0..1	attr	This attribute describes the type of awareness of the enclosing Executable to suspend-to-RAM functionality. **Tags:** atp.Status=candidate
version	StrongRevisionLabel String	0..1	attr	Version of the executable.

Table A.292: Executable

Class	**ExecutableLoggingImplementationProps**			
Note	This meta-class contains configuration relevant for the implementation of an Executable used in the context of the LogAndTraceInstantiation. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Describable*, *ExecutableImplementationProps*			
Aggregated by	Executable.implementationProps			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
usesTimeBase Resource	Boolean	0..1	attr	This attribute indicates that the implementation of the enclosing Executable is required to access resources provided by the synchronized time base functional cluster.

Table A.293: ExecutableLoggingImplementationProps

Class	**ExecutionDependency**			
Note	This element defines a ProcessState in which a dependent process needs to be before the process that aggregates the ExecutionDependency element can be started. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	StateDependentStartupConfig.executionDependency			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
processState	ModeDeclaration	0..1	iref	This represent the applicable modeDeclaration that represents an ProcessState. **Tags:** atp.Splitkey=processState, processState.context ModeDeclarationGroupPrototype, processState.target ModeDeclaration **InstanceRef implemented by:** ModeInProcessInstance Ref

Table A.294: ExecutionDependency

Enumeration	**ExecutionStateReportingBehaviorEnum**
Note	This enumeration provides options for controlling of how an Executable reports its execution state to the Execution Management This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	Executable.reportingBehavior

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Enumeration	**ExecutionStateReportingBehaviorEnum**
Literal	***Description***
doesNotReport ExecutionState	The Executable shall not report its execution state to the Execution Management. **Tags:** atp.EnumerationLiteralIndex=1
reportsExecution State	The Executable shall report its execution state to the Execution Management. **Tags:** atp.EnumerationLiteralIndex=0

Table A.295: ExecutionStateReportingBehaviorEnum

Class	**Field**			
Note	This meta-class represents the ability to define a piece of data that can be accessed with read and/or write semantics. It is also possible to generate a notification if the value of the data changes. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AtpFeature*, *AtpPrototype*, *AutosarDataPrototype*, *DataPrototype*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ApplicationInterface.attribute, *AtpClassifier*.atpFeature, ServiceInterface.field			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
hasGetter	Boolean	0..1	attr	This attribute controls whether read access is foreseen to this field.
hasNotifier	Boolean	0..1	attr	This attribute controls whether a notification semantics is foreseen to this field.
hasSetter	Boolean	0..1	attr	This attribute controls whether write access is foreseen to this field.

Table A.296: Field

Class	**FieldMapping**			
Note	Mapping of a Field that is located in a ServiceInterface to ClientServerOperations that represent the getter and setter methods and to a VariableDataPrototype that represents the notifier in the Field. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	InterfaceMapping.fieldMapping			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
field	Field	0..1	ref	Reference to a field that is located in a ServiceInterface. **Tags:** atp.Splitkey=field
getterOperation	ClientServerOperation	0..1	ref	Reference to a ClientServerOperation that represents the getter Method in the Field. **Tags:** atp.Splitkey=getterOperation
notifierData Element	VariableDataPrototype	0..1	ref	Reference to a VariableDataPrototype that represents the notifier in the Field. **Tags:** atp.Splitkey=notifierDataElement
setterOperation	ClientServerOperation	0..1	ref	Reference to a ClientServerOperation that represents the setter Method in the Field. **Tags:** atp.Splitkey=setterOperation

Table A.297: FieldMapping

Class	FieldSenderComSpec			
Note	Port specific communication attributes for a Field that is defined in a ServiceInterface. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *PPortComSpec*, *SenderComSpec*			
Aggregated by	*AbstractProvidedPortPrototype*.providedComSpec, PortPrototypeBlueprint.providedComSpec			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
initValue	ValueSpecification	0..1	aggr	Initial value for a Field that is set before the Service Interface is offered. **Tags:** atp.Splitkey=initValue

Table A.298: FieldSenderComSpec

Class	FireAndForgetMethodMapping			
Note	Mapping of a Fire&Forget Method that is located in a ServiceInterface to a VariableDataPrototype in a SenderReceiverInterface or to a Trigger in a TriggerInterface. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	InterfaceMapping.fireAndForgetMethodMapping			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
dataElement	VariableDataPrototype	0..1	ref	Reference to a VariableDataPrototype that is located in a SenderReceiverInterface in case that the Fire&Forget Method is represented by this VariableDataPrototype. **Tags:** atp.Splitkey=dataElement
method	ClientServerOperation	0..1	ref	Reference to a Fire&Forget Method that is located in a ServiceInterface. **Tags:** atp.Splitkey=method
trigger	Trigger	0..1	ref	Reference to a Trigger that is located in a TriggerInterface in case that the Fire&Forget Method is represented by this Trigger. **Tags:** atp.Splitkey=trigger

Table A.299: FireAndForgetMethodMapping

Class	FirewallRule			
Note	Firewall Rule that defines the control information in individual packets. **Tags:** atp.recommendedPackage=FirewallRules			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
bucketSize	PositiveInteger	0..1	attr	This attribute defines the capacity of the queue for rate limitation (leaky-bucket Algorithm).
dataLinkLayer Rule	DataLinkLayerRule	0..1	aggr	Configuration of rules on the Data Link Layer **Tags:** atp.Splitkey=dataLinkLayerRule
ddsRule	DdsRule	0..1	aggr	Configuration of firewall rules for DDS. **Tags:** atp.Splitkey=ddsRule
doIpRule	DoIpRule	0..1	aggr	Configuration of firewall rules for DoIP messages **Tags:** atp.Splitkey=doIpRule

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Class	**FirewallRule**			
networkLayer Rule	NetworkLayerRule	0..1	aggr	Configuration of rules on the Network Layer **Tags:** atp.Splitkey=networkLayerRule
payloadByte PatternRule	PayloadBytePattern Rule	*	aggr	Configuration of generic firewall rules **Tags:** atp.Splitkey=payloadBytePatternRule
refillAmount	PositiveInteger	0..1	attr	This attribute defines the output rate that describes how many packets leave the queue per second (leaky-bucket Algorithm).
someipRule	SomeipProtocolRule	0..1	aggr	Configuration of firewall rules for SOME/IP messages **Tags:** atp.Splitkey=someipRule
someipSdRule	SomeipSdRule	0..1	aggr	Configuration of firewall rules for SOME/IP Service Discovery messages **Tags:** atp.Splitkey=someipSdRule
transportLayer Rule	TransportLayerRule	0..1	aggr	Configuration of rules on the Transport Layer **Tags:** atp.Splitkey=transportLayerRule

Table A.300: FirewallRule

Class	**FirewallRuleProps**			
Note	Firewall rule that is defined by an action that is performed if the referenced pattern matches.			
Base	*ARObject*			
Aggregated by	StateDependentFirewall.firewallRuleProps			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
action	FirewallActionEnum	0..1	attr	Action that is performed by the firewall if the matching Rule is fulfilled.
matchingEgress Rule (ordered)	FirewallRule	*	ref	This element defines an egress rule expression against which the network traffic is matched.
matching IngressRule (ordered)	FirewallRule	*	ref	This element defines an ingress rule expression against which the network traffic is matched.

Table A.301: FirewallRuleProps

Class	**FirewallStateSwitchInterface**			
Note	This meta-class provides the ability to implement a PortInterface for interaction with the Firewall mode. **Tags:** atp.recommendedPackage=FirewallStateSwitchPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
firewallState Machine	ModeDeclarationGroup Prototype	*	aggr	The state machine of this firewall interface. **Tags:** atp.Splitkey=firewallStateMachine, firewallState Machine.shortName

Table A.302: FirewallStateSwitchInterface

Class	FunctionGroupPhmStateReference			
Note	Function Group state dependency. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *PhmStateReference*			
Aggregated by	SupervisionModeCondition.stateReference			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
functionGroup State	ModeDeclaration	0..1	iref	This represent the applicable functionGroupState. **Tags:** atp.Splitkey=functionGroupState, functionGroup State.contextModeDeclarationGroupPrototype, function GroupState.targetModeDeclaration **InstanceRef implemented by:** FunctionGroupStateIn FunctionGroupSetInstanceRef

Table A.303: FunctionGroupPhmStateReference

Class	FunctionGroupPortMapping			
Note	This class is used to associate a PortPrototype typed by a StateClientInterface with the actual function group to which the state changes communicated over the PortPrototype shall apply. **Tags:** atp.Status=draft atp.recommendedPackage=FunctionGroupPortMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
functionGroup	ModeDeclarationGroup Prototype	0..1	ref	This reference identifies the applicable function group for which the state change shall be executed. **Tags:** atp.Splitkey=functionGroup atp.Status=draft
process	Process	0..1	ref	This reference identifies the Process of the state client **Tags:** atp.Splitkey=process atp.Status=draft
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This reference identifies the applicable PortPrototype for the function group state change. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPortPrototype InExecutable.contextRootSwComponentPrototype, rPort PrototypeInExecutable.contextComponentPrototype, r PortPrototypeInExecutable.targetRPortPrototype atp.Status=draft **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.304: FunctionGroupPortMapping

Class	FunctionGroupSet
Note	This meta-class provides the ability to create arbitrary collections of function groups. **Tags:** atp.recommendedPackage=FunctionGroupSets This Class is only used by the AUTOSAR Adaptive Platform.

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Class	**FunctionGroupSet**			
Base	*ARElement*, *ARObject*, *AtpClassifier*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
functionGroup	ModeDeclarationGroup Prototype	*	aggr	This aggregation represents the collection of function groups. **Tags:** atp.Splitkey=functionGroup, functionGroup.short Name

Table A.305: FunctionGroupSet

Class	**FunctionGroupStateInFunctionGroupSetInstanceRef**			
Note	This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AtpInstanceRef*			
Aggregated by	FunctionGroupPhmStateReference.functionGroupState, NmHandleToFunctionGroupState Mapping.functionGroupState, SecurityEventStateFilter.blockIfStateActiveAp, StateDependentStartup Config.functionGroupState, StateManagementSetFunctionGroupStateActionItem.setFunctionGroupState			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
base	FunctionGroupSet	0..1	ref	**Stereotypes:** atpDerived
contextMode Declaration GroupPrototype	ModeDeclarationGroup Prototype	0..1	ref	**Tags:** xml.sequenceOffset=10
targetMode Declaration	ModeDeclaration	0..1	ref	**Tags:** xml.sequenceOffset=20

Table A.306: FunctionGroupStateInFunctionGroupSetInstanceRef

Class	**FunctionalClusterInteractsWithDiagnosticEventMapping**			
Note	This meta-class creates an association between a functional cluster and a diagnostic event that represents the diagnostic management by proxy. The purpose of this mapping is to support the reporting of production errors. **Tags:** atp.recommendedPackage=FCInteractions This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FunctionalClusterInteractsWithFunctionalClusterMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeployment Element*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
diagnosticEvent	DiagnosticEvent	*	ref	This reference identifies the collection of diagnostic events that can be reported by the mapped functional cluster. **Tags:** atp.Splitkey=diagnosticEvent
functional Cluster	AdaptiveModule Instantiation	0..1	ref	This reference identifies the reporting functional cluster. **Tags:** atp.Splitkey=functionalCluster
persistency Deployment	PersistencyDeployment	0..1	ref	This reference identifies the reporting persistency deployment. **Tags:** atp.Splitkey=persistencyDeployment

Table A.307: FunctionalClusterInteractsWithDiagnosticEventMapping

Class	**FunctionalClusterInteractsWithPersistencyDeploymentMapping**			
Note	This meta-class represents the ability to define a mapping between any functional cluster modeled as a subclass of NonOsModuleInstantiation and a PersistencyDeployment. **Tags:** atp.recommendedPackage=FCInteractions This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FunctionalClusterInteractsWithFunctionalClusterMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeployment Element*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
contractVersion	StrongRevisionLabel String	0..1	attr	This attribute represents the contract version that is used to determine whether the Persistency configuration experienced structural changes and is also used for the check for data type compatibility.
functional Cluster	NonOsModule Instantiation	0..1	ref	This reference identifies the client functional cluster that wants to use persistency. **Tags:** atp.Splitkey=functionalCluster
maxNumberOf Files	PositiveInteger	0..1	attr	This attribute represents the definition of an upper bound for the handling of files at run-time in the context of the enclosing FunctionalClusterInteractsWithPersistency DeploymentMapping.
persistency Access	FunctionalCluster PersistencyAccess Enum	0..1	attr	This attribute represents the definition of the persistency access of all kinds of persisted data at run-time in the context of the enclosing FunctionalClusterInteractsWith PersistencyDeploymentMapping.
persistency Deployment	PersistencyDeployment	0..1	ref	This reference identifies the applicable Persistency Deployment. **Tags:** atp.Splitkey=persistencyDeployment
process	Process	0..1	ref	"This reference identifies the applicable process. **Tags:** atp.Splitkey=process

Table A.308: FunctionalClusterInteractsWithPersistencyDeploymentMapping

Class	**GenericTpConnection**			
Note	A TpConnection that defines a communication between the logical target address of the DoIP Entitiy and the source address range. **Tags:** atp.recommendedPackage=GenericTpConnections This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
priority	PositiveInteger	0..1	attr	This attribute defines the priority for a particular communication connection. For more details see the SWS Diagnostics specification.
sourceAddress RangeEnd	PositiveInteger	0..1	attr	The DoIP source address defines the logical address of the tester that starts the communication. The GenericTp Connection is able to define a source address range (without gaps) with the two attributes sourceAddress RangeStart and sourceAddressRangeEnd. This attribute defines the end of the range.

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Class	**GenericTpConnection**			
sourceAddress RangeStart	PositiveInteger	0..1	attr	The DoIP source address defines the logical address of the tester that starts the communication. The GenericTp Connection is able to define a source address range (without gaps) with the two attributes sourceAddress RangeStart and sourceAddressRangeEnd. This attribute defines the start of the range.

Table A.309: GenericTpConnection

Class	**GlobalSupervision**			
Note	This element defines a collection of AliveSupervisions, DeadlineSupervisions, and LogicalSupervisions in order to provide an aggregated supervision state. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	PlatformHealthManagementContribution.globalSupervision			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
alive Supervision	AliveSupervision	*	aggr	Collection of AliveSupervisions in the context of this GlobalSupervision. **Tags:** atp.Splitkey=aliveSupervision, alive Supervision.shortName
deadline Supervision	DeadlineSupervision	*	aggr	Collection of DeadlineSupervisions in the context of this GlobalSupervision. **Tags:** atp.Splitkey=deadlineSupervision, deadline Supervision.shortName
expired Supervision Tolerance	TimeValue	0..1	attr	Defines the acceptable amount of time with EXPIRED supervision status before the GlobalSupervision is considered STOPPED.
logical Supervision	LogicalSupervision	*	aggr	Collection of LogicalSupervisions in the context of this GlobalSupervision. **Tags:** atp.Splitkey=logicalSupervision, logical Supervision.shortName
noCheckpoint Supervision	NoCheckpoint Supervision	*	aggr	Definition of No Checkpoint Supervision. **Tags:** atp.Splitkey=noCheckpointSupervision, no CheckpointSupervision.shortName
noSupervision	NoSupervision	*	aggr	Collection of NoSupervisions in the context of this Global Supervision. **Tags:** atp.Splitkey=noSupervision, noSupervision.short Name
supervision Mode	SupervisionMode	*	aggr	Collection of SupervisionModes in the context of this GlobalSupervision. **Tags:** atp.Splitkey=supervisionMode, supervision Mode.shortName
transition	CheckpointTransition	*	aggr	Collection of CheckpointTransitions in the context of this GlobalSupervision. **Tags:** atp.Splitkey=transition, transition.shortName

Table A.310: GlobalSupervision

Class	**GlobalTimeDomain**			
Note	This represents the ability to define a global time domain. **Tags:** atp.recommendedPackage=GlobalTimeDomains			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FibexElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
clonedFrom TimeDomain	GlobalTimeDomain	*	ref	Reference to a set of GlobalTimeDomains from which the time information of the reference source GlobalTime Domain is cloned. This allows to model the cloning source of global time information. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=clonedFromTimeDomain, clonedFromTime Domain.globalTimeDomain, clonedFromTime Domain.variationPoint.shortLabel vh.latestBindingTime=postBuild
debounceTime	TimeValue	0..1	attr	Defines the minimum amount of time between two time sync messages are transmitted.
domainId	PositiveInteger	0..1	attr	This represents the ID of the GlobalTimeDomain used in the network messages sent on behalf of global time management. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=postBuild
gateway	GlobalTimeGateway	*	aggr	A GlobalTimeGateway may exist in the context of a GlobalTimeDomain to actively update the global time information as it is routed from one GlobalTimeDomain to another. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=gateway, gateway.shortName, gateway.variationPoint.shortLabel vh.latestBindingTime=postBuild
globalTime CorrectionProps	GlobalTimeCorrection Props	0..1	aggr	Defintion of attributes for rate and offset correction. **Tags:** atp.Splitkey=globalTimeCorrectionProps
globalTime Domain Property	AbstractGlobalTime DomainProps	0..1	aggr	Additional properties of the GlobalTimeDomain. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=globalTimeDomainProperty, globalTime DomainProperty.variationPoint.shortLabel vh.latestBindingTime=postBuild
globalTime Master	GlobalTimeMaster	0..1	aggr	This represents the single master of a GlobalTime Domain. A GlobalTimeDomain may have no GlobalTime Domain.master, e.g. when it gets its time from a GPS receiver. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=globalTimeMaster, globalTimeMaster.short Name, globalTimeMaster.variationPoint.shortLabel vh.latestBindingTime=postBuild

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Class	**GlobalTimeDomain**			
globalTimeSub Domain	GlobalTimeDomain	*	ref	By this means it is possible to create a hierarchy of sub Domains where one global time domain can declare one or more other global time domains as its subDomains. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=globalTimeSubDomain, globalTimeSub Domain.globalTimeDomain, globalTimeSub Domain.variationPoint.shortLabel vh.latestBindingTime=postBuild
icvFreshness ValueId	PositiveInteger	0..1	attr	This attribute defines the Id of the Freshness Value for the Integrity Check Value (ICV) calculation and verification.
icvSecureCom Props	SecOcSecureCom Props	0..1	ref	Reference to a SecureComProps definition to be used for the Integrity Check Value (ICV) calculation and verification. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=icvSecureComProps, icvSecureCom Props.secOcSecureComProps, icvSecureCom Props.variationPoint.shortLabel vh.latestBindingTime=postBuild
maxProgression Mismatch Threshold	TimeValue	0..1	attr	This attribute defines the maximum allowed difference between local time and fallback time of the time base in seconds.
network SegmentId	NetworkSegment Identification	0..1	aggr	Defines the numerical identification of a GlobalTime sub domain. **Tags:** atp.Splitkey=networkSegmentId
pduTriggering	PduTriggering	0..1	ref	This PduTriggering will be taken to transmit the global time information from a GlobalTimeMaster to a the associated GlobalTimeSlaves. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=pduTriggering, pduTriggering.pduTriggering, pduTriggering.variationPoint.shortLabel vh.latestBindingTime=postBuild
slave	GlobalTimeSlave	*	aggr	This represents the collections of slaves of the Global TimeDomain. A GlobalTimeDomain may have no Global TimeDomain.slaves, e.g. when it propagates its time directly to sub domains. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=slave, slave.shortName, slave.variation Point.shortLabel vh.latestBindingTime=postBuild
syncLoss Timeout	TimeValue	0..1	attr	This attribute describes the timeout for the situation that the time synchronization gets lost in the scope of the time domain.

Table A.311: GlobalTimeDomain

Class	***Grant*** (abstract)
Note	This meta-class serves as the abstract base class for defining specific Grants This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*
Subclasses	*ComGrant*, ComOfferServiceGrant

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Class	***Grant*** (abstract)			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.312: Grant

Class	***HealthChannel*** (abstract)			
Note	This element defines the source of a health channel. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	HealthChannelSupervision			
Aggregated by	PlatformHealthManagementContribution.healthChannel			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
recovery Notification	RecoveryNotification	*	ref	Defines the RecoveryNotification for this HealthChannel. **Tags:** atp.Splitkey=recoveryNotification

Table A.313: HealthChannel

Class	**HealthChannelSupervision**			
Note	This element defines a health channel representing the status of a PhmSupervision. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *HealthChannel*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	PlatformHealthManagementContribution.healthChannel			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
supervision	GlobalSupervision	0..1	ref	Reference to the GlobalSupervision as source for the health channel. **Tags:** atp.Splitkey=supervision

Table A.314: HealthChannelSupervision

Class	**IEEE1722AcfBusPartRawDataStreamConsumerMapping**			
Note	This meta-class represents the ability to map a consumer PortPrototype to an Ethernet-Mac-layer IEEE1722 ACF based communication for a whole bus (Can or Lin). **Tags:** atp.Status=candidate atp.recommendedPackage=RawDataStreamingMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *EthernetMacRawDataStreamMapping*, *IEEE1722RawDataStreamMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *RawDataStreamMapping*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**IEEE1722AcfBusPartRawDataStreamConsumerMapping**			
acfBusPart	IEEE1722TpAcfBusPart	*	ref	Reference to the ACF bus parts (Can or Lin frames) which shall be handled by this mapping. **Tags:** atp.Splitkey=acfBusPart atp.Status=candidate

Table A.315: IEEE1722AcfBusPartRawDataStreamConsumerMapping

Class	**IEEE1722AcfBusRawDataStreamConsumerMapping**			
Note	This meta-class represents the ability to map a consumer PortPrototype to an Ethernet-Mac-layer IEEE1722 ACF based communication for a whole bus (Can or Lin). **Tags:** atp.Status=candidate atp.recommendedPackage=RawDataStreamingMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *EthernetMacRawDataStreamMapping*, *IEEE1722RawDataStreamMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *RawDataStreamMapping*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
acfBus	IEEE1722TpAcfBus	*	ref	Reference to the ACF buses which shall be handled by this mapping. **Tags:** atp.Splitkey=acfBus atp.Status=candidate

Table A.316: IEEE1722AcfBusRawDataStreamConsumerMapping

Class	**IEEE1722RawDataStreamConsumerMapping**			
Note	This meta-class represents the ability to map a consumer PortPrototype to an Ethernet-Mac-layer IEEE1722 based communication. **Tags:** atp.Status=candidate atp.recommendedPackage=RawDataStreamingMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *EthernetMacRawDataStreamMapping*, *IEEE1722RawDataStreamMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *RawDataStreamMapping*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
ieee1722 Stream	IEEE1722TpConnection	0..1	ref	Reference to the IEEE1722TpConnection. **Tags:** atp.Splitkey=ieee1722Stream atp.Status=candidate

Table A.317: IEEE1722RawDataStreamConsumerMapping

Class	**IEEE1722RawDataStreamProducerMapping**			
Note	This meta-class represents the ability to map a producer PortPrototype to an Ethernet-Mac-layer IEEE1722 based communication. **Tags:** atp.Status=candidate atp.recommendedPackage=RawDataStreamingMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *EthernetMacRawDataStreamMapping*, *IEEE1722RawDataStreamMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *RawDataStreamMapping*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
ieee1722Stream	IEEE1722TpConnection	0..1	ref	Reference to the IEEE1722TpConnection. **Tags:** atp.Splitkey=ieee1722Stream atp.Status=candidate

Table A.318: IEEE1722RawDataStreamProducerMapping

Class	**IPSecRule**			
Note	This element defines an IPsec rule that describes communication traffic that is monitored, protected and filtered.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	IPSecConfig.ipSecRule			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
direction	CommunicationDirectionType	0..1	attr	This attribute defines the direction in which the traffic is monitored. If this attribute is not set a bidirectional traffic monitoring is assumed.
headerType	IPsecHeaderTypeEnum	0..1	attr	Header type specifying the IPsec security mechanism.
ipProtocol	IPsecIpProtocolEnum	0..1	attr	This attribute defines the relevant IP protocol used in the Security Policy Database (SPD) entry.
localCertificate	CryptoServiceCertificate	*	ref	This reference identifies the applicable certificate used for a local authentication. **Tags:** atp.Splitkey=localCertificate
localId	String	0..1	attr	This attribute defines how the local participant should be identified for authentication.
localIkePqPresharedKeySupport	LocalPqPresharedKeySupport	0..1	aggr	Post-quantum pre-shared key configuration to support IETF RFC 8784 to ensure resistance against post-quantum attacks by combining a post-quantum pre-shared key (PPK) with the exchanged information (via e.g., DH/ECDH) during key derivation. **Tags:** atp.Splitkey=localIkePqPresharedKeySupport
localPortRangeEnd	PositiveInteger	0..1	attr	This attribute restricts the traffic monitoring and defines an end value for the local port range. If this attribute is not set then this rule shall be effective for all local ports. Please note that port ranges are currently not supported in the AUTOSAR AP's operating system backend. If AP systems are involved, each IPsec rule may only contain a single port.

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Class	**IPSecRule**			
localPortRange Start	PositiveInteger	0..1	attr	This attribute restricts the traffic monitoring and defines a start value for the local port range. If this attribute is not set then this rule shall be effective for all local ports. Please note that port ranges are currently not supported in the AUTOSAR AP's operating system backend. If AP systems are involved, each IPsec rule may only contain a single port.
mode	IPsecModeEnum	0..1	attr	This attribute defines the type of the connection.
policy	IPsecPolicyEnum	0..1	attr	An IPsec policy defines the rules that determine which type of IP traffic needs to be secured using IPsec and how that traffic is secured.
preSharedKey	CryptoServiceKey	0..1	ref	This reference identifies the applicable cryptographic key used for authentication. **Tags:** atp.Splitkey=preSharedKey
priority	PositiveInteger	0..1	attr	This attribute defines the priority of the IPSecRule (SPD entry). The processing of entries is based on priority, starting with the highest priority "0".
remote Certificate	CryptoService Certificate	*	ref	This reference identifies the applicable certificate used for a remote authentication. **Tags:** atp.Splitkey=remoteCertificate
remoteId	String	0..1	attr	This attribute defines how the remote participant should be identified for authentication.
remoteIp Address	NetworkEndpoint	*	ref	Definition of the remote NetworkEndpoint. With this reference the connection between the local Network Endpoint and the remote NetworkEndpoint is described on which the traffic is monitored. **Tags:** atp.Splitkey=remoteIpAddress
remotePort RangeEnd	PositiveInteger	0..1	attr	This attribute restricts the traffic monitoring and defines an end value for the remote port range. If this attribute is not set then this rule shall be effective for all local ports. Please note that port ranges are currently not supported in the AUTOSAR AP's operating system backend. If AP systems are involved, each IPsec rule may only contain a single port.
remotePort RangeStart	PositiveInteger	0..1	attr	This attribute restricts the traffic monitoring and defines a start value for the remote port range. If this attribute is not set then this rule shall be effective for all local ports. Please note that port ranges are currently not supported in the AUTOSAR AP's operating system backend. If AP systems are involved, each IPsec rule may only contain a single port.

Table A.319: IPSecRule

Class	**ISignal**			
Note	Signal of the Interaction Layer. The RTE supports a "signal fan-out" where the same System Signal is sent in different SignalIPdus to multiple receivers. To support the RTE "signal fan-out" each SignalIPdu contains ISignals. If the same System Signal is to be mapped into several SignalIPdus there is one ISignal needed for each ISignalToIPduMapping. ISignals describe the Interface between the Precompile configured RTE and the potentially Postbuild configured Com Stack (see ECUC Parameter Mapping). In case of the SystemSignalGroup an ISignal shall be created for each SystemSignal contained in the SystemSignalGroup. **Tags:** atp.recommendedPackage=ISignals			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FibexElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
data Transformation	DataTransformation	0..1	ref	Optional reference to a DataTransformation which represents the transformer chain that is used to transform the data that shall be placed inside this ISignal. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=dataTransformation, data Transformation.dataTransformation, data Transformation.variationPoint.shortLabel vh.latestBindingTime=codeGenerationTime
dataTypePolicy	DataTypePolicyEnum	0..1	attr	With the aggregation of SwDataDefProps an ISignal specifies how it is represented on the network. This representation follows a particular policy. Note that this causes some redundancy which is intended and can be used to support flexible development methodology as well as subsequent integrity checks. If the policy "networkRepresentationFromComSpec" is chosen the network representation from the ComSpec that is aggregated by the PortPrototype shall be used. If the "override" policy is chosen the requirements specified in the PortInterface and in the ComSpec are not fulfilled by the networkRepresentationProps. In case the System Description doesn't use a complete Software Component Description (VFB View) the "legacy" policy can be chosen.
initValue	ValueSpecification	0..1	aggr	Optional definition of a ISignal's initValue in case the System Description doesn't use a complete Software Component Description (VFB View). This supports the inclusion of legacy system signals. This value can be used to configure the Signal's "Init Value". If a full DataMapping exist for the SystemSignal this information may be available from a configured Sender ComSpec and ReceiverComSpec. In this case the initvalues in SenderComSpec and/or ReceiverComSpec override this optional value specification. Further restrictions apply from the RTE specification. **Tags:** atp.Splitkey=initValue
iSignalProps	ISignalProps	0..1	aggr	Additional optional ISignal properties that may be stored in different files. **Tags:** atp.Splitkey=iSignalProps
iSignalType	ISignalTypeEnum	0..1	attr	This attribute defines whether this iSignal is an array that results in a UINT8_N / UINT8_DYN ComSignalType in the COM configuration or a primitive type.



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Class	**ISignal**			
length	UnlimitedInteger	0..1	attr	Size of the signal in bits. The size needs to be derived from the mapped VariableDataPrototype according to the mapping of primitive DataTypes to BaseTypes as used in the RTE. Indicates maximum size for dynamic length signals. The ISignal length of zero bits is allowed.
network Representation Props	SwDataDefProps	0..1	aggr	Specification of the actual network representation. The usage of SwDataDefProps for this purpose is restricted to the attributes compuMethod and baseType. The optional baseType attributes "memAllignment" and "byteOrder" shall not be used. The attribute "dataTypePolicy" in the SystemTemplate element defines whether this network representation shall be ignored and the information shall be taken over from the network representation of the ComSpec. If "override" is chosen by the system integrator the network representation can violate against the requirements defined in the PortInterface and in the network representation of the ComSpec. In case that the System Description doesn't use a complete Software Component Description (VFB View) this element is used to configure "ComSignalDataInvalid Value" and the Data Semantics. **Tags:** atp.Splitkey=networkRepresentationProps
systemSignal	SystemSignal	0..1	ref	Reference to the System Signal that is supposed to be transmitted in the ISignal. **Tags:** atp.Splitkey=systemSignal
timeout Substitution Value	ValueSpecification	0..1	aggr	Defines and enables the ComTimeoutSubstituition for this ISignal. **Tags:** atp.Splitkey=timeoutSubstitutionValue
transformation ISignalProps	TransformationISignal Props	*	aggr	A transformer chain consists of an ordered list of transformers. The ISignal specific configuration properties for each transformer are defined in the TransformationISignalProps class. The transformer configuration properties that are common for all ISignals are described in the TransformationTechnology class. **Tags:** atp.Splitkey=transformationISignalProps

Table A.320: ISignal

Class	**ISignalGroup**			
Note	SignalGroup of the Interaction Layer. The RTE supports a "signal fan-out" where the same System Signal Group is sent in different SignalIPdus to multiple receivers. An ISignalGroup refers to a set of ISignals that shall always be kept together. A ISignalGroup represents a COM Signal Group. Therefore it is recommended to put the ISignalGroup in the same Package as ISignals (see atp.recommendedPackage) **Tags:** atp.recommendedPackage=ISignalGroups			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FibexElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**ISignalGroup**			
comBased SignalGroup Transformation	DataTransformation	0..1	ref	Optional reference to a DataTransformation which represents the transformer chain that is used to transform the data that shall be placed inside this ISignalGroup based on the COMBasedTransformer approach. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=comBasedSignalGroupTransformation, comBasedSignalGroupTransformation.dataTransformation, comBasedSignalGroupTransformation.variationPoint.shortLabel vh.latestBindingTime=codeGenerationTime
iSignal	ISignal	*	ref	Reference to a set of ISignals that shall always be kept together. **Tags:** atp.Splitkey=iSignal
systemSignal Group	SystemSignalGroup	0..1	ref	Reference to the SystemSignalGroup that is defined on VFB level and that is supposed to be transmitted in the ISignalGroup. **Tags:** atp.Splitkey=systemSignalGroup
transformation ISignalProps	TransformationISignal Props	*	aggr	A transformer chain consists of an ordered list of transformers. The ISignalGroup specific configuration properties for each transformer are defined in the TransformationISignalProps class. The transformer configuration properties that are common for all ISignal Groups are described in the TransformationTechnology class. **Tags:** atp.Splitkey=transformationISignalProps

Table A.321: ISignalGroup

Class	**ISignalIPdu**			
Note	Represents the IPdus handled by Com. The ISignalIPdu assembled and disassembled in AUTOSAR COM consists of one or more signals. In case no multiplexing is performed this IPdu is routed to/from the Interface Layer. A maximum of one dynamic length signal per IPdu is allowed. **Tags:** atp.recommendedPackage=Pdus			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FibexElement*, *IPdu*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Pdu*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
iPduTiming Specification	IPduTiming	0..1	aggr	Timing specification for Com IPdus (Transmission Modes). This information is mandatory for the sender in a System Extract. This information may be omitted on receivers in a System Extract. atpVariation: The timing of a Pdu can vary. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=iPduTimingSpecification, iPduTimingSpecification.variationPoint.shortLabel vh.latestBindingTime=postBuild

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Class	**ISignalIPdu**			
iSignalToPdu Mapping	ISignalToIPduMapping	*	aggr	Definition of SignalToIPduMappings included in the Signal IPdu. atpVariation: The content of a PDU can be variable. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=iSignalToPduMapping, iSignalToPdu Mapping.shortName, iSignalToPduMapping.variation Point.shortLabel vh.latestBindingTime=postBuild
unusedBit Pattern	Integer	0..1	attr	AUTOSAR COM and AUTOSAR IPDUM are filling not used areas of an IPDU with this bit-pattern. This attribute is mandatory to avoid undefined behavior. This byte-pattern will be repeated throughout the IPdu.

Table A.322: ISignalIPdu

Class	**ISignalPort**			
Note	Connectors reception or send port on the referenced channel referenced by an ISignalTriggering. If different timeouts or DataFilters for ISignals need to be specified several ISignalPorts may be created.			
Base	*ARObject*, *CommConnectorPort*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*CommunicationConnector*.ecuCommPortInstance			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataFilter	DataFilter	0..1	aggr	Optional specification of a signal COM filter at the receiver side in case that the System Description doesn't use a complete Software Component Description (VFB View). This supports the inclusion of legacy system signals. If a full DataMapping exist for the SystemSignal this information may be available from a configured ReceiverComSpec. In this case the ReceiverComSpec overrides this optional specification. **Tags:** atp.Splitkey=dataFilter
ddsQosProfile	DdsCpQosProfile	0..1	ref	Reference to the DDS Qos profile used for this ISignal. **Tags:** atp.Splitkey=ddsQosProfile atp.Status=candidate
firstTimeout	TimeValue	0..1	attr	• ISignalPort with communicationDirection = in: Optional first timeout value in seconds for the reception of the ISignal. • ISignalPort with communicationDirection = out: Optional first timeout value in seconds for transmission deadline monitoring.
handleInvalid	HandleInvalidEnum	0..1	attr	This attribute defines how invalidation is applied to the ISignals received in the context of this ISignalPort.

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Class	**ISignalPort**			
timeout	TimeValue	0..1	attr	• ISignalPort with communicationDirection = in: Optional timeout value in seconds for the reception of the ISignal. The attribute value is used to configure the Com Timeout in the COM module. The RTE ignores this attribute. The timeout can also be specified with the NonqueuedReceiverComSpec.aliveTimeout attribute. If a full DataMapping exists for the SystemSignal and the value is available in the configured ReceiverComSpec, then the timeout value in the ReceiverComSpec overrides this optional timeout specification during the creation of the Base Ecu Configuration of the COM module. • ISignalPort with communicationDirection = out: Optional timeout value in seconds for the transmission of the ISignal. The attribute value is used to configure the ComTimeout in the COM module. The RTE ignores this attribute. The timeout can also be specified with the SenderComSpec.transmissionAcknowledge.timeout attribute. If a full DataMapping exists for the System Signal and the value is available in the configured Sender ComSpec, then the timeout value in the SenderComSpec overrides this optional timeout specification during the creation of the Base Ecu Configuration of the COM module. This attribute can be used in the following cases: • legacy signal where the System Description doesn't use a complete Software Component Description (VFB View) and where the DataMapping is missing. • bus monitoring use cases in which the DataMapping is ignored.

Table A.323: ISignalPort

Class	**ISignalToIPduMapping**			
Note	An ISignalToIPduMapping describes the mapping of ISignals to ISignalIPdus and defines the position of the ISignal within an ISignalIPdu.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ISignalIPdu.iSignalToPduMapping, NmPdu.iSignalToIPduMapping			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
iSignal	ISignal	0..1	ref	Reference to a ISignal that is mapped into the ISignal IPdu. Each ISignal contained in the ISignalGroup shall be mapped into an IPdu by an own ISignalToIPduMapping. The references to the ISignal and to the ISignalGroup in an ISignalToIPduMapping are mutually exclusive. **Tags:** atp.Splitkey=iSignal

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Class	**ISignalToIPduMapping**			
iSignalGroup	ISignalGroup	0..1	ref	Reference to an ISignalGroup that is mapped into the SignalIPdu. If an ISignalToIPduMapping for an ISignal Group is defined, only the UpdateIndicationBitPosition and the transferProperty is relevant. The startPosition and the packingByteOrder shall be ignored. Each ISignal contained in the ISignalGroup shall be mapped into an IPdu by an own ISignalToIPduMapping. The references to the ISignal and to the ISignalGroup in an ISignalToIPduMapping are mutually exclusive. **Tags:** atp.Splitkey=iSignalGroup
packingByte Order	ByteOrderEnum	0..1	attr	This parameter defines the order of the bytes of the signal and the packing into the SignalIPdu. The byte ordering "Little Endian" (MostSignificantByteLast), "Big Endian" (MostSignificantByteFirst) and "Opaque" can be selected. For opaque data endianness conversion shall be configured to Opaque. The value of this attribute impacts the absolute position of the signal into the SignalIPdu (see the startPosition attribute description). For an ISignalGroup the packingByteOrder is irrelevant and shall be ignored.
startPosition	UnlimitedInteger	0..1	attr	This parameter is necessary to describe the bitposition of a signal within an SignalIPdu. It denotes the least significant bit for "Little Endian" and the most significant bit for "Big Endian" packed signals within the IPdu (see the description of the packingByteOrder attribute). In AUTOSAR the bit counting is always set to "sawtooth" and the bit order is set to "Decreasing". The bit counting in byte 0 starts with bit 0 (least significant bit). The most significant bit in byte 0 is bit 7. Please note that the way the bytes will be actually sent on the bus does not impact this representation: they will always be seen by the software as a byte array. If a mapping for the ISignalGroup is defined, this attribute is irrelevant and shall be ignored.
transferProperty	TransferPropertyEnum	0..1	attr	Defines how the referenced ISignal contributes to the send triggering of the ISignalIPdu.
update IndicationBit Position	UnlimitedInteger	0..1	attr	The UpdateIndicationBit indicates to the receivers that the signal (or the signal group) was updated by the sender. Length is always one bit. The UpdateIndicationBitPosition attribute describes the position of the update bit within the SignalIPdu. For Signals of a ISignalGroup this attribute is irrelevant and shall be ignored. Note that the exact bit position of the updateIndicationBit Position is linked to the value of the attribute packingByte Order because the method of finding the bit position is different for the values mostSignificantByteFirst and most SignificantByteLast. This means that if the value of packingByteOrder is changed while the value of update IndicationBitPosition remains unchanged the exact bit position of updateIndicationBitPosition within the enclosing ISignalIPdu still undergoes a change. This attribute denotes the least significant bit for "Little Endian" and the most significant bit for "Big Endian" packed signals within the IPdu (see the description of the packingByteOrder attribute). In AUTOSAR the bit counting is always set to "sawtooth" and the bit order is set to "Decreasing". The bit counting in byte 0 starts with bit 0 (least significant bit). The most significant bit in byte 0 is bit 7.

Table A.324: ISignalToIPduMapping

Class	**ISignalTriggering**			
Note	A ISignalTriggering allows an assignment of ISignals to physical channels.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*PhysicalChannel*.iSignalTriggering			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
iSignal	ISignal	0..1	ref	This reference shall be used if an ISignal is transported on the PhysicalChannel. This reference forms an XOR relationship with the ISignalTriggering-ISignalGroup reference. **Tags:** atp.Splitkey=iSignal
iSignalGroup	ISignalGroup	0..1	ref	This reference shall be used if an ISignalGroup is transported on the PhysicalChannel. This reference forms an XOR relationship with the ISignal Triggering-ISignal reference. **Tags:** atp.Splitkey=iSignalGroup
iSignalPort	ISignalPort	*	ref	References to the ISignalPort on every ECU of the system which sends and/or receives the ISignal. References for both the sender and the receiver side shall be included when the system is completely defined. **Tags:** atp.Splitkey=iSignalPort

Table A.325: ISignalTriggering

Class	***Identifiable*** (abstract)
Note	Instances of this class can be referred to by their identifier (within the namespace borders). In addition to this, Identifiables are objects which contribute significantly to the overall structure of an AUTOSAR description. In particular, Identifiables might contain Identifiables.
Base	*ARObject*, *MultilanguageReferrable*, *Referrable*
Subclasses	ARPackage, *AbstractDoIpLogicAddressProps*, *AbstractEvent*, *AbstractFunctionalClusterDesign*, *AbstractImplementationDataTypeElement*, *AbstractSecurityEventFilter*, *AbstractSecurityIdsmInstance Filter*, *AbstractServiceInstance*, *AbstractSignalBasedToISignalTriggeringMapping*, AdaptiveSwcInternal Behavior, ApApplicationEndpoint, *ApmcAbstractDefinition*, *ApmcConfigurationElementDef*, *Apmc ContainerElementValue*, ApmcContainerValue, ApmcEnumerationLiteralDef, ApplicationEndpoint, ApplicationError, AppliedStandard, ArtifactChecksum, ArtifactLocator, *AtpBlueprint*, *AtpClassifier*, *Atp Feature*, AutosarOperationArgumentInstance, AutosarVariableInstance, *BuildActionEntity*, BuildAction Environment, CanSecSecureChannel, Chapter, CheckpointTransition, ClientIdDefinition, ClientServer Operation, Code, *CollectableElement*, ComManagementMapping, *CommConnectorPort*, *CommunicationConnector*, *CommunicationController*, Compiler, ConsistencyNeeds, ConsumedEvent Group, CouplingPort, *CouplingPortAbstractShaper*, *CouplingPortStructuralElement*, CryptoCertificate, CryptoCertificateGroup, CryptoKeySlot, CryptoKeySlotDesign, CryptoKeySlotUsageDesign, Crypto Provider, *CryptoServiceMapping*, DataPrototypeGroup, DataPrototypeTransformationPropsIdent, Data Transformation, *DdsAbstractServiceInstanceElementCp*, DdsCpDomain, DdsCpPartition, DdsCpQos Profile, DdsCpTopic, DdsDomainRange, DependencyOnArtifact, *DiagEventDebounceAlgorithm*, *DiagnosticAbstractSovdContent*, DiagnosticAuthTransmitCertificateEvaluation, DiagnosticConnected Indicator, DiagnosticDataElement, DiagnosticDebounceAlgorithmProps, DiagnosticExtendedDataRecord Element, DiagnosticFunctionInhibitSource, DiagnosticParameterElement, *DiagnosticRoutineSubfunction*, DiagnosticSovdMethodPrimitive, DltApplication, DltArgument, DltArgumentProps, DltMessage, DoIp Interface, DoIpLogicAddress, DoIpLogicalAddress, DoIpNetworkConfigurationDesign, DoIpRouting Activation, E2EProfileConfiguration, End2EndEventProtectionProps, End2EndMethodProtectionProps, EthernetWakeupSleepOnDatalineConfig, EventHandler, EventMapping, ExclusiveArea, *Executable Entity*, *ExecutionTime*, FMAttributeDef, FMFeatureMapAssertion, FMFeatureMapCondition, FMFeature MapElement, FMFeatureRelation, FMFeatureRestriction, FMFeatureSelection, FieldMapping, FireAnd ForgetMethodMapping, FlexrayTpPduPool, *FrameTriggering*, GlobalSupervision, GlobalTimeGateway, *GlobalTimeMaster*, *GlobalTimeSlave*, *HealthChannel*, *HeapUsage*, HwAttributeDef, HwAttributeLiteral Def, HwPin, HwPinGroup, *IEEE1722TpAcfBus*, *IEEE1722TpAcfBusPart*, IPSecRule, IPv6ExtHeader FilterList, ISignalToIPduMapping, ISignalTriggering, *IdentCaption*, ImpositionTime, InternalTriggering Point, Keyword, LifeCycleState, Linker, MacAddressVlanMembership, MacMulticastGroup, MacSecKay Participant, McDataInstance, MemorySection, MemoryUsage, MethodMapping, ModeDeclaration, Mode ▽

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Class	***Identifiable*** (abstract)			
	△ DeclarationMapping, ModeSwitchPoint, ModeSwitchSenderComSpecProps, NetworkEndpoint, *Nm Cluster*, *NmNode*, *PackageableElement*, ParameterAccess, PduActivationRoutingGroup, PduToFrame Mapping, PduTriggering, PerInstanceMemory, *PersistencyDeploymentElement*, *PersistencyInterface Element*, *PhmSupervision*, *PhysicalChannel*, PortGroup, *PortInterfaceMapping*, ProcessToMachine Mapping, Processor, ProcessorCore, PskIdentityToKeySlotMapping, QueuedReceiverComSpecProps, ResourceConsumption, ResourceGroup, RootSwClusterDesignComponentPrototype, RootSw ComponentPrototype, RootSwCompositionPrototype, RptComponent, RptContainer, RptExecutable Entity, RptExecutableEntityEvent, RptExecutionContext, RptProfile, RptServicePoint, RunnableEntity Group, *SdgAttribute*, SdgClass, SecOcJobMapping, SecOcJobRequirement, SecureCommunication AuthenticationProps, *SecureCommunicationDeployment*, SecureCommunicationFreshnessProps, SecurityEventContextDataElement, SecurityEventContextProps, ServerComSpecProps, *Service InterfaceDeploymentElement*, ServiceInterfaceElementSecureComConfig, *ServiceNeeds*, SignalService TranslationEventProps, SignalServiceTranslationProps, SocketAddress, SoftwarePackageStep, Someip EventGroup, SomeipProvidedEventGroup, SomeipTpChannel, *StackUsage*, *StateManagementAction Item*, StateManagementActionList, StateManagementStateNotification, *StateManagementStateRequest*, StaticSocketConnection, StructuredReq, SupervisionCheckpoint, SupervisionMode, SupervisionMode Condition, SwGenericAxisParamType, SwServiceArg, SwcServiceDependency, SystemMapping, *Time BaseResource*, *TimingClock*, TimingClockSyncAccuracy, TimingCondition, *TimingConstraint*, *Timing Description*, TimingExtensionResource, TimingModeInstance, TlsCryptoCipherSuite, TlsCryptoCipher SuiteProps, TlsJobMapping, Topic1, TpAddress, TraceableTable, TraceableText, *TracedFailure*, TransformationISignalPropsIdent, *TransformationProps*, TransformationTechnology, Trigger, Ucm Description, UcmRetryStrategy, UcmStep, UriDescription, VariableAccess, VariationPointProxy, Vehicle RolloutStep, ViewMap, VlanConfig, WaitPoint			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
adminData	AdminData	0..1	aggr	This represents the administrative data for the identifiable object. **Tags:** atp.Splitkey=adminData xml.sequenceOffset=-40
annotation	Annotation	*	aggr	Possibility to provide additional notes while defining a model element (e.g. the ECU Configuration Parameter Values). These are not intended as documentation but are mere design notes. **Tags:** atp.Splitkey=annotation xml.sequenceOffset=-25
category	CategoryString	0..1	attr	The category is a keyword that specializes the semantics of the Identifiable. It affects the expected existence of attributes and the applicability of constraints. **Tags:** xml.sequenceOffset=-50
desc	MultiLanguageOverview Paragraph	0..1	aggr	This represents a general but brief (one paragraph) description what the object in question is about. It is only one paragraph! Desc is intended to be collected into overview tables. This property helps a human reader to identify the object in question. More elaborate documentation, (in particular how the object is built or used) should go to "introduction". **Tags:** atp.Splitkey=desc xml.sequenceOffset=-60
introduction	DocumentationBlock	0..1	aggr	This represents more information about how the object in question is built or is used. Therefore it is a DocumentationBlock. **Tags:** atp.Splitkey=introduction xml.sequenceOffset=-30

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Class	***Identifiable*** (abstract)			
uuid	String	0..1	attr	The purpose of this attribute is to provide a globally unique identifier for an instance of a meta-class. The values of this attribute should be globally unique strings prefixed by the type of identifier. For example, to include a DCE UUID as defined by The Open Group, the UUID would be preceded by "DCE:". The values of this attribute may be used to support merging of different AUTOSAR models. The form of the UUID (Universally Unique Identifier) is taken from a standard defined by the Open Group (was Open Software Foundation). This standard is widely used, including by Microsoft for COM (GUIDs) and by many companies for DCE, which is based on CORBA. The method for generating these 128-bit IDs is published in the standard and the effectiveness and uniqueness of the IDs is not in practice disputed. If the id namespace is omitted, DCE is assumed. An example is "DCE:2fac1234-31f8-11b4-a222-08002b34c003". The uuid attribute has no semantic meaning for an AUTOSAR model and there is no requirement for AUTOSAR tools to manage the timestamp. **Tags:** xml.attribute=true

Table A.326: Identifiable

Class	**IdsFunctionalClusterDesign**			
Note	This meta-class defines the intrusion detection system configuration settings in the MachineDesign. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AbstractFunctionalClusterDesign*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	MachineDesign.functionalClusterDesign			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
network Interface	PlatformModule EthernetEndpoint Configuration	*	ref	This association contains the network configuration that shall be applied to an IDS entity. **Tags:** atp.Splitkey=networkInterface

Table A.327: IdsFunctionalClusterDesign

Class	***IdsPlatformInstantiation*** (abstract)			
Note	This meta-class acts as an abstract base class for platform modules that implement the intrusion detection system. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *NonOsModuleInstantiation*, *Referrable*			
Subclasses	IdsmModuleInstantiation			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
idsDesign	IdsFunctionalCluster Design	0..1	ref	Reference to the Ids Design that this IdsPlatform Instantiation implements. **Tags:** atp.Splitkey=idsDesign
idsTimeBase	TimeBaseResource	*	ref	This reference identifies the applicable time base resource. **Tags:** atp.Splitkey=idsTimeBase

Table A.328: IdsPlatformInstantiation

Class	IdsmContextProviderInterface			
Note	This meta-class provides the ability to define a PortInterface for providing a Context for security events in the context of the intrusion detection system. **Tags:** atp.recommendedPackage=IdsmPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *Idsm AbstractPortInterface*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.329: IdsmContextProviderInterface

Class	IdsmContextProviderMapping			
Note	This meta-class represents the ability to define a mapping between an IdsMInstance and a Process on target-configuration level to a given PortPrototype that is typed by a IdsmContextProviderInterface. **Tags:** atp.recommendedPackage=IdsmProviderMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
idsPlatform Instantiation	IdsPlatformInstantiation	0..1	ref	This represents the IdsM functional cluster. **Tags:** atp.Splitkey=idsPlatformInstantiation
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This reference identifies the mapped PortPrototype in the application software. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	Process	0..1	ref	This reference identifies the process in which the application runs. **Tags:** atp.Splitkey=process

Table A.330: IdsmContextProviderMapping

Class	IdsmModuleInstantiation			
Note	This meta-class defines the attributes for the IdsM configuration on a specific machine. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *Ids PlatformInstantiation*, *MultilanguageReferrable*, *NonOsModuleInstantiation*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
idsmInstance	IdsmInstance	0..1	ref	This reference identifies the IdsmInstance that is associated with the enclosing IdsmModuleInstantiation. **Tags:** atp.Splitkey=idsmInstance

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Class	**IdsmModuleInstantiation**			
queueSize	PositiveInteger	0..1	attr	Length of the queue in which IDS events can be stored before processing, if immediate processing is not possible.
reportable SecurityEvent	SecurityEventMapping	*	ref	Collection of reportable instances of security events. **Tags:** atp.Splitkey=reportableSecurityEvent

Table A.331: IdsmModuleInstantiation

Class	**IdsmModuleInstantiationToCryptoKeySlotMapping**			
Note	This meta-class maps the cryptographic algorithm and key to be used to the the IdsM instantiation, for providing signature information in QSEv messages. **Tags:** atp.recommendedPackage=FCInteractions This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FunctionalClusterInteractsWithFunctionalClusterMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
authenticator Format	NameToken	0..1	attr	This attribute configures the authenticator format. The potential content of the attribute is limited by a constraint.
cryptoKeySlot	CryptoKeySlot	0..1	ref	This reference represents the mapped `CryptoKeySlot`. **Tags:** atp.Splitkey=cryptoKeySlot
cryptoPrimitive	String	0..1	attr	This attribute defines the cryptographic algorithm to be used for providing authentication information in QSEv messages. The content of this attribute shall comply to the "Cryptographic Primitives Naming Convention".
idsmModule Instantiation	IdsmModule Instantiation	0..1	ref	This reference identifies the applicable `IdsmModuleInstantiation`. **Tags:** atp.Splitkey=idsmModuleInstantiation atp.Status=candidate

Table A.332: IdsmModuleInstantiationToCryptoKeySlotMapping

Class	**IdsmQualifiedEventReceiverInterface**			
Note	This meta-class provides the ability to define a PortInterface for receiving qualified security events in the context of the intrusion detection system. **Tags:** atp.recommendedPackage=IdsmPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *IdsmAbstractPortInterface*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.333: IdsmQualifiedEventReceiverInterface

Class	IdsmQualifiedEventReceiverMapping			
Note	This meta-class represents the ability to define a mapping between an IdsM Module Instance and a Process on deployment level to a given PortPrototype that is typed by a IdsmQualifiedEventReceiver Interface. **Tags:** atp.recommendedPackage=IdsmReceiverMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
idsPlatform Instantiation	IdsPlatformInstantiation	0..1	ref	This represents the IdsM functional cluster. **Tags:** atp.Splitkey=idsPlatformInstantiation
process	Process	0..1	ref	This reference identifies the process in which the application runs. **Tags:** atp.Splitkey=process
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This reference identifies the mapped RPortPrototype in the application software. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.334: IdsmQualifiedEventReceiverMapping

Class	IdsmReportingModeProviderInterface			
Note	This meta-class provides the ability to define a PortInterface for setting and getting the reporting mode for security events in the context of the intrusion detection system. **Tags:** atp.recommendedPackage=IdsmPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *Idsm AbstractPortInterface*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.335: IdsmReportingModeProviderInterface

Class	IdsmReportingModeProviderMapping			
Note	This meta-class represents the ability to define a mapping between an IdsMInstance and a Process on target-configuration level to a given PortPrototype that is typed by a IdsmReportingModeProvider Interface. **Tags:** atp.recommendedPackage=IdsmProviderMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**

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Class	**IdsmReportingModeProviderMapping**			
idsPlatform Instantiation	IdsPlatformInstantiation	0..1	ref	This represents the IdsM functional cluster. **Tags:** atp.Splitkey=idsPlatformInstantiation
process	Process	0..1	ref	This reference identifies the process in which the application runs **Tags:** atp.Splitkey=process
rPortPrototype InExecutable	RPortPrototype	0..1	iref	This reference identifies the mapped RPortPrototype in the application software. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=rPortPrototypeInExecutable, rPort PrototypeInExecutable.contextRootSwComponent Prototype, rPortPrototypeInExecutable.context ComponentPrototype, rPortPrototypeInExecutable.target RPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.336: IdsmReportingModeProviderMapping

Class	**IdsmTimestampProviderInterface**			
Note	This meta-class provides the ability to define a PortInterface for providing a timestamp for security events in the context of the intrusion detection system. **Tags:** atp.recommendedPackage=IdsmPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *Idsm AbstractPortInterface*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
–	–	–	–	–

Table A.337: IdsmTimestampProviderInterface

Class	**IdsmTimestampProviderMapping**			
Note	This meta-class represents the ability to define a mapping between an IdsMInstance and a Process on target-configuration level to a given PortPrototype that is typed by a IdsmTimestampProviderInterface. **Tags:** atp.recommendedPackage=IdsmProviderMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
idsPlatform Instantiation	IdsPlatformInstantiation	0..1	ref	This represents the IdsM functional cluster. **Tags:** atp.Splitkey=idsPlatformInstantiation

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Class	**IdsmTimestampProviderMapping**			
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This reference identifies the mapped PortPrototype in the application software. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	Process	0..1	ref	This reference identifies the process in which the application runs. **Tags:** atp.Splitkey=process

Table A.338: IdsmTimestampProviderMapping

Class	**ImplementationDataTypeElementInPortInterfaceRef**			
Note	This meta-class represents the ability to refer to the internal structure of an AutosarDataPrototype which is typed by an ImplementationDatatype in the context of a PortInterface. In other words, this meta-class shall not be used to model a reference to the AutosarDataPrototype as a target itself, even if the AutosarDataPrototype is typed by an ImplementationDataType and even if that ImplementationDataType represents a composite data type.			
Base	*ARObject*, *DataPrototypeReference*			
Aggregated by	DataPrototypeTransformationProps.dataPrototypeInPortInterfaceRef, SignalServiceTranslationElement Props.element, TransmissionComSpecProps.onChangeDataPrototype			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
context Implementation DataElement (ordered)	AbstractImplementation DataTypeElement	*	ref	This is a context in case there are subelements with explicit types. The reference has to be ordered to properly reflect the nested structure. **Tags:** xml.sequenceOffset=20
rootData Prototype	AutosarDataPrototype	0..1	ref	This refers to the AutosarDataPrototype which is typed by the ImplementationDatatype. The targetDataPrototype and all defined contextDataPrototypes can be found within this rootDataPrototype. **Tags:** atp.Splitkey=rootDataPrototype xml.sequenceOffset=10
target Implementation DataType Element	AbstractImplementation DataTypeElement	0..1	ref	This is a target ImplementationDataTypeElement in case that the rootDataPrototype is composite and the target is a subElement of the rootDataPrototype. **Tags:** atp.Splitkey=targetImplementationDataTypeElement xml.sequenceOffset=30

Table A.339: ImplementationDataTypeElementInPortInterfaceRef

Class	**InterfaceMapping**
Note	This meta-class collects the mappings of elements of a single ServiceInterface to PortInterface elements of the AUTOSAR Classic Platform. **Tags:** atp.recommendedPackage=InterfaceMappings This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*

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Class	**InterfaceMapping**			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
eventMapping	EventMapping	*	aggr	Mapping of a VariableDataPrototype in a SenderReceiver Interface to an Event in a ServiceInterface. **Tags:** atp.Splitkey=eventMapping, eventMapping.shortName
fieldMapping	FieldMapping	*	aggr	Mapping of a Field in a ServiceInterface to ClientServer Operations that represent the getter and setter methods and to a VariableDataPrototype that represents the notifier in the Field. **Tags:** atp.Splitkey=fieldMapping, fieldMapping.shortName
fireAndForgetMethodMapping	FireAndForgetMethodMapping	*	aggr	Mapping of a Fire&Forget Method that is located in a ServiceInterface to a VariableDataPrototype in a SenderReceiverInterface or to a Trigger in a TriggerInterface. **Tags:** atp.Splitkey=fireAndForgetMethodMapping, fireAndForgetMethodMapping.shortName
methodMapping	MethodMapping	*	aggr	Mapping of a ClientServerOperation in a ClientServer Interface to a Method in a ServiceInterface. **Tags:** atp.Splitkey=methodMapping, methodMapping.shortName

Table A.340: InterfaceMapping

Class	**Ipv4Configuration**			
Note	Internet Protocol version 4 (IPv4) configuration.			
Base	*ARObject*, *NetworkEndpointAddress*			
Aggregated by	NetworkEndpoint.networkEndpointAddress			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
assignmentPriority	PositiveInteger	0..1	attr	Priority of assignment (1 is highest). If a new address from an assignment method with a higher priority is available, it overwrites the IP address previously assigned by an assignment method with a lower priority.
defaultGateway	Ip4AddressString	0..1	attr	IP address of the default gateway.
dnsServerAddress	Ip4AddressString	*	attr	IP addresses of preconfigured DNS servers. **Tags:** xml.namePlural=DNS-SERVER-ADDRESSES
ipAddressKeepBehavior	IpAddressKeepEnum	0..1	attr	Defines the lifetime of a dynamically fetched IP address.
ipv4Address	Ip4AddressString	0..1	attr	IPv4 Address. Notation: 255.255.255.255. The IP Address shall be declared in case the ipv4AddressSource is FIXED and thus no auto-configuration mechanism is used. **Stereotypes:** atpIdentityContributor
ipv4AddressSource	Ipv4AddressSourceEnum	0..1	attr	Defines how the node obtains its IP address.
networkMask	Ip4AddressString	0..1	attr	Network mask. Notation 255.255.255.255
ttl	PositiveInteger	0..1	attr	Lifespan of data (0..255). The purpose of the TimeToLive field is to avoid a situation in which an undeliverable datagram keeps circulating on a system.

Table A.341: Ipv4Configuration

Class	**Ipv6Configuration**			
Note	Internet Protocol version 6 (IPv6) configuration.			
Base	*ARObject*, *NetworkEndpointAddress*			
Aggregated by	NetworkEndpoint.networkEndpointAddress			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
assignment Priority	PositiveInteger	0..1	attr	Priority of assignment (1 is highest). If a new address from an assignment method with a higher priority is available, it overwrites the IP address previously assigned by an assignment method with a lower priority.
defaultRouter	Ip6AddressString	0..1	attr	IP address of the default router.
dnsServer Address	Ip6AddressString	*	attr	IP addresses of pre configured DNS servers. **Tags:** xml.namePlural=DNS-SERVER-ADDRESSES
enableAnycast	Boolean	0..1	attr	This attribute is used to enable anycast addressing (i.e. to one of multiple receivers).
hopCount	PositiveInteger	0..1	attr	The distance between two hosts. The hop count n means that n gateways separate the source host from the destination host (Range 0..255)
ipAddressKeep Behavior	IpAddressKeepEnum	0..1	attr	Defines the lifetime of a dynamically fetched IP address.
ipAddressPrefix Length	PositiveInteger	0..1	attr	IPv6 prefix length defines the part of the IPv6 address that is the network prefix.
ipv6Address	Ip6AddressString	0..1	attr	IPv6 Address. Notation: FFFF:...:FFFF. The IP Address shall be declared in case the ipv6AddressSource is FIXED and thus no auto-configuration mechanism is used. **Stereotypes:** atpIdentityContributor
ipv6Address Source	Ipv6AddressSource Enum	0..1	attr	Defines how the node obtains its IP address.

Table A.342: Ipv6Configuration

Class	**LTMessageCollectionToPortPrototypeMapping**			
Note	This mapping element assigns a collection of Log or Trace messages to a PortPrototype of an application. **Tags:** atp.recommendedPackage=LTMessageCollectionToPortPrototypeMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
logAndTrace Message CollectionSet	LogAndTraceMessage CollectionSet	0..1	ref	Reference to a Collection of Log or Trace messages **Tags:** atp.Splitkey=logAndTraceMessageCollectionSet
rPort	RPortPrototype	0..1	iref	Reference to the RPortPrototype to which Log or Trace messages are assigned. **Tags:** atp.Splitkey=rPort, rPort.contextRootSw ComponentPrototype, rPort.contextComponentPrototype, rPort.targetRPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.343: LTMessageCollectionToPortPrototypeMapping

Class	**LogAndTraceInstantiation**			
Note	This meta-class defines the attributes for the Log&Trace configuration on a specific machine. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *NonOsModuleInstantiation*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dltEcu	DltEcu	0..1	ref	Reference to the Ecu representation in the Log And Trace configuration. **Tags:** atp.Splitkey=dltEcu
logSink	DltLogSink	*	ref	Reference to output sinks for log or trace messages that are produced on the Machine. **Tags:** atp.Splitkey=logSink
sessionId Support	Boolean	0..1	attr	This attribute defines whether the sessionId is used or not.
timeBase Resource	TimeBaseResource	*	ref	This reference is used to describe to which time base the Log and Trace module has access. From the Time Base Resource the Log and Trace module gets the needed information to generate the time stamp. **Tags:** atp.Splitkey=timeBaseResource

Table A.344: LogAndTraceInstantiation

Class	**LogAndTraceInterface**			
Note	This meta-class provides the ability to implement a PortInterface for support of Logging or Tracing. **Tags:** atp.recommendedPackage=PortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.345: LogAndTraceInterface

Class	**LogicalSupervision**			
Note	Defines a LogicalSupervision graph consisting of transitions, initial- and final checkpoints. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *PhmSupervision*, *Referrable*			
Aggregated by	GlobalSupervision.logicalSupervision			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
finalCheckpoint	SupervisionCheckpoint	*	ref	Reference to the final Checkpoint(s) for this Logical Supervision. **Tags:** atp.Splitkey=finalCheckpoint xml.sequenceOffset=20



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Class	**LogicalSupervision**			
initialCheckpoint	SupervisionCheckpoint	*	ref	Reference to the initial Checkpoint(s) for this Logical Supervision. **Tags:** atp.Splitkey=initialCheckpoint xml.sequenceOffset=10
transition	CheckpointTransition	*	ref	Reference to the transitions for this LogicalSupervision. **Tags:** atp.Splitkey=transition xml.sequenceOffset=30

Table A.346: LogicalSupervision

Class	**Machine**			
Note	Machine that represents an Adaptive Autosar Software Stack. **Tags:** atp.recommendedPackage=Machines This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeployment Element*, *UploadablePackageElement*			
Aggregated by	ARPackage.element, *AtpClassifier*.atpFeature			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
default Application Timeout	EnterExitTimeout	0..1	aggr	This aggregation defines a default timeout in the context of a given Machine with respect to the launching and termination of applications. **Tags:** atp.Splitkey=defaultApplicationTimeout
environment Variable	TagWithOptionalValue	*	aggr	This aggregation represents the collection of environment variables that shall be added to the environment defined on the level of the enclosing Machine. **Tags:** atp.Splitkey=environmentVariable
machineDesign	MachineDesign	0..1	ref	Reference to the MachineDesign this Machine is implementing. **Tags:** atp.Splitkey=machineDesign
module Instantiation	AdaptiveModule Instantiation	*	aggr	Configuration of Adaptive Autosar module instances that are running on the machine. **Tags:** atp.Splitkey=moduleInstantiation, module Instantiation.shortName
processor	Processor	*	aggr	This represents the collection of processors owned by the enclosing machine. **Tags:** atp.Splitkey=processor, processor.shortName
secure Communication Deployment	SecureCommunication Deployment	*	aggr	Target-configuration of secure communication protocol configuration settings to crypto module entities. **Tags:** atp.Splitkey=secureCommunicationDeployment, secure CommunicationDeployment.shortName atp.Status=obsolete
trustedPlatform Executable LaunchBehavior	TrustedPlatform ExecutableLaunch BehaviorEnum	0..1	attr	This attribute controls the behavior of how authentication affects the ability to launch for each Executable.

Table A.347: Machine

Class	**MachineDesign**			
Note	This meta-class represents the ability to define requirements on a Machine in the context of designing a system. **Tags:** atp.recommendedPackage=MachineDesigns This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *CollectableElement*, *Fibex Element*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDesign Element*, *UploadablePackageElement*			
Aggregated by	ARPackage.element, *AtpClassifier*.atpFeature			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
accessControl	AccessControlEnum	0..1	attr	This attribute defines how the access restriction to the Service Instance is defined.
clientIdRange	ClientIdRange	0..1	aggr	Optional restriction of Client Identifiers for this Machine to an allowed range of numerical values. **Tags:** atp.Splitkey=clientIdRange
communication Connector	Communication Connector	*	aggr	This aggregation defines the network connection of the machine. **Tags:** atp.Splitkey=communicationConnector, communicationConnector.shortName
communication Controller	Communication Controller	*	aggr	CommunicationControllers of the Machine that are used for description of 10-Base-T1S topologies **Tags:** atp.Splitkey=communicationController, communicationController.shortName
cryptoKeySlot	CryptoKeySlotDesign	*	aggr	This aggregation represents the key slots for which a key slot design is created in the context of the enclosing machine design. **Tags:** atp.Splitkey=cryptoKeySlot, cryptoKeySlot.short Name
ethIpProps	EthIpProps	*	ref	Machine specific IP attributes. **Tags:** atp.Splitkey=ethIpProps
functional ClusterDesign	AbstractFunctional ClusterDesign	*	aggr	Configuration settings for Functional Clusters on the machine design level. **Tags:** atp.Splitkey=functionalClusterDesign, functional ClusterDesign.shortName
pncPrepare SleepTimer	TimeValue	0..1	attr	Time in seconds the PNC state machine shall wait in PNC_PREPARE_SLEEP.
pnResetTimer	TimeValue	0..1	attr	Specifies the runtime of the reset timer in seconds. This reset time is valid for the reset of PN requests.
processor	Processor	*	aggr	This represents the collection of processors owned by the enclosing MachineDesign. **Tags:** atp.Splitkey=processor, processor.shortName
service Discovery Config	ServiceDiscovery Configuration	*	aggr	Set of service discovery configuration settings that are defined on the machine for individual Communication Connectors. **Tags:** atp.Splitkey=serviceDiscoveryConfig
tcpIpIcmpProps	EthTcpIpIcmpProps	*	ref	Machine specific ICMP (Internet Control Message Protocol) attributes **Tags:** atp.Splitkey=tcpIpIcmpProps
tcpIpProps	EthTcpIpProps	*	ref	Machine specific TcpIp Stack attributes. **Tags:** atp.Splitkey=tcpIpProps

Table A.348: MachineDesign

Class	ModeDeclaration			
Note	Declaration of one Mode. The name and semantics of a specific mode is not defined in the meta-model.			
Base	*ARObject*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, ModeDeclarationGroup.modeDeclaration			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
value	PositiveInteger	0..1	attr	The RTE shall take the value of this attribute for generating the source code representation of this Mode Declaration.

Table A.349: ModeDeclaration

Class	ModeDeclarationGroup			
Note	A collection of Mode Declarations. Also, the initial mode is explicitly identified. **Tags:** atp.recommendedPackage=ModeDeclarationGroups			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDesignElement*, *Uploadable PackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
initialMode	ModeDeclaration	0..1	ref	The initial mode of the ModeDeclarationGroup. This mode is active before any mode switches occurred. **Tags:** atp.Splitkey=initialMode
mode Declaration	ModeDeclaration	*	aggr	The ModeDeclarations collected in this ModeDeclaration Group. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=modeDeclaration, modeDeclaration.short Name, modeDeclaration.variationPoint.shortLabel vh.latestBindingTime=blueprintDerivationTime

Table A.350: ModeDeclarationGroup

Class	ModeDeclarationGroupPrototype			
Note	The ModeDeclarationGroupPrototype specifies a set of Modes (ModeDeclarationGroup) which is provided or required in the given context.			
Base	*ARObject*, *AtpFeature*, *AtpPrototype*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, BswModuleDescription.providedModeGroup, BswModuleDescription.required ModeGroup, FirewallStateSwitchInterface.firewallStateMachine, FunctionGroupSet.functionGroup, Mode SwitchInterface.modeGroup, Process.processStateMachine, StateManagementStateNotification.state Machine			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
type	ModeDeclarationGroup	0..1	tref	The "collection of ModeDeclarations" (= ModeDeclaration Group) supported by a component **Stereotypes:** isOfType **Tags:** atp.Splitkey=type

Table A.351: ModeDeclarationGroupPrototype

Class	**ModeInProcessInstanceRef**			
Note	This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AtpInstanceRef*			
Aggregated by	ExecutionDependency.processState			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
base	Process	0..1	ref	**Stereotypes:** atpDerived **Tags:** xml.sequenceOffset=10
contextMode Declaration GroupPrototype	ModeDeclarationGroup Prototype	0..1	ref	**Tags:** xml.sequenceOffset=20
targetMode Declaration	ModeDeclaration	0..1	ref	**Tags:** xml.sequenceOffset=30

Table A.352: ModeInProcessInstanceRef

Class	**NetworkEndpoint**			
Note	The network endpoint defines the network addressing (e.g. IP-Address or MAC multicast address).			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	EthernetPhysicalChannel.networkEndpoint			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
fullyQualified DomainName	String	0..1	attr	Defines the fully qualified domain name (FQDN) e.g. some.example.host.
ipSecConfig	IPSecConfig	0..1	aggr	Optional IPSec configuration that provides security services for IP packets. **Tags:** atp.Splitkey=ipSecConfig
network Endpoint Address	NetworkEndpoint Address	*	aggr	Definition of a Network Address. **Tags:** atp.Splitkey=networkEndpointAddress, networkEndpoint Address.ipv4Address, networkEndpointAddress.ipv6 Address, networkEndpointAddress.macMulticastGroup xml.namePlural=NETWORK-ENDPOINT-ADDRESSES
priority	PositiveInteger	0..1	attr	Defines the frame priority where values from 0 (best effort) to 7 (highest) are allowed.

Table A.353: NetworkEndpoint

Class	**NetworkHandlePortMapping**			
Note	This class is used to associate a PortPrototype with a network handle in order to control the network handle from the PortPrototype **Tags:** atp.recommendedPackage=NetworkHandleMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
networkHandle	NmNetworkHandle	0..1	ref	This reference identifies the applicable network handle. **Tags:** atp.Splitkey=networkHandle

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Class	**NetworkHandlePortMapping**			
pPortPrototype InExecutable	PPortPrototype	0..1	iref	This reference identifies the applicable PortPrototype in the context of an enclosing Executable. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=pPortPrototypeInExecutable, pPort PrototypeInExecutable.contextRootSwComponent Prototype, pPortPrototypeInExecutable.context ComponentPrototype, pPortPrototypeInExecutable.target PPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
process	Process	0..1	ref	This reference identifies the process applicable for the state management **Tags:** atp.Splitkey=process

Table A.354: NetworkHandlePortMapping

Class	**NetworkManagementPortInterface**			
Note	This PortInterface shall be used to submit triggers to the state management **Tags:** atp.recommendedPackage=NetworkManagementInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
–	–	–	–	–

Table A.355: NetworkManagementPortInterface

Class	***NmCluster*** (abstract)			
Note	Set of NM nodes coordinated with use of the NM algorithm.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	CanNmCluster, FlexrayNmCluster, UdpNmCluster			
Aggregated by	NmConfig.nmCluster			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
communication Cluster	CommunicationCluster	0..1	ref	Association to a CommunicationCluster in the topology description. **Tags:** atp.Splitkey=communicationCluster
nmLightTimeout	TimeValue	0..1	attr	Defines the timeout (in seconds) after COMM_FULL_ COMMUNICATION sub-state COMM_FULL_COM_ READY_SLEEP is left.
nmNode	NmNode	*	aggr	Collection of NmNodes of the NmCluster. atpVariation: Derived, because NmNode can be variable. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=nmNode, nmNode.shortName, nm Node.variationPoint.shortLabel vh.latestBindingTime=postBuild
nmPnc Participation	Boolean	0..1	attr	Defines whether this NmCluster contributes to the partial network mechanism.

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Class	***NmCluster*** (abstract)			
pncCluster VectorLength	PositiveInteger	0..1	attr	Optionally defines the length of the PNC Request Bit Vector per CommunicationCluster (and VLAN in case of UdpNm). If not defined then System.pncVectorLength applies. Should only make the PNC Request Bit Vector shorter (or same length as defined in System.pncVectorLength).

Table A.356: NmCluster

Class	**NmConfig**			
Note	Contains the all configuration elements for AUTOSAR Nm. **Tags:** atp.recommendedPackage=NmConfigs			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FibexElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
nmCluster	NmCluster	*	aggr	Collection of NM Clusters atpVariation: Derived, because cluster can be variable. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=nmCluster, nmCluster.shortName, nmCluster.variationPoint.shortLabel vh.latestBindingTime=postBuild

Table A.357: NmConfig

Enumeration	**NmHandleMappingDirectionEnum**
Note	This enumeration provides direction values for the mapping of NM handles to function group states. This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	NmHandleToFunctionGroupStateMapping.mappingDirection
Literal	***Description***
functionGroupStateToNmHandle	The purpose of the mapping is to indicate which function group state requires network access. **Tags:** atp.EnumerationLiteralIndex=0
nmHandleActiveToFunctionGroupState	The purpose of the mapping is to indicate that the function group shall be switched to a given state if the network handle becomes active. **Tags:** atp.EnumerationLiteralIndex=2
nmHandleInactiveToFunctionGroupState	The purpose of the mapping is to indicate that the function group shall be switched to a given state if the network handle becomes inactive. **Tags:** atp.EnumerationLiteralIndex=1

Table A.358: NmHandleMappingDirectionEnum

Class	**NmHandleToFunctionGroupStateMapping**
Note	This meta-class represents the ability to create a mapping between an NmNetworkHandle and a collection of function group states. This way, the impact of function groups on the network management can be specified. **Tags:** atp.recommendedPackage=NmHandleToFunctionGroupStateMappings This Class is only used by the AUTOSAR Adaptive Platform.

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Class	**NmHandleToFunctionGroupStateMapping**			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
functionGroup State	ModeDeclaration	*	iref	This reference identifies the collection of function group states in the context of the mapping. **Tags:** atp.Splitkey=functionGroupState, functionGroup State.contextModeDeclarationGroupPrototype, function GroupState.targetModeDeclaration **InstanceRef implemented by:** FunctionGroupStateIn FunctionGroupSetInstanceRef
mapping Direction	NmHandleMapping DirectionEnum	0..1	attr	This attribute describes the direction of the mapping.
nmHandle	NmNetworkHandle	0..1	ref	This reference identifies the applicable NmNetwork Handle in the context of the mapping. **Tags:** atp.Splitkey=nmHandle

Table A.359: NmHandleToFunctionGroupStateMapping

Class	**NmInstantiation**			
Note	This meta-class defines the attributes for the Nm configuration on a specific machine. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *NonOsModuleInstantiation*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
networkHandle	NmNetworkHandle	*	aggr	Supported NmNetworkHandles used to control Partial Network Clusters/VLANs. **Tags:** atp.Splitkey=networkHandle, networkHandle.short Name

Table A.360: NmInstantiation

Class	**NmInteractsWithSmMapping**			
Note	This mapping represents an interaction from network management to state management. **Tags:** atp.Status=draft atp.recommendedPackage=FCInteractions This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FunctionalClusterInteractsWithFunctionalClusterMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeployment Element*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
nmNetwork Handle	NmNetworkHandle	0..1	ref	This reference identifies the network management handle that wants to interact with state management. **Tags:** atp.Splitkey=nmNetworkHandle atp.Status=draft

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Class	**NmInteractsWithSmMapping**			
stateRequest	StateManagementState Request	0..1	ref	This reference identifies the state management state request that is involved in the interaction with the network management. **Tags:** atp.Splitkey=stateRequest atp.Status=draft

Table A.361: NmInteractsWithSmMapping

Class	**NmNetworkHandle**			
Note	Group of partialNetworks and/or VLANs that can be controlled collectively. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Referrable*			
Aggregated by	NmInstantiation.networkHandle			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
partialNetwork	PncMappingIdent	*	ref	Reference to a Partial Network that is included in the Nm NetworkHandle. **Tags:** atp.Splitkey=partialNetwork
vlan	EthernetCommunication Connector	*	ref	Reference to a VLAN that is included in the NmNetwork Handle. **Tags:** atp.Splitkey=vlan

Table A.362: NmNetworkHandle

Class	**NmNetworkHandleErrorMapping**			
Note	This meta-class is used to associate an error code to a network handle. The error code shall be used if any network management activity on the network handle fails. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Describable*			
Aggregated by	StateManagementModuleInstantiation.nmNetworkHandleErrorMapping			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
nmNetwork Handle	NmNetworkHandle	0..1	ref	This reference identifies the NM network handle that is affected by an error raised if a request to transition the state of the NM network handle failed. **Tags:** atp.Splitkey=nmNetworkHandle atp.Status=draft
nmNetwork Management Error	ApApplicationError	0..1	ref	This reference identifies the `ApApplicationError` to be raised if a request to transition an NM state failed. **Tags:** atp.Splitkey=nmNetworkManagementError atp.Status=draft

Table A.363: NmNetworkHandleErrorMapping

Class	**NoCheckpointSupervision**			
Note	Defines explicitly that NO supervision shall be applied for a set of SupervisionCheckpoints. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *PhmSupervision*, *Referrable*			
Aggregated by	GlobalSupervision.noCheckpointSupervision			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
checkpoint	SupervisionCheckpoint	*	ref	Reference to the set of SupervisionCheckpoints which shall not be considered for any kind of supervision. **Tags:** atp.Splitkey=checkpoint

Table A.364: NoCheckpointSupervision

Class	**NoSupervision**			
Note	Defines explicitly that NO supervision shall be applied for a specific Supervised Entity instance. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *PhmSupervision*, *Referrable*			
Aggregated by	GlobalSupervision.noSupervision			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
process	Process	0..1	ref	Reference to the Process this NoSupervision applies to. **Tags:** atp.Splitkey=process
targetPhm SupervisedEntity	RPortPrototype	0..1	iref	Instance reference to the RPortPrototype which represents the Supervised Entity instance. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=targetPhmSupervisedEntity, target PhmSupervisedEntity.contextRootSwComponent Prototype, targetPhmSupervisedEntity.contextComponent Prototype, targetPhmSupervisedEntity.targetRPort Prototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.365: NoSupervision

Class	***NonOsModuleInstantiation*** (abstract)			
Note	This meta-class defines the abstract attributes for the configuration of an adaptive autosar module other than the OS module. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	AdaptiveFirewallModuleInstantiation, CmModuleInstantiation, CryptoModuleInstantiation, DoIp Instantiation, GenericDiagnosticTransportInstantiation, GenericModuleInstantiation, *IdsPlatform Instantiation*, LogAndTraceInstantiation, NmInstantiation, *SovdModuleInstantiation*, StateManagement ModuleInstantiation, SuspendToRamModuleInstantiation, TimeSyncModuleInstantiation, *UcmModule Instantiation*			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.366: NonOsModuleInstantiation

Class	OsModuleInstantiation			
Note	This meta-class defines the attributes for the OS configuration on a specific machine. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
osArtiAdapter LaunchBehavior	OsArtiAdapterLaunch BehaviorEnum	0..1	attr	This attribute controls the startup behavior of the OS/ ARTI Adapter. **Tags:** atp.Status=candidate
resourceGroup	ResourceGroup	*	aggr	This represents the collection of ResourceGroups owned by the enclosing OsModuleImplementation. **Tags:** atp.Splitkey=resourceGroup, resourceGroup.short Name
supportedTimer Granularity	TimeValue	0..1	attr	This attribute describes the supported timer granularity (TimeValue of one tick).

Table A.367: OsModuleInstantiation

Class	PPortPrototype			
Note	Component port providing a certain port interface.			
Base	*ARObject*, *AbstractProvidedPortPrototype*, *AtpFeature*, *AtpPrototype*, *Identifiable*, *Multilanguage Referrable*, *PortPrototype*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, *SwComponentType*.port			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
provided Interface	PortInterface	0..1	tref	The interface that this port provides. **Stereotypes:** isOfType **Tags:** atp.Splitkey=providedInterface

Table A.368: PPortPrototype

Class	PRPortPrototype			
Note	This kind of PortPrototype can take the role of both a required and a provided PortPrototype.			
Base	*ARObject*, *AbstractProvidedPortPrototype*, *AbstractRequiredPortPrototype*, *AtpFeature*, *AtpPrototype*, *Identifiable*, *MultilanguageReferrable*, *PortPrototype*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, *SwComponentType*.port			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
provided Required Interface	PortInterface	0..1	tref	This represents the `PortInterface` used to type the `PRPortPrototype`. **Stereotypes:** isOfType **Tags:** atp.Splitkey=providedRequiredInterface

Table A.369: PRPortPrototype

Class	PassThroughSwConnector
Note	This kind of `SwConnector` can be used inside a `CompositionSwComponentType` to connect two delegation `PortPrototype`s.
Base	*ARObject*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *SwConnector*
Aggregated by	*AtpClassifier*.atpFeature, CompositionSwComponentType.connector

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Class	**PassThroughSwConnector**			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
providedOuter Port	AbstractProvidedPort Prototype	0..1	ref	This represents the provided outer delegation Port Prototype of the PassThroughSwConnector. **Tags:** atp.Splitkey=providedOuterPort
requiredOuter Port	AbstractRequiredPort Prototype	0..1	ref	This represents the required outer delegation Port Prototype of the PassThroughSwConnector. **Tags:** atp.Splitkey=requiredOuterPort
serviceInterface Element Mapping	ServiceInterface ElementMapping	*	ref	Reference to a ServiceInterfaceElementMapping specifying the mapping of unequal named Service Interface elements of the two different ServiceInterfaces typing the two PortPrototypes which are referenced by the PassThroughSwConnector. **Tags:** atp.Splitkey=serviceInterfaceElementMapping This Attribute is only used by the AUTOSAR Adaptive Platform.

Table A.370: PassThroughSwConnector

Class	**PduTriggering**			
Note	The PduTriggering describes on which channel the IPdu is transmitted. The Pdu routing by the PduR is only allowed for subclasses of IPdu. Depending on its relation to entities such channels and clusters it can be unambiguously deduced whether a fan-out is handled by the Pdu router or the Bus Interface. If the fan-out is specified between different clusters it shall be handled by the Pdu Router. If the fan-out is specified between different channels of the same cluster it shall be handled by the Bus Interface.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*PhysicalChannel*.pduTriggering			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
iPdu	Pdu	0..1	ref	Reference to the Pdu for which the PduTriggering is defined. One I-Pdu can be triggered on different channels (PduR fan-out). The Pdu routing by the PduR is only allowed for subclasses of IPdu. Nevertheless is the reference to the Pdu element necessary since the PduTriggering element is also used to specify the sending and receiving connections to Ecu Ports. **Tags:** atp.Splitkey=iPdu
iPduPort	IPduPort	*	ref	References to the IPduPort on every ECU of the system which sends and/or receives the I-PDU. References for both the sender and the receiver side shall be included when the system is completely defined. **Tags:** atp.Splitkey=iPduPort
iSignal Triggering	ISignalTriggering	*	ref	This reference provides the relationship to the ISignal Triggerings that are implemented by the PduTriggering. The reference is optional since no ISignalTriggering can be defined for DCM and Multiplexed Pdus. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=iSignalTriggering, iSignalTriggering.iSignal Triggering, iSignalTriggering.variationPoint.shortLabel vh.latestBindingTime=postBuild

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Class	**PduTriggering**			
secOcCrypto Mapping	SecOcCryptoService Mapping	0..1	ref	This reference identifies the crypto profile applicable to the usage (send, receive) of the also referenced Secured IPdu. Obviously, this reference is only applicable if the Pdutriggering also references a SecuredIPdu in the role i Pdu. **Tags:** atp.Splitkey=secOcCryptoMapping atp.Status=obsolete
secOcCrypto ServiceMapping	SecOcCryptoService Mapping	0..1	ref	This reference identifies the crypto profile applicable to the usage (send, receive) of the also referenced Secured IPdu. Obviously, this reference is only applicable if the Pdutriggering also references a SecuredIPdu in the role i Pdu. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=secOcCryptoServiceMapping, secOcCrypto ServiceMapping.secOcCryptoServiceMapping, secOc CryptoServiceMapping.variationPoint.shortLabel vh.latestBindingTime=postBuild
triggerIPduSend Condition	TriggerIPduSend Condition	*	aggr	Defines the trigger for the Com_TriggerIPDUSend API call. Only if all defined TriggerIPduSendConditions evaluate to true (AND associated) the Com_Trigger IPDUSend API shall be called. **Tags:** atp.Splitkey=triggerIPduSendCondition

Table A.371: PduTriggering

Class	**PersistencyDataElement**			
Note	This meta-class represents the ability to formally specify a piece of data that is subject to persistency in the context of the enclosing PersistencyKeyValueStorageInterface. PersistencyDataElement represents also a key-value pair of the deployed PersistencyKeyValueStorage and provides an initial value. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AtpFeature*, *AtpPrototype*, *AutosarDataPrototype*, *DataPrototype*, *Identifiable*, *Multilanguage Referrable*, *PersistencyInterfaceElement*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, PersistencyKeyValueStorageInterface.dataElement			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.372: PersistencyDataElement

Class	**PersistencyDataRequiredComSpec**			
Note	This meta-class represents the ability to define port-specific attributes for supporting use cases of data persistency on the required side. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AbstractPersistencyRequireComSpec*, *RPortComSpec*			
Aggregated by	*AbstractRequiredPortPrototype*.requiredComSpec, PortPrototypeBlueprint.requiredComSpec			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	PersistencyDataRequiredComSpec			
dataElement	PersistencyDataElement	0..1	ref	This refrence represents the PersistencyDataElement for which the PersistencyDataRequiredComSpec applies. **Stereotypes:** atpIdentityContributor
initValue	ValueSpecification	0..1	aggr	This aggregation represents the definition of an initial value for the PersistencyDataElement referenced by the enclosing PersistencyDataRequiredComSpec **Tags:** atp.Splitkey=initValue

Table A.373: PersistencyDataRequiredComSpec

Class	*PersistencyDeployment* (abstract)			
Note	This abstract meta-class serves as a base class for concrete classes representing different aspects of persistency. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadableExclusivePackageElement*, *UploadablePackageElement*			
Subclasses	PersistencyFileStorage, PersistencyKeyValueStorage			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
deploymentUri (ordered)	PersistencyDeploymentUri	*	aggr	This aggregation represents the collection of URIs relevant for the enclosing PersistencyDeployment.
maximumAllowedSize	PositiveUnlimitedInteger	0..1	attr	The value of this attribute represents the maximum size (unit: bytes) allowed at target-configuration time for the enclosing PersistencyDeployment.
minimumSustainedSize	PositiveInteger	0..1	attr	The value of this attribute represents the minimum size (unit: bytes) guaranteed at deployment time for the enclosing PersistencyDeployment.
redundancyHandling	PersistencyRedundancyHandling	*	aggr	This aggregation represents the chosen approaches to handle redundancy. **Tags:** atp.Splitkey=redundancyHandling
updateStrategy	PersistencyCollectionLevelUpdateStrategyEnum	0..1	attr	This attribute shall be used to specify the update strategy of the respective PersistencyDeployment as a whole.
version	StrongRevisionLabelString	0..1	attr	The attribute represents the version of the `PersistencyFileStorage` or `PersistencyKeyValueStorage`.

Table A.374: PersistencyDeployment

Class	*PersistencyDeploymentElement* (abstract)			
Note	This abstract meta-class serves as a base class for concrete classes representing different aspects of elements of a `PersistencyDeployment`. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	PersistencyFile, PersistencyKeyValuePair			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
updateStrategy	PersistencyElementLevelUpdateStrategyEnum	0..1	attr	This attribute can be used to specify the update strategy of the respective PersistencyDeploymentElement.

Table A.375: PersistencyDeploymentElement

Class	**PersistencyDeploymentToCryptoKeySlotMapping**			
Note	This meta-class represents the ability to define a mapping between the PersistencyDeployment and a CryptoKeySlot. **Tags:** atp.recommendedPackage=FCInteractions This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FunctionalClusterInteractsWithFunctionalClusterMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeployment Element*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
cryptoAlgorithm String	String	0..1	attr	This attribute defines the cryptographic algorithm used for hashing, encryption, decryption, signature/MAC verification, or MAC generation.
cryptoKeySlot	CryptoKeySlot	0..1	ref	This reference represents the mapped CryptoKeySlot. **Tags:** atp.Splitkey=cryptoKeySlot
keySlotUsage	CryptoKeySlotUsage Enum	0..1	attr	This attribute defines the role of the keySlot assignment.
persistency Deployment	PersistencyDeployment	0..1	ref	This reference represents the mapped Persistency Deployment. **Tags:** atp.Splitkey=persistencyDeployment
verificationHash	String	0..1	attr	This attribute defines the hash of the storage used in case of verification.

Table A.376: PersistencyDeploymentToCryptoKeySlotMapping

Enumeration	**PersistencyElementLevelUpdateStrategyEnum**
Note	This enumeration provides possible values for the update strategy on element level. This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	*PersistencyDeploymentElement*.updateStrategy, *PersistencyInterfaceElement*.updateStrategy
Literal	***Description***
delete	The update strategy is to delete the value of the respective data item. **Tags:** atp.EnumerationLiteralIndex=2
keepExisting	The update strategy is to keep the existing value of the respective data item. **Tags:** atp.EnumerationLiteralIndex=1
overwrite	The update strategy is to overwrite the respective data item. **Tags:** atp.EnumerationLiteralIndex=0

Table A.377: PersistencyElementLevelUpdateStrategyEnum

Class	**PersistencyFile**			
Note	This meta-class represents the model of a file as part of the persistency on deployment level. **Tags:** atp.recommendedPackage=PersistencyFiles This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *PersistencyDeploymentElement*, *Referrable*			
Aggregated by	PersistencyFileStorage.file			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
contentUri	UriString	0..1	attr	This attribute represents the URI that identifies the initial content of the PersistencyFile.
fileName	String	0..1	attr	This attribute holds filename part of the storage location for the PersistencyFile, e.g. file on the file system.

Table A.378: PersistencyFile

Class	**PersistencyFileElement**			
Note	This meta-class has the ability to represent a file at design time such that it is possible to configure the behavior for accessing the represented file at run-time. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *PersistencyInterfaceElement*, *Referrable*			
Aggregated by	PersistencyFileStorageInterface.fileElement			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
contentUri	UriString	0..1	attr	This attribute represents the URI that identifies the initial content of the PersistencyFile.
fileName	String	0..1	attr	This attribute holds the filename part of the storage location, e.g. file on the file system.

Table A.379: PersistencyFileElement

Class	**PersistencyFileRequiredComSpec**			
Note	This meta-class represents the ability to define port-specific attributes for supporting use cases of file persistency on the required side. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AbstractPersistencyRequireComSpec*, *RPortComSpec*			
Aggregated by	*AbstractRequiredPortPrototype*.requiredComSpec, PortPrototypeBlueprint.requiredComSpec			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
shortLabel	Identifier	0..1	attr	The shortLabel does not carry a semantics and is only needed to support the merging of partial models. **Stereotypes:** atpIdentityContributor

Table A.380: PersistencyFileRequiredComSpec

Class	**PersistencyFileStorage**			
Note	This meta-class comes with the ability to define a collection of single files (directory) that creates the deployment-side counterpart to a `PortPrototype` typed by a `PersistencyFileStorageInterface`. **Tags:** atp.recommendedPackage=PersistencyFileStorages This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *PersistencyDeployment*, *Referrable*, *UploadableDeploymentElement*, *UploadableExclusive PackageElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
deleteStrategy	PersistencyDelete StrategyEnum	0..1	attr	This attribute can be used to configure the reaction to the existence of too many files in the file storage
file	PersistencyFile	*	aggr	This aggregation represents the collection of files aggregated by the PersistencyFileStorage. **Tags:** atp.Splitkey=file, file.shortName
maxNumberOf Files	PositiveInteger	0..1	attr	Upper bound for the number of files in this PersistencyFile Storage.

Table A.381: PersistencyFileStorage

Class	**PersistencyFileStorageInterface**			
Note	This meta-class provides the ability to implement a PortInterface for supporting persistency use cases for files. **Tags:** atp.recommendedPackage=PersistencyFileStorageInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PersistencyInterface*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
fileElement	PersistencyFileElement	*	aggr	This aggregation represents the collection of Persistency FileStorages in the context of the enclosing Persistency FileStorageInterface. **Tags:** atp.Splitkey=fileElement, fileElement.shortName
maxNumberOf Files	PositiveInteger	0..1	attr	This attribute represents the definition of an upper bound for the handling of files at run-time in the context of the enclosing PersistencyFileStorageInterface.

Table A.382: PersistencyFileStorageInterface

Class	***PersistencyInterface*** (abstract)			
Note	This meta-class provides the abstract ability to define a PortInterface for the support of persistency use cases. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Subclasses	PersistencyFileStorageInterface, PersistencyKeyValueStorageInterface			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
contractVersion	StrongRevisionLabel String	0..1	attr	This attribute represents the contract version that is used to determine whether the Persistency configuration experienced structural changes and is also used for the check for data type compatibility.
minimum SustainedSize	PositiveInteger	0..1	attr	The value of this attribute represents the minimum size (unit: bytes) required at design time for the enclosing PersistencyInterface.
redundancy	PersistencyRedundancy Enum	0..1	attr	This attribute represents a requirement towards the redundancy of storage.
redundancy Handling	PersistencyRedundancy Handling	*	aggr	This aggregation represents the chosen approaches to handle redundancy for the various use cases implemented by subclasses **Tags:** atp.Splitkey=redundancyHandling
updateStrategy	PersistencyCollection LevelUpdateStrategy Enum	0..1	attr	This attribute can be used to specify the update strategy of the respective PersistencyInterface as a whole.

Table A.383: PersistencyInterface

Class	***PersistencyInterfaceElement*** (abstract)
Note	This meta-class provides the abstract ability to define an element of a PortInterface for the support of persistency use cases. This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*

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Class	***PersistencyInterfaceElement*** (abstract)			
Subclasses	PersistencyDataElement, PersistencyFileElement			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
updateStrategy	PersistencyElement LevelUpdateStrategy Enum	0..1	attr	This attribute can be used to specify the update strategy of the respective PersistencyInterfaceElement.

Table A.384: PersistencyInterfaceElement

Class	**PersistencyKeyValueDataTypeMapping**			
Note	This meta-class represents the ability to define a mapping between an existing data type in a key-value-storage stored by a previous version to a new data type used on application software level in the current version. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Describable*			
Aggregated by	PersistencyKeyValueStorageInterface.dataTypeMapping			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
currentData Type	AutosarDataType	0..1	ref	This reference identifies the current data type for an existing key-value-pair in the context of the enclosing PersistencyKeyValueStorageInterface. **Tags:** atp.Splitkey=currentDataType
previous ContractVersion	StrongRevisionLabel String	0..1	attr	This attribute identifies the contract version in which the previousDataType was used.
previousData Type	AutosarDataType	0..1	ref	This reference identifies the previous data type in a key-value-pair existing in the context of the enclosing PersistencyKeyValueStorageInterface. **Tags:** atp.Splitkey=previousDataType

Table A.385: PersistencyKeyValueDataTypeMapping

Class	**PersistencyKeyValuePair**			
Note	This meta-class represents the ability to formally model a key-value pair in the context of the target-configuration of persistency. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *PersistencyDeploymentElement*, *Referrable*			
Aggregated by	PersistencyKeyValueStorage.keyValuePair			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
initValue	ValueSpecification	0..1	aggr	This aggregation represents the ability to define an initial value for the value side of the key-value pair. Please note that it does not make sense to configure an initial value if the `PersistencyDeploymentElement.updateStrategy` is set to the value `delete`. **Tags:** atp.Splitkey=initValue
valueDataType	AbstractImplementation DataType	0..1	ref	This reference represents the data type applicable for the value of the key-value pair. **Tags:** atp.Splitkey=valueDataType

Table A.386: PersistencyKeyValuePair

Class	**PersistencyKeyValueStorage**			
Note	This meta-class represents the ability to model a key-value storage on target-configuration level. **Tags:** atp.recommendedPackage=PersistencyKeyValueStorages This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *PersistencyDeployment*, *Referrable*, *UploadableDeploymentElement*, *UploadableExclusive PackageElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
keyValuePair	PersistencyKeyValue Pair	*	aggr	This aggregation represents the key-value-pairs owned by the enclosing `PersistencyKeyValueStorage`. **Tags:** atp.Splitkey=keyValuePair, keyValuePair.short Name

Table A.387: PersistencyKeyValueStorage

Class	**PersistencyKeyValueStorageInterface**			
Note	This meta-class provides the ability to implement a `PortInterface` for supporting persistency use cases for data. **Tags:** atp.recommendedPackage=PersistencyKeyValueStorageInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PersistencyInterface*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataElement	PersistencyData Element	*	aggr	This aggregation represents the collection of Persistency DataElements in the context of the enclosing Persistency KeyValueStorageInterface. **Tags:** atp.Splitkey=dataElement, dataElement.short Name
dataTypeFor Serialization	AbstractImplementation DataType	*	ref	This reference identifies the AbstractImplementationData Types that shall be supported for storing in a key-value storage in addition to the types already determined from tha aggregation of PersistencyDataElement. **Tags:** atp.Splitkey=dataTypeForSerialization
dataType Mapping	PersistencyKeyValue DataTypeMapping	0..1	aggr	This aggregation provides a collection of replacement rules for data types used in the context of the enclosing PersistencyKeyValueStorageInterface. **Tags:** atp.Splitkey=dataTypeMapping

Table A.388: PersistencyKeyValueStorageInterface

Class	***PersistencyPortPrototypeToDeploymentMapping*** (abstract)			
Note	This abstract bas class implements the shared functionality of all mapping between a `PortPrototype`, a `Process`, and a specific subclass of `PersistencyDeployment`. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadableExclusivePackageElement*, *UploadablePackageElement*			
Subclasses	PersistencyPortPrototypeToFileStorageMapping, PersistencyPortPrototypeToKeyValueStorageMapping			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	***PersistencyPortPrototypeToDeploymentMapping*** (abstract)			
portPrototype	PortPrototype	0..1	iref	This reference represents the mapped PortPrototype. **Tags:** atp.Splitkey=portPrototype, portPrototype.context RootSwComponentPrototype, portPrototype.context ComponentPrototype, portPrototype.targetPortPrototype **InstanceRef implemented by:** PortPrototypeIn ExecutableInstanceRef
process	Process	0..1	ref	This reference represents the process required as context for the mapping. **Tags:** atp.Splitkey=process

Table A.389: PersistencyPortPrototypeToDeploymentMapping

Class	**PersistencyPortPrototypeToFileStorageMapping**			
Note	This meta-class represents the ability to define a mapping between a collection of files on deployment level to a given `PortPrototype`. **Tags:** atp.recommendedPackage=PersistencyPortPrototypeToFileStorageMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *PersistencyPortPrototypeToDeploymentMapping*, *Referrable*, *UploadableDeploymentElement*, *UploadableExclusivePackageElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
fileStorage	PersistencyFileStorage	0..1	ref	This reference represents the mapped file storage. **Tags:** atp.Splitkey=fileStorage

Table A.390: PersistencyPortPrototypeToFileStorageMapping

Class	**PersistencyPortPrototypeToKeyValueStorageMapping**			
Note	This meta-class represents the ability to define a mapping between a PortPrototype and a key-value storage. **Tags:** atp.recommendedPackage=PersistencyPortPrototypeToKeyValueStorageMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *PersistencyPortPrototypeToDeploymentMapping*, *Referrable*, *UploadableDeploymentElement*, *UploadableExclusivePackageElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
keyValue Storage	PersistencyKeyValue Storage	0..1	ref	This reference represents the mapped key-value storage. **Tags:** atp.Splitkey=keyValueStorage

Table A.391: PersistencyPortPrototypeToKeyValueStorageMapping

Class	***PersistencyRedundancyChecksum*** (abstract)
Note	Abstract class that defines the common attributes for implementations of redundancy. This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARObject*, *PersistencyRedundancyHandling*
Subclasses	PersistencyRedundancyCrc, PersistencyRedundancyHash
Aggregated by	*PersistencyDeployment*.redundancyHandling, *PersistencyInterface*.redundancyHandling

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Class	***PersistencyRedundancyChecksum*** (abstract)			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
algorithmFamily	String	0..1	attr	This attribute identifies the algorithm family that is used to execute the CRC/Hash.
length	PositiveInteger	0..1	attr	This attribute describes the length of the CRC/Hash in the unit bits.

Table A.392: PersistencyRedundancyChecksum

Enumeration	**PersistencyRedundancyEnum**
Note	This meta-class provides a way to specify in which way redundancy shall be applied on collection level. This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	*PersistencyInterface*.redundancy
Literal	***Description***
none	This value represents the requirement that redundancy measures are not applied on persistency storage level. **Tags:** atp.EnumerationLiteralIndex=1
redundant	This value represents the requirement that redundancy measures are applied on persistency storage level. The nature of the redundant persistent storage is not further qualified and subject to integrator decisions. **Tags:** atp.EnumerationLiteralIndex=0
redundantPer Element	This value represents the requirement that redundancy measures are applied on key-value level of a key-value storage or on file level of a file storage. The nature of the redundancy used on the persistent storage is not further qualified and subject to integrator decisions. **Tags:** atp.EnumerationLiteralIndex=2

Table A.393: PersistencyRedundancyEnum

Class	***PersistencyRedundancyHandling*** (abstract)			
Note	This abstract base class represents a formal description of redundancy. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Subclasses	*PersistencyRedundancyChecksum*, PersistencyRedundancyMOutOfN			
Aggregated by	*PersistencyDeployment*.redundancyHandling, *PersistencyInterface*.redundancyHandling			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
scope	PersistencyRedundancy HandlingScopeEnum	0..1	attr	This attribute controls the scope in which the redundancy handling is applied.

Table A.394: PersistencyRedundancyHandling

Enumeration	**PersistencyRedundancyHandlingScopeEnum**
Note	This meta-class provides values to control the scope of redundancy measures in the persistency target-configuration. This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	*PersistencyRedundancyHandling*.scope

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Enumeration	**PersistencyRedundancyHandlingScopeEnum**
Literal	***Description***
persistency RedundancyHandlingScopeElement	The redundancy handling shall be applied on element level (key-value pair and file). **Tags:** atp.EnumerationLiteralIndex=0
persistency RedundancyHandlingScopeStorage	The redundancy handling shall be applied on storage (key-value storage and file storage) level. **Tags:** atp.EnumerationLiteralIndex=1

Table A.395: PersistencyRedundancyHandlingScopeEnum

Class	**PersistencyRedundancyMOutOfN**			
Note	This meta-class provides the ability to describe redundancy via an "M out of N" approach. In this case N is the number of copies created and M is the minimum number of identical copies to justify a reliable read access to the data. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *PersistencyRedundancyHandling*			
Aggregated by	*PersistencyDeployment*.redundancyHandling, *PersistencyInterface*.redundancyHandling			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
m	PositiveInteger	0..1	attr	This attribute represents the "M" coordinate in the "M out of N" scheme.
n	PositiveInteger	0..1	attr	This attribute represents the "N" coordinate in the "M out of N" scheme.

Table A.396: PersistencyRedundancyMOutOfN

Class	**PhmCheckpoint**			
Note	This meta-class provides the ability to implement a checkpoint for interaction with the Platform Health Management Supervised Entity. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AtpFeature*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, PhmSupervisedEntityInterface.checkpoint			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
checkpointId	PositiveInteger	0..1	attr	Defines the numeric value which is used to indicate the reporting of this Checkpoint to the Phm.

Table A.397: PhmCheckpoint

Class	**PhmCheckpointInExecutableInstanceRef**			
Note	This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AtpInstanceRef*			
Aggregated by	SupervisionCheckpoint.phmCheckpoint			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
base	Executable	0..1	ref	**Stereotypes:** atpDerived; atpUriDef **Tags:** xml.sequenceOffset=10

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Class	**PhmCheckpointInExecutableInstanceRef**			
context Component Prototype (ordered)	SwComponent Prototype	*	ref	**Stereotypes:** atpUriDef **Tags:** xml.sequenceOffset=30
contextRootSw Component Prototype	RootSwComponent Prototype	0..1	ref	**Stereotypes:** atpUriDef **Tags:** xml.sequenceOffset=20
contextRPort Prototype	RPortPrototype	0..1	ref	**Stereotypes:** atpUriDef **Tags:** xml.sequenceOffset=40
targetPhm Checkpoint	PhmCheckpoint	0..1	ref	**Stereotypes:** atpUriDef **Tags:** xml.sequenceOffset=50

Table A.398: PhmCheckpointInExecutableInstanceRef

Class	***PhmStateReference*** (abstract)			
Note	Definition of state dependency. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Subclasses	FunctionGroupPhmStateReference			
Aggregated by	SupervisionModeCondition.stateReference			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.399: PhmStateReference

Class	**PhmSupervisedEntityInterface**			
Note	This meta-class provides the ability to implement a PortInterface for interaction with the Platform Health Management Supervised Entity. **Tags:** atp.recommendedPackage=PlatformHealthManagementInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PlatformHealthManagementInterface*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
checkpoint	PhmCheckpoint	*	aggr	Defines the set of checkpoints which can be reported on this supervised entity. **Tags:** atp.Splitkey=checkpoint, checkpoint.shortName

Table A.400: PhmSupervisedEntityInterface

Class	***PhmSupervision*** (abstract)			
Note	Defines explicitly that NO supervision shall be applied for a set of SupervisionCheckpoints. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	AliveSupervision, DeadlineSupervision, LogicalSupervision, NoCheckpointSupervision, NoSupervision			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.401: PhmSupervision

Class	PhmSupervisionRecoveryNotificationInterface			
Note	This meta-class represents a PortInterface that can be taken for implementing a PHM Supervision notification. **Tags:** atp.recommendedPackage=PlatformHealthManagementInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PhmAbstractRecoveryNotificationInterface*, *Platform HealthManagementInterface*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.402: PhmSupervisionRecoveryNotificationInterface

Class	PlatformHealthManagementContribution			
Note	This element defines a contribution to the Platform Health Management. **Tags:** atp.recommendedPackage=PlatformHealthManagementContributions This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
checkpoint	SupervisionCheckpoint	*	aggr	Collection of checkpoints in the context of a Platform HealthManagementContribution. **Tags:** atp.Splitkey=checkpoint, checkpoint.shortName xml.sequenceOffset=10
global Supervision	GlobalSupervision	*	aggr	Collection of GlobalSupervisions in the context of a PlatformHealthManagementContribution. **Tags:** atp.Splitkey=globalSupervision, globalSupervision.short Name xml.sequenceOffset=30
healthChannel	HealthChannel	*	aggr	Collection of HealthChannels in the context of a Platform HealthManagementContribution. **Tags:** atp.Splitkey=healthChannel, healthChannel.shortName xml.sequenceOffset=40
supervision ModeCondition	SupervisionMode Condition	*	aggr	Collection of SupervisionModeConditions in the context of a PlatformHealthManagementContribution. **Tags:** atp.Splitkey=supervisionModeCondition, supervision ModeCondition.shortName xml.sequenceOffset=20

Table A.403: PlatformHealthManagementContribution

Class	PlatformModuleEthernetEndpointConfiguration
Note	This meta-class defines the attributes for the configuration of a port, protocol type and IP address (local address) of the communication on a VLAN. **Tags:** atp.recommendedPackage=PlatformModuleEndpointConfigurations This Class is only used by the AUTOSAR Adaptive Platform.

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Class	**PlatformModuleEthernetEndpointConfiguration**			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *PlatformModuleEndpointConfiguration*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
communication Connector	EthernetCommunication Connector	0..1	ref	Reference to the CommunicationConnector (VLAN) for which the network configuration is defined. **Tags:** atp.Splitkey=communicationConnector
remoteConfig	RemoteEndpoint Configuration	*	aggr	Defintion of remote addresses of peers. **Tags:** atp.Splitkey=remoteConfig
secureCom PropsForTcp	SecureComProps	0..1	ref	Reference to communication security configuration settings that are valid for the tcp unicast endpoint (Tcp Port + unicast IP Address) defined by the PlatformModule EthernetEndpointConfiguration. **Tags:** atp.Splitkey=secureComPropsForTcp
secureCom PropsForUdp	SecureComProps	0..1	ref	Reference to communication security configuration settings that are valid for the udp unicast endpoint (Udp Port + unicast IP Address) defined by the PlatformModule EthernetEndpointConfiguration. **Tags:** atp.Splitkey=secureComPropsForUdp
tcpPort	ApApplicationEndpoint	0..1	ref	This reference allows to configure a tcp port number. **Tags:** atp.Splitkey=tcpPort
udpPort	ApApplicationEndpoint	0..1	ref	This reference allows to configure a udp port number. **Tags:** atp.Splitkey=udpPort

Table A.404: PlatformModuleEthernetEndpointConfiguration

Class	**PncMapping**			
Note	Describes a mapping between one or several Virtual Function Clusters onto Partial Network Clusters. A Virtual Function Cluster is realized by a PortGroup. A Partial Network Cluster is realized by one or more ServiceInstances.			
Base	*ARObject*, *Describable*			
Aggregated by	SystemMapping.pncMapping			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
ident	PncMappingIdent	0..1	aggr	This adds the ability to become referrable to PncMapping. **Stereotypes:** atpIdentityContributor
physical Channel	PhysicalChannel	*	ref	This reference maps the partial network to a communication channel. **Tags:** atp.Splitkey=physicalChannel
pncConsumed ProvidedServiceInstance Group	ConsumedProvided ServiceInstanceGroup	*	ref	ConsumedProvidedServiceInstanceGroup used in a Partial Network Cluster. This reference is optional, since this could be used for starting and stopping Consumed ProvidedServiceInstanceGroup according the requested partial network, but is not necessarily needed. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=pncConsumedProvidedServiceInstance Group, pncConsumedProvidedServiceInstance Group.consumedProvidedServiceInstanceGroup, pnc ConsumedProvidedServiceInstanceGroup.variation Point.shortLabel vh.latestBindingTime=postBuild

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Class	**PncMapping**			
pncIdentifier	PositiveInteger	0..1	attr	Identifer of the Partial Network Cluster. This number represents the absolute bit position of this Partial Network Cluster in the NM Pdu. **Stereotypes:** atpIdentityContributor
pncWakeup Enable	Boolean	0..1	attr	If this parameter is available and set to true then this PNC will be woken up as soon as a channel wakeup occurs on a channel where this PNC is assigned to. This is ensured by adding this PNC to the corresponding channel wakeup sources during upstream mapping. **Tags:** atp.Status=obsolete
serviceInstance	AdaptivePlatform ServiceInstance	*	ref	Reference to ServiceInstances that are participating in a Partial Network Cluster. **Tags:** atp.Splitkey=serviceInstance This Attribute is only used by the AUTOSAR Adaptive Platform.
shortLabel	Identifier	0..1	attr	This attribute specifies an identifying shortName for the PncMapping. It shall be unique in the System scope. **Stereotypes:** atpIdentityContributor
vfc	PortGroup	*	iref	Virtual Function Cluster to be mapped onto a Partial Network Cluster. This reference is optional in case that the System Description doesn't use a complete Software Component Description (VFB View). This supports the inclusion of legacy systems. **Tags:** atp.Splitkey=vfc, vfc.contextComposition, vfc.contextComponent, vfc.target **InstanceRef implemented by:** PortGroupInSystem InstanceRef

Table A.405: PncMapping

Class	***PortInterface*** (abstract)			
Note	Abstract base class for an interface that is either provided or required by a port of a software component.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Subclasses	*AbstractRawDataStreamInterface*, *AbstractSuspendToRamInterface*, *AbstractSynchronizedTimeBase Interface*, ClientServerInterface, *CryptoInterface*, *DataInterface*, *DiagnosticPortInterface*, FirewallState SwitchInterface, *IdsmAbstractPortInterface*, LogAndTraceInterface, ModeSwitchInterface, Network ManagementPortInterface, *PersistencyInterface*, *PlatformHealthManagementInterface*, ServiceInterface, *StateManagementPortInterface*, TriggerInterface			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
namespace (ordered)	SymbolProps	*	aggr	This represents the SymbolProps used for the definition of a hierarchical namespace applicable for the generation of code artifacts out of the definition of a ServiceInterface. This Attribute is only used by the AUTOSAR Adaptive Platform.

Table A.406: PortInterface

Class	**PortInterfaceToDataTypeMapping**			
Note	This meta-class represents the ability to associate a PortInterface with a DataTypeMappingSet. This association is needed for the generation of header files in the scope of a single PortInterface. The association is intentionally made outside the scope of the PortInterface itself because the designers of a PortInterface most likely will not want to add details about the level of ImplementationDataType. **Tags:** atp.recommendedPackage=PortInterfaceToDataTypeMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataType MappingSet	DataTypeMappingSet	*	ref	This represents the reference to the applicable data TypemappingSet **Tags:** atp.Splitkey=dataTypeMappingSet
portInterface	PortInterface	0..1	ref	This represents the reference to the applicable Port Interface **Tags:** atp.Splitkey=portInterface

Table A.407: PortInterfaceToDataTypeMapping

Class	***PortPrototype*** (abstract)			
Note	Base class for the ports of an AUTOSAR software component. The aggregation of PortPrototypes is subject to variability with the purpose to support the conditional existence of ports.			
Base	*ARObject*, *AtpFeature*, *AtpPrototype*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	*AbstractProvidedPortPrototype*, *AbstractRequiredPortPrototype*			
Aggregated by	*AtpClassifier*.atpFeature, *SwComponentType*.port			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
clientServer Annotation	ClientServerAnnotation	*	aggr	Annotation of this `PortPrototype` with respect to client/ server communication. **Tags:** atp.Splitkey=clientServerAnnotation
delegatedPort Annotation	DelegatedPort Annotation	0..1	aggr	Annotations on this delegated port. **Tags:** atp.Splitkey=delegatedPortAnnotation
ioHwAbstraction Server Annotation	IoHwAbstractionServer Annotation	*	aggr	Annotations on this IO Hardware Abstraction port. **Tags:** atp.Splitkey=ioHwAbstractionServerAnnotation
modePort Annotation	ModePortAnnotation	*	aggr	Annotations on this mode port. **Tags:** atp.Splitkey=modePortAnnotation
nvDataPort Annotation	NvDataPortAnnotation	*	aggr	Annotations on this non voilatile data port. **Tags:** atp.Splitkey=nvDataPortAnnotation
parameterPort Annotation	ParameterPort Annotation	*	aggr	Annotations on this parameter port. **Tags:** atp.Splitkey=parameterPortAnnotation
portPrototype Props	PortPrototypeProps	0..1	aggr	This attribute allows for the definition of further qualification of the semantics of a PortPrototype. **Tags:** atp.Splitkey=portPrototypeProps This Attribute is only used by the AUTOSAR Adaptive Platform.



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Class	***PortPrototype*** (abstract)			
senderReceiver Annotation	SenderReceiver Annotation	*	aggr	Collection of annotations of this ports sender/receiver communication. **Tags:** atp.Splitkey=senderReceiverAnnotation
triggerPort Annotation	TriggerPortAnnotation	*	aggr	Annotations on this trigger port. **Tags:** atp.Splitkey=triggerPortAnnotation

Table A.408: PortPrototype

Class	***PortPrototypeProps*** (abstract)			
Note	This meta-class represents the ability to define a further qualification of semantics of sub-classes of Port Prototype. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Subclasses	RPortPrototypeProps			
Aggregated by	*PortPrototype*.portPrototypeProps			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.409: PortPrototypeProps

Class	**PosixGroup**			
Note	This meta-class represents a process group used in the context of creating the launch configuration of a process. **Tags:** atp.recommendedPackage=PosixGroups This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractProcessAttribute*, *CollectableElement*, *Identifiable*, *Multilanguage Referrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackage Element*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
gid	PositiveInteger	0..1	attr	This attribute represents the value of the ID for the POSIX group or supplementary process group.

Table A.410: PosixGroup

Class	**PosixUser**			
Note	This meta-class represents a process user used in the context of creating the launch configuration of a process. **Tags:** atp.recommendedPackage=PosixUsers This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractProcessAttribute*, *CollectableElement*, *Identifiable*, *Multilanguage Referrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackage Element*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
uid	PositiveInteger	0..1	attr	This attribute represents the user ID under which the process shall be launched.

Table A.411: PosixUser

Class	**Process**			
Note	This meta-class provides information required to execute the referenced `Executable`. **Tags:** atp.recommendedPackage=Processes This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractExecutionContext*, *AtpClassifier*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *Uploadable PackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
design	ProcessDesign	0..1	ref	This reference represents the identification of the design-time representation for the Process that owns the reference. **Tags:** atp.Splitkey=design
executable	Executable	*	ref	Reference to executable that is executed in the process. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=executable
functionCluster Affiliation	String	0..1	attr	This attribute specifies which functional cluster the Process is affiliated with.
numberOf RestartAttempts	PositiveInteger	0..1	attr	This attribute defines how often a process shall be restarted if the start fails. numberOfRestartAttempts = “0” OR Attribute not existing, start once numberOfRestartAttempts = “1”, start a second time
posixUser	PosixUser	0..1	ref	This reference identifies the POSIX user ID under which the Process shall be launched. **Tags:** atp.Splitkey=posixUser
preMapping	Boolean	0..1	attr	This attribute describes whether the executable is preloaded into the memory.
primaryGroup	PosixGroup	0..1	ref	This reference identifies the collection of primary group IDs under which the Process shall be launched. **Tags:** atp.Splitkey=primaryGroup
processState Machine	ModeDeclarationGroup Prototype	0..1	aggr	Set of Process States that are defined for the process. This attribute is used to support the modeling of execution dependencies that utilize the condition of process state. Please note that the process states may not be modeled arbitrarily at any stage of the AUTOSAR workflow because the supported states are standardized in the context of the SWS Execution Management [5]. **Tags:** atp.Splitkey=processStateMachine, processState Machine.shortName
stateDependent StartupConfig	StateDependentStartup Config	*	aggr	Applicable startup configurations. **Tags:** atp.Splitkey=stateDependentStartupConfig
supplementary Group	PosixGroup	*	ref	This reference identifies the collection of supplementary group IDs under which the Process shall be launched. **Tags:** atp.Splitkey=supplementaryGroup

Table A.412: Process

Class	**ProcessArgument**
Note	This meta-class has the ability to define command line arguments for processing by the Main function. This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARObject*

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Class	**ProcessArgument**			
Aggregated by	StartupConfig.processArgument, StateDependentStartupConfig.processArgument			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
argument	String	0..1	attr	This represents one command-line argument to be processed by the executable software.

Table A.413: ProcessArgument

Class	**ProcessDesign**			
Note	This meta-class has the ability to stand in for a Process at the time when the Process does not yet exist. But its future existence already needs to be considered during design phase and for that a dedicated model element is required.. **Tags:** atp.recommendedPackage=ProcessDesigns This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
executable	Executable	*	ref	Reference to executable that is executed in the process. **Tags:** atp.Splitkey=executable

Table A.414: ProcessDesign

Class	**ProcessDesignToMachineDesignMapping**			
Note	This element is used in the design phase to predefine a mapping of a process to a machine. Such a mapping may be overruled in the target-configuration phase. **Tags:** atp.recommendedPackage=ProcessDesignToMachineDesignMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
machineDesign	MachineDesign	0..1	ref	This reference identifies the MachineDesign in the context of the ProcessDesignToMachineDesignMapping. **Tags:** atp.Splitkey=machineDesign
processDesign	ProcessDesign	0..1	ref	This reference identifies the ProcessDesign in the context of the ProcessDesignToMachineDesignMapping. **Tags:** atp.Splitkey=processDesign
shallNotRunOn	ProcessorCore	*	ref	This reference indicates a collection of cores onto which the mapped process shall not be executing. **Tags:** atp.Splitkey=shallNotRunOn
shallRunOn	ProcessorCore	*	ref	This reference indicates a collection of cores onto which the mapped process shall be executing. **Tags:** atp.Splitkey=shallRunOn

Table A.415: ProcessDesignToMachineDesignMapping

Class	ProcessToMachineMapping			
Note	This meta-class has the ability to associate a Process with a Machine. This relation involves the definition of further properties, e.g. timeouts. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ProcessToMachineMappingSet.processToMachineMapping			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
design	ProcessDesignTo MachineDesignMapping	0..1	ref	This reference represents the identification of the design-time representation for the ProcessToMachine Mapping that owns the reference. **Tags:** atp.Splitkey=design
machine	Machine	0..1	ref	This reference identifies the Machine in the context of the ProcessToMachineMapping. **Tags:** atp.Splitkey=machine
nonOsModule Instantiation	NonOsModule Instantiation	0..1	ref	This supports the optional case that the process represents a platform module. **Tags:** atp.Splitkey=nonOsModuleInstantiation
persistency CentralStorage URI	UriString	0..1	attr	This attribute identifies a central place for the mapped Process to store the list of available storages and version information.
process	Process	0..1	ref	This reference identifies the Process in the context of the ProcessToMachineMapping. **Tags:** atp.Splitkey=process
shallNotRunOn	ProcessorCore	*	ref	This reference indicates a collection of cores onto which the mapped process shall not be executing. **Tags:** atp.Splitkey=shallNotRunOn
shallRunOn	ProcessorCore	*	ref	This reference indicates a collection of cores onto which the mapped process shall be executing. **Tags:** atp.Splitkey=shallRunOn

Table A.416: ProcessToMachineMapping

Class	Processor			
Note	This represents a processor for the execution of an AUTOSAR adaptive platform This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	Machine.processor, MachineDesign.processor			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
core	ProcessorCore	*	aggr	This represents the collection of cores owned by the enclosing processor. **Tags:** atp.Splitkey=core, core.shortName

Table A.417: Processor

Class	ProcessorCore
Note	This meta-class represents the ability to model a processor core for the execution of an AUTOSAR adaptive platform. This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*
Aggregated by	Processor.core

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Class	ProcessorCore			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
coreId	PositiveInteger	0..1	attr	This attribute represents a numerical value assigned to the specific core. The value can be taken e.g. for use in a bitmask.

Table A.418: ProcessorCore

Class	*ProvidedApServiceInstance* (abstract)			
Note	This meta-class represents the ability to describe the existence and configuration of a provided service instance in an abstract way. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AdaptivePlatformServiceInstance*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDesignElement*, *Uploadable PackageElement*			
Subclasses	DdsProvidedServiceInstance, ProvidedSomeipServiceInstance, ProvidedUserDefinedServiceInstance			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.419: ProvidedApServiceInstance

Class	ProvidedSomeipServiceInstance			
Note	This meta-class represents the ability to describe the existence and configuration of a provided service instance in a concrete implementation on top of SOME/IP. **Tags:** atp.recommendedPackage=ServiceInstances This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AdaptivePlatformServiceInstance*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *ProvidedApServiceInstance*, *Referrable*, *Uploadable DesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
capability Record (ordered)	TagWithOptionalValue	*	aggr	A sequence of records to store arbitrary name/value pairs conveying additional information about the named service.
eventProps	SomeipEventProps	*	aggr	Configuration settings for individual events that are provided by the ServiceInstance. **Tags:** atp.Splitkey=eventProps
loadBalancing Priority	PositiveInteger	0..1	attr	This attribute is used to specify the priority in the load balancing option of SOME/IP that is added to the Offer Service. When a client searches for all service instances of a service, the client shall choose the service instance with highest priority if one is defined.

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Class	ProvidedSomeipServiceInstance			
loadBalancing Weight	PositiveInteger	0..1	attr	This attribute is used to specify the weight in the load balancing option of SOME/IP that is added to the Offer Service. When a client searches for all service instances of a service, the client shall choose the service instance with highest priority if one is defined. If several service instances exist with the highest priority the service instance shall be chosen based on the weights of the service instances.
method ResponseProps	SomeipMethodProps	*	aggr	Configuration settings for individual methods that are provided by the ServiceInstance. **Tags:** atp.Splitkey=methodResponseProps
priority	PositiveInteger	0..1	attr	This attribute defines the VLAN frame priority for SOME/IP messages that are resulting from this ProvidedSomeip ServiceInstance (Method and Event communication). Values from 0 (best effort) to 7 (highest) are allowed.
providedEvent Group	SomeipProvidedEvent Group	*	aggr	List of EventGroups that are provided by the Service Instance. **Tags:** atp.Splitkey=providedEventGroup, providedEvent Group.shortName
sdServerConfig	SomeipSdServer ServiceInstanceConfig	0..1	ref	Server specific configuration settings relevant for the SOME/IP service discovery. **Tags:** atp.Splitkey=sdServerConfig
serviceInstance Id	PositiveInteger	0..1	attr	Identification number that is used by SOME/IP service discovery to identify the instance of the service. The value 65535 for service instance id is reserved and should not be used.

Table A.420: ProvidedSomeipServiceInstance

Class	ProvidedUserDefinedServiceInstance			
Note	This meta-class represents the ability to describe the existence and configuration of a provided service instance in a concrete implementation that is not standardized by AUTOSAR. **Tags:** atp.recommendedPackage=ServiceInstances This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AdaptivePlatformServiceInstance*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *ProvidedApServiceInstance*, *Referrable*, *Uploadable DesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
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Table A.421: ProvidedUserDefinedServiceInstance

Class	RPortPrototype			
Note	Component port requiring a certain port interface.			
Base	*ARObject*, *AbstractRequiredPortPrototype*, *AtpFeature*, *AtpPrototype*, *Identifiable*, *Multilanguage Referrable*, *PortPrototype*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, *SwComponentType*.port			
Attribute	**Type**	**Mult.**	**Kind**	**Note**

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Class	**RPortPrototype**			
required Interface	PortInterface	0..1	tref	The interface that this port requires. **Stereotypes:** isOfType **Tags:** atp.Splitkey=requiredInterface

Table A.422: RPortPrototype

Class	**RPortPrototypeProps**			
Note	PortPrototypeProps for a RPort. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *PortPrototypeProps*			
Aggregated by	*PortPrototype*.portPrototypeProps			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
searchIntention	SearchIntentionEnum	0..1	attr	This attribute is used to specify the intention of the developer of the enclosing software-component in terms of whether the respective PortPrototype shall be use to search for a specific service instance or all instances of the given service. Please note that the value of this attribute does not create a binding contract. The actual search behavior is defined as part of the service instance manifest.

Table A.423: RPortPrototypeProps

Class	**RawDataStreamEthernetTcpUdpCredentials**			
Note	This-meta-class represents the ability to create a configuration of network credentials for a raw data stream connection over TCP and UDP (inherited from base class). This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AbstractRawDataStreamEthernetCredentials*, *Describable*			
Aggregated by	EthernetRawDataStreamRemoteServerConfig.unicastCredentials			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
tcpPort	PositiveInteger	0..1	attr	This attribute represents the configuration of a TCP port number.

Table A.424: RawDataStreamEthernetTcpUdpCredentials

Class	**RawDataStreamEthernetUdpCredentials**			
Note	This-meta-class represents the ability to create a configuration of network credentials for a raw data stream connection over UDP. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AbstractRawDataStreamEthernetCredentials*, *Describable*			
Aggregated by	EthernetRawDataStreamRemoteClientConfig.multicastCredentials, EthernetRawDataStreamRemote ClientConfig.unicastUdpCredentials, EthernetRawDataStreamRemoteServerConfig.multicastCredentials			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.425: RawDataStreamEthernetUdpCredentials

Class	RecordValueSpecification			
Note	Specifies the values for a record.			
Base	*ARObject*, *CompositeValueSpecification*, *ValueSpecification*			
Aggregated by	ApplicationAssocMapElementValueSpecification.key, ApplicationAssocMapElementValue Specification.value, ArrayValueSpecification.element, CalibrationParameterValue.applInitValue, CalibrationParameterValue.implInitValue, CompositeRuleBasedValueSpecification.argument, Constant Specification.valueSpec, CryptoServiceKey.developmentValue, DiagnosticEnvDataCondition.compare Value, DiagnosticEnvDataElementCondition.compareValue, DiagnosticEnvSovdDataCondition.compare Value, FieldSenderComSpec.initValue, ISignal.initValue, ISignal.timeoutSubstitutionValue, Nonqueued ReceiverComSpec.initValue, NonqueuedReceiverComSpec.timeoutSubstitutionValue, Nonqueued SenderComSpec.initValue, NvProvideComSpec.ramBlockInitValue, NvProvideComSpec.romBlockInit Value, NvRequireComSpec.initValue, ParameterDataPrototype.initValue, ParameterProvideComSpec.init Value, ParameterRequireComSpec.initValue, PersistencyDataRequiredComSpec.initValue, Persistency KeyValuePair.initValue, PortDefinedArgumentValue.value, PortPrototypeBlueprintInitValue.value, Record ValueSpecification.field, *StateManagementCompareCondition*.compareValue, SwDataDefProps.invalid Value, VariableDataPrototype.initValue			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
field (ordered)	ValueSpecification	*	aggr	The value for a single record field. This could also be mapped explicitly to a record element of the data type using the shortName of the ValueSpecification. But this would introduce a relationship to the data type that is too strong. As of now, it is only important that the structure of the data type matches the structure of the Value Specification independently of the shortNames. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=preCompileTime

Table A.426: RecordValueSpecification

Class	RecoveryNotification			
Note	This meta-class represents a PHM action that can trigger a recovery operation inside a piece of State Management software. **Tags:** atp.recommendedPackage=RecoveryNotifications This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
recovery Notification Timeout	TimeValue	0..1	attr	The maximum acceptable amount of time (in seconds), Platform Health Management waits for an acknowledgement by State Management after sending the notification.

Table A.427: RecoveryNotification

Class	RecoveryNotificationToPPortPrototypeMapping			
Note	This meta-class represents the ability to associate a RecoveryNotification to a PPortPrototype while also being able to identify the respective Process in which the actual recovery executes. **Tags:** atp.recommendedPackage=RecoveryNotificationMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**

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Class	**RecoveryNotificationToPPortPrototypeMapping**			
process	Process	0..1	ref	Reference to the process which represents the State Management instance that the recovery notification shall be applied to. **Tags:** atp.Splitkey=process
recoveryAction	PPortPrototype	0..1	iref	This reference identifies the PortPrototype to be addressed as part of a PHM recovery. **Tags:** atp.Splitkey=recoveryAction, recovery Action.contextRootSwComponentPrototype, recovery Action.contextComponentPrototype, recovery Action.targetPPortPrototype **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef
recovery Notification	RecoveryNotification	0..1	ref	This reference identifies the applicable Recovery Notification to be mapped. **Tags:** atp.Splitkey=recoveryNotification

Table A.428: RecoveryNotificationToPPortPrototypeMapping

Class	**ReferenceValueSpecification**			
Note	Specifies a reference to a data prototype to be used as an initial value for a pointer in the software.			
Base	*ARObject*, *ValueSpecification*			
Aggregated by	ApplicationAssocMapElementValueSpecification.key, ApplicationAssocMapElementValue Specification.value, ArrayValueSpecification.element, CalibrationParameterValue.applInitValue, CalibrationParameterValue.implInitValue, ConstantSpecification.valueSpec, CryptoService Key.developmentValue, DiagnosticEnvDataCondition.compareValue, DiagnosticEnvDataElement Condition.compareValue, DiagnosticEnvSovdDataCondition.compareValue, FieldSenderComSpec.init Value, ISignal.initValue, ISignal.timeoutSubstitutionValue, NonqueuedReceiverComSpec.initValue, NonqueuedReceiverComSpec.timeoutSubstitutionValue, NonqueuedSenderComSpec.initValue, Nv ProvideComSpec.ramBlockInitValue, NvProvideComSpec.romBlockInitValue, NvRequireComSpec.init Value, ParameterDataPrototype.initValue, ParameterProvideComSpec.initValue, ParameterRequireCom Spec.initValue, PersistencyDataRequiredComSpec.initValue, PersistencyKeyValuePair.initValue, Port DefinedArgumentValue.value, PortPrototypeBlueprintInitValue.value, RecordValueSpecification.field, *StateManagementCompareCondition*.compareValue, SwDataDefProps.invalidValue, VariableData Prototype.initValue			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
referenceValue	DataPrototype	0..1	ref	The referenced data prototype. **Tags:** atp.Splitkey=referenceValue

Table A.429: ReferenceValueSpecification

Class	***Referrable*** (abstract)			
Note	Instances of this class can be referred to by their identifier (while adhering to namespace borders).			
Base	*ARObject*			
Subclasses	*AtpDefinition*, BswDistinguishedPartition, *BswModuleCallPoint*, BswModuleClientServerEntry, Bsw VariableAccess, CouplingPortTrafficClassAssignment, *CppImplementationDataTypeContextTarget*, *DiagnosticEnvModeElement*, EthernetPriorityRegeneration, ExclusiveAreaNestingOrder, *HwDescription Entity*, *ImplementationProps*, ModeTransition, *MultilanguageReferrable*, NmNetworkHandle, Pnc MappingIdent, *SingleLanguageReferrable*, SoConIPduIdentifier, SomeipRequiredEventGroup, Tp ConnectionIdent			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	***Referrable*** (abstract)			
shortName	Identifier	1	attr	This specifies an identifying shortName for the object. It needs to be unique within its context and is intended for humans but even more for technical reference. **Stereotypes:** atpIdentityContributor **Tags:** xml.enforceMinMultiplicity=true xml.sequenceOffset=-100
shortName Fragment	ShortNameFragment	*	aggr	This specifies how the Referrable.shortName is composed of several shortNameFragments. **Tags:** atp.Splitkey=shortNameFragment xml.sequenceOffset=-90

Table A.430: Referrable

Class	**RemoteEndpointConfiguration**			
Note	This meta-class is used to define the IP address and port of a peer. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	PlatformModuleEthernetEndpointConfiguration.remoteConfig			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
ipv4Address	Ip4AddressString	0..1	attr	remote Unicast or Multicast IPv4 Address
ipv6Address	Ip6AddressString	0..1	attr	remote Unicast or Multicast IPv6 Address
tcpPort	PositiveInteger	0..1	attr	remote tcpPort
udpPort	PositiveInteger	0..1	attr	remote udpPort

Table A.431: RemoteEndpointConfiguration

Class	***RequiredApServiceInstance*** (abstract)			
Note	This meta-class represents the ability to describe the existence and configuration of a required service instance in an abstract way. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AdaptivePlatformServiceInstance*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDesignElement*, *Uploadable PackageElement*			
Subclasses	DdsRequiredServiceInstance, RequiredSomeipServiceInstance, RequiredUserDefinedServiceInstance			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.432: RequiredApServiceInstance

Class	**RequiredSomeipServiceInstance**
Note	This meta-class represents the ability to describe the existence and configuration of a required service instance in a concrete implementation on top of SOME/IP. **Tags:** atp.recommendedPackage=ServiceInstances This Class is only used by the AUTOSAR Adaptive Platform.

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Class	**RequiredSomeipServiceInstance**			
Base	*ARElement*, *ARObject*, *AdaptivePlatformServiceInstance*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *RequiredApServiceInstance*, *Uploadable DesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
blocklisted Version	SomeipServiceVersion	*	aggr	Collection of blocklisted versions. **Tags:** atp.Splitkey=blocklistedVersion
capability Record (ordered)	TagWithOptionalValue	*	aggr	A sequence of records to store arbitrary name/value pairs conveying additional information about the named service.
methodRequest Props	SomeipMethodProps	*	aggr	Configuration settings for individual methods that are requested by the ServiceInstance. **Tags:** atp.Splitkey=methodRequestProps
requiredEvent Group	SomeipRequiredEvent Group	*	aggr	List of EventGroups that are used by the RequiredService Instance. **Tags:** atp.Splitkey=requiredEventGroup, requiredEvent Group.shortName
requiredMinor Version	AnyVersionString	0..1	attr	This attribute is used to configure for which minor version of the SomeIp ServiceInterface the Service Discovery will search. Value can be set to a number that represents the Minor Version of the searched service or to ANY.
requiredService InstanceId	AnyServiceInstanceId	0..1	attr	This attribute represents the ability to describe the required service instance ID.
sdClientConfig	SomeipSdClientService InstanceConfig	0..1	ref	Client specific configuration settings relevant for the SOME/IP service discovery. **Tags:** atp.Splitkey=sdClientConfig
versionDriven FindBehavior	ServiceVersion AcceptanceKindEnum	0..1	attr	Defines the service discovery find behavior.

Table A.433: RequiredSomeipServiceInstance

Class	**RequiredUserDefinedServiceInstance**			
Note	This meta-class represents the ability to describe the existence and configuration of a required service instance in a concrete implementation that is not standardized by AUTOSAR. **Tags:** atp.recommendedPackage=ServiceInstances This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AdaptivePlatformServiceInstance*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *RequiredApServiceInstance*, *Uploadable DesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
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Table A.434: RequiredUserDefinedServiceInstance

Class	**ResourceGroup**
Note	This meta-class represents a resource group that limits the resource usage of a collection of processes. This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*

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Class	ResourceGroup			
Aggregated by	OsModuleInstantiation.resourceGroup			
Attribute	Type	Mult.	Kind	Note
cpuUsage	PositiveInteger	0..1	attr	CPU resource limit in percentage of the total CPU capacity on the machine.
memUsage	PositiveInteger	0..1	attr	Memory limit in bytes.

Table A.435: ResourceGroup

Class	RootSwComponentPrototype			
Note	The RootSwCompositionPrototype represents the top-level-composition of software components within an Executable. The contained SwComponentPrototypes are fully specified by their SwComponentTypes (including Port Prototypes, PortInterfaces, VariableDataPrototypes, etc.). This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AtpFeature*, *AtpPrototype*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, Executable.rootSwComponentPrototype			
Attribute	Type	Mult.	Kind	Note
applicationType	SwComponentType	0..1	tref	This SwComponentType acts as the Type of the RootSw ComponentPrototype. **Stereotypes:** isOfType **Tags:** atp.Splitkey=applicationType

Table A.436: RootSwComponentPrototype

Class	SecOcJobRequirement			
Note	Requirements for the cryptographic job that need to be executed.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	SecOcSecureComProps.jobRequirement			
Attribute	Type	Mult.	Kind	Note
secOcJob Semantic	SecOcJobSemantic Enum	0..1	attr	This attribute defines the cryptographic algorithm that needs to be supported.

Table A.437: SecOcJobRequirement

Class	SecOcSecureComProps			
Note	Configuration of AUTOSAR SecOC. **Tags:** atp.recommendedPackage=SecureComProps			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *SecureComProps*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
authentication	CryptoServicePrimitive	0..1	ref	This reference defines the authentication or authenticated encryption algorithm used for MAC generation and verification or AEAD encryption and decryption. **Tags:** atp.Splitkey=authentication

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Class	**SecOcSecureComProps**			
authentication BuildAttempts	PositiveInteger	0..1	attr	This attribute defines the additional number of authentication build attempts that are to be carried out when the generation of the authentication information failed for a given message. If zero is set then only one authentication attempt is done.
authentication VerifyAttempts	PositiveInteger	0..1	attr	This attribute defines the additional number of authentication attempts that are to be carried out when the generation of the authentication information failed for a given message. If zero is set than only one authentication attempt is done.
authInfoTx Length	PositiveInteger	0..1	attr	This attribute defines the length in bits of the authentication code to be included in the payload of the authenticated Message.
freshnessValue Length	PositiveInteger	0..1	attr	This attribute defines the complete length in bits of the Freshness Value.
freshnessValue TxLength	PositiveInteger	0..1	attr	This attribute defines the length in bits of the Freshness Value to be included in the payload of the secured message.
jobRequirement	SecOcJobRequirement	*	aggr	Collection of cryptographic job requirements. **Tags:** atp.Splitkey=jobRequirement, job Requirement.shortName
use Authenticated Encryption	Boolean	0..1	attr	A Boolean value that indicates if the payload shall be handled as confidential. If it set to TRUE, Authenticated Encryption with Associated Data (AEAD) shall be applied.

Table A.438: SecOcSecureComProps

Class	***SecureComProps*** (abstract)			
Note	This meta-class defines a communication security protocol and its configuration settings.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Subclasses	DdsSecureComProps, SecOcSecureComProps, TlsSecureComProps			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.439: SecureComProps

Class	**SecuredIPdu**			
Note	If useAsCryptographicPdu is not set or set to false this IPdu contains the payload of an Authentic IPdu supplemented by additional Authentication Information (Freshness Counter and an Authenticator). If useAsCryptographicPdu is set to true this IPdu contains the Authenticator for a payload that is transported in a separate message. The separate Authentic IPdu is described by the Pdu that is referenced with the payload reference from this SecuredIPdu. **Tags:** atp.recommendedPackage=Pdus			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FibexElement*, *IPdu*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Pdu*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**SecuredIPdu**			
authentication Props	SecureCommunication AuthenticationProps	0..1	ref	Reference to authentication properties that are valid for this SecuredIPdu. **Tags:** atp.Splitkey=authenticationProps
dynamic RuntimeLength Handling	Boolean	0..1	attr	Defines whether the length information for handling this SecuredIPdu with SecuredIPdu.useSecuredPdu Header=noHeader is taken from the configuration or from the actually provided length information during runtime. true: SecuredIPdu length information is taken from the actually provided length information during runtime. false: SecuredIPdu length information is taken from the configuration.
freshnessProps	SecureCommunication FreshnessProps	0..1	ref	Reference to freshness properties that are valid for this SecuredIPdu. **Tags:** atp.Splitkey=freshnessProps
payload	PduTriggering	0..1	ref	Reference to a Pdu that will be protected against unauthorized manipulation and replay attacks. **Tags:** atp.Splitkey=payload
secure Communication Props	SecureCommunication Props	0..1	aggr	Specific configuration properties for this SecuredIPdu. **Tags:** atp.Splitkey=secureCommunicationProps
useAs Cryptographic IPdu	Boolean	0..1	attr	If this attribute is set to true the SecuredIPdu contains the Authentication Information for an AuthenticIPdu that is transmitted in a separate message. The AuthenticIPdu contains the original payload, i.e. the secured data. If this attribute is set to false this SecuredIPdu contains the payload of an Authentic IPdu supplemented by additional Authentication Information.
useSecuredPdu Header	SecuredPduHeader Enum	0..1	attr	This attribute defines the size of the header which is inserted into the SecuredIPdu. If this attribute is set to anything but noHeader, the SecuredIPdu contains the Secured I-PDU Header to indicate the length of the AuthenticIPdu. The AuthenticIPdu contains the original payload, i.e. the secured data.

Table A.440: SecuredIPdu

Class	**SecurityEventMapping**			
Note	This meta-class represents a reportable instance of a security event. **Tags:** atp.recommendedPackage=SecurityEventMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
process	Process	0..1	ref	This reference identifies the process in which context the security event is reported. **Tags:** atp.Splitkey=process

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Class	**SecurityEventMapping**			
reportingPort Prototype	RPortPrototype	0..1	iref	This instanceRef identifies the PortPrototype over which the security event is reported. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=reportingPortPrototype, reportingPort Prototype.contextRootSwComponentPrototype, reporting PortPrototype.contextComponentPrototype, reportingPort Prototype.targetRPortPrototype **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef
securityEvent	SecurityEventDefinition	0..1	ref	This reference identifies the corresponding SecurityEvent Definition. **Tags:** atp.Splitkey=securityEvent

Table A.441: SecurityEventMapping

Class	***SenderComSpec*** (abstract)			
Note	Communication attributes for a sender port (`PPortPrototype` typed by `ServiceInterface`) that are relevant for `event`s and `field` notifiers.			
Base	*ARObject*, *PPortComSpec*			
Subclasses	FieldSenderComSpec, NonqueuedSenderComSpec, QueuedSenderComSpec			
Aggregated by	*AbstractProvidedPortPrototype*.providedComSpec, PortPrototypeBlueprint.providedComSpec			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataElement	AutosarDataPrototype	0..1	ref	Data element these quality of service attributes apply to. **Stereotypes:** atpIdentityContributor
senderIntent	SenderIntentEnum	0..1	attr	This attribute represents the expressed intent of the sender. The sender may decide to claim that existing resources of a ServiceInterface are expressly not used by this specific sender. The conceptual background of this claim may be driven by security, safety, etc. This Attribute is only used by the AUTOSAR Adaptive Platform.
transmission Props	TransmissionComSpec Props	0..1	aggr	This aggregation represents the definition transmission props in the context of the enclosing SenderComSpec. **Tags:** atp.Splitkey=transmissionProps
usesEndToEnd Protection	Boolean	0..1	attr	This indicates whether the corresponding dataElement shall be transmitted using end-to-end protection. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=preCompileTime

Table A.442: SenderComSpec

Enumeration	**SerializationTechnologyEnum**
Note	This enumeration allows to choose a Serialization Technology. This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	SomeipEventDeployment.serializer
Literal	***Description***
signalBased	Signal-Based serializer. **Tags:** atp.EnumerationLiteralIndex=1
someip	SOME/IP Serializer **Tags:** atp.EnumerationLiteralIndex=0

Table A.443: SerializationTechnologyEnum

Class	***ServiceEventDeployment*** (abstract)			
Note	This abstract meta-class represents the ability to specify a deployment of an Event to a middleware transport layer. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *ServiceInterfaceDeploymentElement*			
Subclasses	DdsEventDeployment, SomeipEventDeployment, UserDefinedEventDeployment			
Aggregated by	*ServiceInterfaceDeployment*.eventDeployment			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
event	VariableDataPrototype	0..1	ref	Reference to an Event that is deployed to a middleware transport layer. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=event
trigger	Trigger	0..1	ref	Reference to a Trigger that is deployed to a middleware transport layer. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=trigger

Table A.444: ServiceEventDeployment

Class	***ServiceFieldDeployment*** (abstract)			
Note	This abstract meta-class represents the ability to specify a deployment of a Field to a middleware transport layer. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *ServiceInterfaceDeploymentElement*			
Subclasses	DdsFieldDeployment, SomeipFieldDeployment, UserDefinedFieldDeployment			
Aggregated by	*ServiceInterfaceDeployment*.fieldDeployment			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
field	Field	0..1	ref	Reference to a Field that is deployed to a middleware transport layer. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=field

Table A.445: ServiceFieldDeployment

Class	***ServiceInstanceToMachineMapping*** (abstract)			
Note	This meta-class represents the ability to map one or several AdaptivePlatformServiceInstances to a CommunicationConnector of a Machine. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Subclasses	DdsServiceInstanceToMachineMapping, SomeipServiceInstanceToMachineMapping, UserDefined ServiceInstanceToMachineMapping			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
communication Connector	Communication Connector	0..1	ref	Reference to the Machine to which the ServiceInstance is mapped. **Tags:** atp.Splitkey=communicationConnector

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Class	***ServiceInstanceToMachineMapping*** (abstract)			
secOcCom PropsFor Multicast	SecOcSecureCom Props	*	ref	Reference to communication security configuration settings that are valid for the udp multicast endpoint (Port + Multicast IP Address) defined by the ServiceInstanceTo MachineMapping. **Tags:** atp.Splitkey=secOcComPropsForMulticast
secureCom PropsForTcp	SecureComProps	0..1	ref	Reference to communication security configuration settings that are valid for the tcp unicast endpoint (Tcp Port + Unicast IP Address) defined by the Service InstanceToMachineMapping. **Tags:** atp.Splitkey=secureComPropsForTcp
secureCom PropsForUdp	SecureComProps	0..1	ref	Reference to communication security configuration settings that are valid for the udp unicast endpoint (Udp Port + Unicast IP Address) defined by the Service InstanceToMachineMapping. **Tags:** atp.Splitkey=secureComPropsForUdp
serviceInstance	AdaptivePlatform ServiceInstance	*	ref	Reference to a ServiceInstance that is mapped to the Machine. **Tags:** atp.Splitkey=serviceInstance

Table A.446: ServiceInstanceToMachineMapping

Class	**ServiceInstanceToPortPrototypeMapping**			
Note	This meta-class represents the ability to assign a transport layer dependent ServiceInstance to a Port Prototype. With this mapping it is possible to define how specific PortPrototypes are represented in the middleware in terms of service configuration. **Tags:** atp.recommendedPackage=ServiceInstanceToPortPrototypeMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
clientId	PositiveInteger	0..1	attr	This attribute defines the client identifier for a user of a Service Interface (i.e. RPortPrototype or RequriredAp ServiceInstance)
portPrototype	PortPrototype	0..1	iref	Reference to a specific PortPrototype that represents the ServiceInstance. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=portPrototype, portPrototype.context RootSwComponentPrototype, portPrototype.context ComponentPrototype, portPrototype.targetPortPrototype **InstanceRef implemented by:** PortPrototypeIn ExecutableInstanceRef
process	Process	0..1	ref	Reference to the Process in which the enclosing Service InstanceToPortPrototypeMapping is executed. **Tags:** atp.Splitkey=process
processDesign	ProcessDesign	0..1	ref	Reference to the ProcessDesign in which the Executable that contains the SoftwareComponent and the referenced PortPrototype is executed. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=processDesign

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Class	**ServiceInstanceToPortPrototypeMapping**			
serviceInstance	AdaptivePlatform ServiceInstance	0..1	ref	Reference to a ServiceInstance that is represented in the Software Component by the mapped group of Port Prototypes. **Tags:** atp.Splitkey=serviceInstance

Table A.447: ServiceInstanceToPortPrototypeMapping

Class	**ServiceInstanceToSignalMapping**			
Note	This meta-class is defined for a specific ServiceInstance and contains the mappings of elements of a ServiceInterface for which the ServiceInstance is defined to individual ISignalTriggerings. **Tags:** atp.recommendedPackage=ServiceInstanceToSignalMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
eventElement Mapping	SignalBasedEvent ElementToISignal TriggeringMapping	*	aggr	Mapping of an event or an element inside of the event to an ISignalTriggering. **Tags:** atp.Splitkey=eventElementMapping, eventElement Mapping.shortName
fieldMapping	SignalBasedFieldTo ISignalTriggering Mapping	*	aggr	Mapping of a field to ISignalTriggerings. **Tags:** atp.Splitkey=fieldMapping, fieldMapping.short Name
fireAndForget MethodMapping	SignalBasedFireAnd ForgetMethodToISignal TriggeringMapping	*	aggr	Mapping of an ISignalTriggering being part of a fire and forget message to a ClientServerOperation. **Tags:** atp.Splitkey=fireAndForgetMethodMapping, fireAnd ForgetMethodMapping.shortName
serviceInstance	AdaptivePlatform ServiceInstance	0..1	ref	Reference to a ServiceInstance from which the corresponding ServiceInterface elements will be transported in the signal-based way over a communication medium. **Tags:** atp.Splitkey=serviceInstance
triggerMapping	SignalBasedTriggerTo ISignalTriggering Mapping	*	aggr	Mapping of a trigger to an ISignalTriggering. **Tags:** atp.Splitkey=triggerMapping, triggerMapping.short Name

Table A.448: ServiceInstanceToSignalMapping

Class	**ServiceInterface**			
Note	This represents the ability to define a PortInterface that consists of a heterogeneous collection of methods, events and fields. **Tags:** atp.recommendedPackage=ServiceInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**ServiceInterface**			
event	VariableDataPrototype	*	aggr	This represents the collection of events defined in the context of a ServiceInterface. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=event, event.shortName, event.variation Point.shortLabel vh.latestBindingTime=blueprintDerivationTime xml.sequenceOffset=30
field	Field	*	aggr	This represents the collection of fields defined in the context of a ServiceInterface. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=field, field.shortName, field.variation Point.shortLabel vh.latestBindingTime=blueprintDerivationTime xml.sequenceOffset=40
majorVersion	PositiveInteger	0..1	attr	Major version of the service contract. **Tags:** xml.sequenceOffset=10
method	ClientServerOperation	*	aggr	This represents the collection of methods defined in the context of a ServiceInterface. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=method, method.shortName, method.variationPoint.shortLabel vh.latestBindingTime=blueprintDerivationTime xml.sequenceOffset=50
minorVersion	PositiveInteger	0..1	attr	Minor version of the service contract. **Tags:** xml.sequenceOffset=20
trigger	Trigger	*	aggr	This represents the collection of triggers defined in the context of a ServiceInterface. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=trigger, trigger.shortName, trigger.variation Point.shortLabel vh.latestBindingTime=blueprintDerivationTime xml.sequenceOffset=60

Table A.449: ServiceInterface

Class	***ServiceInterfaceDeployment*** (abstract)			
Note	Middleware transport layer specific configuration settings for the ServiceInterface and all contained ServiceInterface elements. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Subclasses	DdsServiceInterfaceDeployment, SomeipServiceInterfaceDeployment, UserDefinedServiceInterface Deployment			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	***ServiceInterfaceDeployment*** (abstract)			
event Deployment	ServiceEvent Deployment	*	aggr	Middleware transport layer specific configuration settings for an Event that is defined in the ServiceInterface. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=eventDeployment, eventDeployment.shortName, eventDeployment.variationPoint.shortLabel vh.latestBindingTime=blueprintDerivationTime
fieldDeployment	ServiceField Deployment	*	aggr	Middleware transport layer specific configuration settings for a Field that is defined in the ServiceInterface. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=fieldDeployment, fieldDeployment.shortName, fieldDeployment.variationPoint.shortLabel vh.latestBindingTime=blueprintDerivationTime
method Deployment	ServiceMethod Deployment	*	aggr	Middleware transport layer specific configuration settings for a method that is defined in the ServiceInterface. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=methodDeployment, methodDeployment.shortName, methodDeployment.variationPoint.shortLabel vh.latestBindingTime=blueprintDerivationTime
serviceInterface	ServiceInterface	0..1	ref	Reference to a ServiceInterface that is deployed to a middleware transport layer. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=serviceInterface

Table A.450: ServiceInterfaceDeployment

Class	***ServiceInterfaceDeploymentElement*** (abstract)			
Note	This meta-class provides shared attributes for concrete classes used in the context of the definition of the ServiceInterfaceDeployment. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	*ServiceEventDeployment*, *ServiceFieldDeployment*, *ServiceMethodDeployment*			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
minimumSend Interval	TimeValue	0..1	attr	Minimum time between two consecutive transmissions of a service instance element (event, field, trigger or method call). Unit: seconds

Table A.451: ServiceInterfaceDeploymentElement

Class	***ServiceInterfaceElementMapping*** (abstract)			
Note	This abstract meta-class acts as base class for the mapping of specific elements of a ServiceInterface. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Subclasses	ServiceInterfaceEventMapping, ServiceInterfaceFieldMapping, ServiceInterfaceMethodMapping, ServiceInterfaceTriggerMapping			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.452: ServiceInterfaceElementMapping

Class	**ServiceInterfaceElementSecureComConfig**			
Note	This element allows to secure the communication of the referenced ServiceInterface element. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*AdaptivePlatformServiceInstance*.secureComConfig			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataId	PositiveInteger	0..1	attr	This attribute defines a unique numerical identifier for the referenced ServiceInterface element.
event	ServiceEvent Deployment	0..1	ref	Reference to an event that is protected by a security protocol. **Tags:** atp.Splitkey=event
fieldNotifier	ServiceField Deployment	0..1	ref	Reference to a field notifier that is protected by a security protocol. **Tags:** atp.Splitkey=fieldNotifier
freshnessValue Id	PositiveInteger	0..1	attr	This attribute defines the Id of the Freshness Value.
getterCall	ServiceField Deployment	0..1	ref	Reference to a field getter call message that is protected by a security protocol. **Tags:** atp.Splitkey=getterCall
getterReturn	ServiceField Deployment	0..1	ref	Reference to a field getter return message that is protected by a security protocol. **Tags:** atp.Splitkey=getterReturn
methodCall	ServiceMethod Deployment	0..1	ref	Reference to a method call message that is protected by a security protocol. **Tags:** atp.Splitkey=methodCall
methodReturn	ServiceMethod Deployment	0..1	ref	Reference to a method return message that is protected by a security protocol. **Tags:** atp.Splitkey=methodReturn
securedRx Verification	Boolean	0..1	attr	This attribute defines whether the ServiceInterface element shall verify its security credentials during reception.
setterCall	ServiceField Deployment	0..1	ref	Reference to a field setter call message that is protected by a security protocol. **Tags:** atp.Splitkey=setterCall
setterReturn	ServiceField Deployment	0..1	ref	Reference to a field setter return message that is protected by a security protocol. **Tags:** atp.Splitkey=setterReturn

Table A.453: ServiceInterfaceElementSecureComConfig

Class	**ServiceInterfaceEventMapping**			
Note	This meta-class allows to define a mapping between events of ServiceInterfaces that are mapped to each other by the ServiceInterfaceMapping. **Tags:** atp.recommendedPackage=ServiceInterfaceElementMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *ServiceInterfaceElementMapping*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**ServiceInterfaceEventMapping**			
sourceEvent	VariableDataPrototype	0..1	ref	Reference to an event that is contained in the source ServiceInterface. **Tags:** atp.Splitkey=sourceEvent
targetEvent	VariableDataPrototype	0..1	ref	Reference to an event that is contained in the composite ServiceInterface. **Tags:** atp.Splitkey=targetEvent

Table A.454: ServiceInterfaceEventMapping

Class	**ServiceInterfaceFieldMapping**			
Note	This meta-class allows to define a mapping between fields of ServiceInterfaces that are mapped to each other by the ServiceInterfaceMapping. **Tags:** atp.recommendedPackage=ServiceInterfaceElementMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *ServiceInterfaceElementMapping*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
sourceField	Field	0..1	ref	Reference to a field that is contained in the source ServiceInterface. **Tags:** atp.Splitkey=sourceField
targetField	Field	0..1	ref	Reference to a field that is contained in the composite ServiceInterface. **Tags:** atp.Splitkey=targetField

Table A.455: ServiceInterfaceFieldMapping

Class	**ServiceInterfaceMapping**			
Note	Specifies one ServiceInterfaceMapping that allows to define that a ServiceInterface is composite of several other ServiceInterfaces. **Tags:** atp.recommendedPackage=ServiceInterfaceMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AtpBlueprint*, *Identifiable*, *MultilanguageReferrable*, *PortInterfaceMapping*, *Referrable*			
Aggregated by	PortInterfaceMappingSet.portInterfaceMapping			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
composite ServiceInterface	ServiceInterface	0..1	ref	This represents the composite ServiceInterface. **Tags:** atp.Splitkey=compositeServiceInterface
sourceService Interface	ServiceInterface	*	ref	ServiceInterface that is mapped into the composite ServiceInterface. **Tags:** atp.Splitkey=sourceServiceInterface

Table A.456: ServiceInterfaceMapping

Class	**ServiceInterfaceMethodMapping**			
Note	This meta-class allows to define a mapping between methods of ServiceInterfaces that are mapped to each other by the ServiceInterfaceMapping. **Tags:** atp.recommendedPackage=ServiceInterfaceElementMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *ServiceInterfaceElementMapping*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
sourceMethod	ClientServerOperation	0..1	ref	Reference to a method that is contained in the source ServiceInterface. **Tags:** atp.Splitkey=sourceMethod
targetMethod	ClientServerOperation	0..1	ref	Reference to a method that is contained in the composite ServiceInterface. **Tags:** atp.Splitkey=targetMethod

Table A.457: ServiceInterfaceMethodMapping

Class	**ServiceInterfaceTriggerMapping**			
Note	This meta-class allows to define a mapping between triggers of ServiceInterfaces that are mapped to each other by the ServiceInterfaceMapping. **Tags:** atp.recommendedPackage=ServiceInterfaceElementMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *ServiceInterfaceElementMapping*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
sourceTrigger	Trigger	0..1	ref	Reference to a trigger that is contained in the source ServiceInterface. **Tags:** atp.Splitkey=sourceTrigger
targetTrigger	Trigger	0..1	ref	Reference to a trigger that is contained in the target ServiceInterface. **Tags:** atp.Splitkey=targetTrigger

Table A.458: ServiceInterfaceTriggerMapping

Class	***ServiceMethodDeployment*** (abstract)			
Note	This abstract meta-class represents the ability to specify a deployment of a Method to a middleware transport layer. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *ServiceInterfaceDeploymentElement*			
Subclasses	SomeipMethodDeployment, UserDefinedMethodDeployment			
Aggregated by	*ServiceInterfaceDeployment*.methodDeployment			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
method	ClientServerOperation	0..1	ref	Reference to a method that is deployed to a middleware transport layer. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=method

Table A.459: ServiceMethodDeployment

Enumeration	**ServiceVersionAcceptanceKindEnum**
Note	Defined the possible acceptance kinds for required service instances.
Aggregated by	ConsumedServiceInstance.versionDrivenFindBehavior, RequiredSomeipServiceInstance.version DrivenFindBehavior
Literal	***Description***
exactOrAnyMinor Version	Search for ANY or specific minor version service instance and select either ALL returned service instances (in case of ANY) or exactly the specific minor version service instances defined in required MinorVersion. **Tags:** atp.EnumerationLiteralIndex=0
minimumMinor Version	Search for ANY minor version service instance and select only those service instances which have an equal or greater minor version than given in requiredMinorVersion. **Tags:** atp.EnumerationLiteralIndex=1

Table A.460: ServiceVersionAcceptanceKindEnum

Class	**SignalBasedEventElementToISignalTriggeringMapping**			
Note	This meta-class defines the mapping of a ServiceInterface event or an element that is defined inside of the event in case that the datatype is composite to an ISignalTriggering. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AbstractSignalBasedToISignalTriggeringMapping*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ServiceInstanceToSignalMapping.eventElementMapping			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataPrototypeIn ServiceInterface Ref	DataPrototypeInService InterfaceRef	0..1	aggr	Reference to a DataPrototype or to an internal structure of a DataPrototype in the context of a ServiceInterface. **Tags:** atp.Splitkey=dataPrototypeInServiceInterfaceRef
filter	DataFilter	0..1	aggr	Defines an optional filter to be applied during translation. **Tags:** atp.Splitkey=filter
iSignal Triggering	ISignalTriggering	0..1	ref	Reference to the ISignalTriggering that is used to transport a piece of data of an event that is defined in a ServiceInterface in a signal-based way over a communication channel. **Tags:** atp.Splitkey=iSignalTriggering
transmission Trigger	Boolean	0..1	attr	Defines whether the source element triggers the sending of the respective payload.

Table A.461: SignalBasedEventElementToISignalTriggeringMapping

Class	**SignalBasedFieldToISignalTriggeringMapping**			
Note	This meta-class defines the mapping of a ServiceInterface field to ISignalTriggerings that represent the notifier elements on a signal-based communication channel. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AbstractSignalBasedToISignalTriggeringMapping*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ServiceInstanceToSignalMapping.fieldMapping			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataPrototypeIn ServiceInterface Ref	DataPrototypeInService InterfaceRef	0..1	aggr	Reference to a DataPrototype or to an internal structure of a DataPrototype in the context of a ServiceInterface. **Tags:** atp.Splitkey=dataPrototypeInServiceInterfaceRef
filter	DataFilter	0..1	aggr	Defines an optional filter to be applied during translation. **Tags:** atp.Splitkey=filter

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Class	SignalBasedFieldToISignalTriggeringMapping			
notifierSignal Triggering	ISignalTriggering	0..1	ref	Reference to the ISignalTriggering that is used to transport a piece of data of a notifier in a signal-based way over a communication channel. **Tags:** atp.Splitkey=notifierSignalTriggering
transmission Trigger	Boolean	0..1	attr	Defines whether the source notifier element triggers the sending of the respective payload.

Table A.462: SignalBasedFieldToISignalTriggeringMapping

Class	SignalBasedFireAndForgetMethodToISignalTriggeringMapping			
Note	This meta-class defines the mapping of a ServiceInterface fire and forget method part to an ISignal Triggering. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AbstractSignalBasedToISignalTriggeringMapping*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ServiceInstanceToSignalMapping.fireAndForgetMethodMapping			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
dataPrototypeIn Method Argument InstanceRef	DataPrototype	0..1	iref	Instance reference to a (potentially structured) member of a ClientServerOperation. **Tags:** atp.Splitkey=dataPrototypeInMethodArgument InstanceRef, dataPrototypeInMethodArgumentInstance Ref.rootDataPrototype, dataPrototypeInMethodArgument InstanceRef.contextDataPrototype, dataPrototypeIn MethodArgumentInstanceRef.targetDataPrototype **InstanceRef implemented by:** DataPrototypeInService InterfaceInstanceRef
iSignal Triggering	ISignalTriggering	0..1	ref	Reference to an ISignalTriggering being part of a fire and forget message. **Tags:** atp.Splitkey=iSignalTriggering

Table A.463: SignalBasedFireAndForgetMethodToISignalTriggeringMapping

Class	SignalBasedTriggerToISignalTriggeringMapping			
Note	This meta-class defines the mapping of a ServiceInterface trigger to an ISignalTriggering. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AbstractSignalBasedToISignalTriggeringMapping*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ServiceInstanceToSignalMapping.triggerMapping			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
iSignal Triggering	ISignalTriggering	0..1	ref	Reference to the ISignalTriggering that is used to transport the trigger that is defined in a ServiceInterface in a signal-based way over a communication channel. **Tags:** atp.Splitkey=iSignalTriggering
trigger	Trigger	0..1	ref	Reference to a trigger defined in the context of a Service Interface. **Tags:** atp.Splitkey=trigger

Table A.464: SignalBasedTriggerToISignalTriggeringMapping

Class	**SignalServiceTranslationEventProps**			
Note	This element allows to define the properties which are applicable for the signal/service translation event.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	SignalServiceTranslationProps.signalServiceTranslationEventProps			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
safeTranslation	Boolean	0..1	attr	Defined whether the translation shall happen in a safe way.
secure Translation	Boolean	0..1	attr	Defined whether the translation shall happen in a secure way.
serviceElement Mapping	AbstractSignalBasedTo ISignalTriggering Mapping	*	ref	Reference to the collection of SignalBased to ISignal Triggerung mappings the properties apply to. **Tags:** atp.Splitkey=serviceElementMapping This Attribute is only used by the AUTOSAR Adaptive Platform.

Table A.465: SignalServiceTranslationEventProps

Class	**SignalServiceTranslationProps**			
Note	This element allows to define the properties which are applicable for the signal/service translation service.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	SignalServiceTranslationPropsSet.signalServiceTranslationProps			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
serviceControl	SignalService TranslationControlEnum	0..1	attr	Defines how the service instance control shall behave.
signalService Translation EventProps	SignalService TranslationEventProps	*	aggr	Defines properties for a single translated event. **Tags:** atp.Splitkey=signalServiceTranslationEventProps, signalServiceTranslationEventProps.shortName

Table A.466: SignalServiceTranslationProps

Class	**SmInteractsWithNmMapping**			
Note	This mapping represents an interaction from state management to network management. **Tags:** atp.Status=draft atp.recommendedPackage=FCInteractions This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FunctionalClusterInteractsWithFunctionalClusterMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
actionItem	StateManagementNm ActionItem	0..1	ref	This reference identifies the action item with which the state management wants to interact with network management. **Tags:** atp.Splitkey=actionItem atp.Status=draft



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Class	SmInteractsWithNmMapping			
nmNetwork Handle	NmNetworkHandle	0..1	ref	This reference identifies the network management handle that is affected by the interaction with the state management. **Tags:** atp.Splitkey=nmNetworkHandle atp.Status=draft

Table A.467: SmInteractsWithNmMapping

Class	SoConIPduIdentifier			
Note	Identification of Pdu content on a socket connection. This Identifier is required in case that multiple Pdus are transmitted over the same socket connection.			
Base	*ARObject*, *Referrable*			
Aggregated by	SocketConnectionIpduIdentifierSet.iPduIdentifier			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
headerId	PositiveInteger	0..1	attr	If multiple Pdus are transmitted over the same connection this headerId can be used to distinguish between the different Pdus. For the constraints on constructing the headerId for SOME/IP also see PRS_SOMEIP_00245.
pduCollection PduTimeout	TimeValue	0..1	attr	Defines the timeout in seconds the PDU collection shall be transmitted at the latest after this PDU has been put into the buffer.
pduCollection Semantics	PduCollection SemanticsEnum	0..1	attr	Specifies if the referenced PduTriggering shall be collected using a queued (i.e. all PDU instances) or last-is-best (i.e. only the last PDU instance) semantics. If this attribute is not present the behavior of "queued" is assumed.
pduCollection Trigger	PduCollectionTrigger Enum	0..1	attr	Defines whether the referenced Pdu contributes to the triggering of the socket transmission if Pdu collection is enabled for this socket.
pduTriggering	PduTriggering	0..1	ref	Reference to a Pdu that is transmitted over a socket connection. **Tags:** atp.Splitkey=pduTriggering

Table A.468: SoConIPduIdentifier

Class	SoftwareCluster			
Note	This meta-class represents the ability to define an uploadable software-package, i.e. the SoftwareCluster shall contain all software and configuration for a given purpose. **Tags:** atp.recommendedPackage=SoftwareClusters This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
artifact Checksum	ArtifactChecksum	*	aggr	This aggregation carries the checksums for artifacts contained in the enclosing SoftwareCluster. Please note that the value of these checksums is only applicable at the time of configuration. **Tags:** atp.Splitkey=artifactChecksum, artifact Checksum.shortName

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Class	**SoftwareCluster**			
artifactLocator	ArtifactLocator	*	aggr	This aggregation represents the artifact locations that are relevant in the context of the enclosing SoftwareCluster **Tags:** atp.Splitkey=artifactLocator, artifactLocator.shortName
claimed FunctionGroup	ModeDeclarationGroup Prototype	*	ref	Each SoftwareCluster can reserve the usage of a given functionGroup such that no other SoftwareCluster is allowed to use it **Tags:** atp.Splitkey=claimedFunctionGroup
contained ARElement	ARElement	*	ref	This reference represents the collection of model elements that cannot derive from UploadablePackage Element and that contribute to the completeness of the definition of the SoftwareCluster. **Tags:** atp.Splitkey=containedARElement
contained Package Element	UploadablePackage Element	*	ref	This reference identifies model elements that are required to complete the manifest content. **Tags:** atp.Splitkey=containedPackageElement
contained Process	Process	*	ref	This reference represent the processes contained in the enclosing SoftwareCluster. **Tags:** atp.Splitkey=containedProcess
design	SoftwareClusterDesign	*	ref	This reference represents the identification of all Software ClusterDesigns applicable for the enclosing Software Cluster. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=design
diagnostic Deployment Props	SoftwareCluster DiagnosticDeployment Props	0..1	ref	This reference identifies the applicable SoftwareCluster DiagnosticDeploymentProps that are applicable for the referencing SoftwareCluster. **Tags:** atp.Splitkey=diagnosticDeploymentProps
license	Documentation	*	ref	This attribute allows for the inclusion of the full text of a license of the enclosing SoftwareCluster. In many cases open source licenses require the inclusion of the full license text to any software that is released under the respective license. **Tags:** atp.Splitkey=license
module Instantiation	AdaptiveModule Instantiation	*	ref	This reference identifies AdaptiveModuleInstantiations that need to be included with the SoftwareCluster in order to establish infrastructure required for the installation of the SoftwareCluster. **Tags:** atp.Splitkey=moduleInstantiation
releaseNotes	Documentation	0..1	ref	This attribute allows for the explanations of changes since the previous version. The list of changes might require the creation of multiple paragraphs of test. **Tags:** atp.Splitkey=releaseNotes
typeApproval	String	0..1	attr	This attribute carries the homologation information that may be specific for a given country.
vendorId	PositiveInteger	0..1	attr	Vendor ID of this Implementation according to the AUTOSAR vendor list.
vendor Signature	CryptoService Certificate	0..1	ref	This reference identifies the certificate that represents the vendor's signature. **Tags:** atp.Splitkey=vendorSignature
version	StrongRevisionLabel String	0..1	attr	This attribute can be used to describe a version information for the enclosing SoftwareCluster.

Table A.469: SoftwareCluster

Class	**SoftwareClusterDependencyCompareCondition**			
Note	This meta-class represents the ability to specify a concrete dependency condition in the context of a SoftwareClusterDependencyFormula. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *SoftwareClusterDependencyFormulaPart*			
Aggregated by	SoftwareClusterDependencyFormula.part			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
compareType	SoftwareCluster DependencyOperator Enum	0..1	attr	This attribute identifies the semantics of the compare operator.
considerBuild Number	Boolean	0..1	attr	If this attribute is set to true then the build number shall be taken into account for the comparison. Build numbers don't have to be consecutive but could be created by some kind of hashing algorithm. In such a case it might make sense to include the build number in a test for equality but it is probably not reasonable to apply e.g. a less-than comparison.
softwareCluster Design	SoftwareClusterDesign	0..1	ref	This reference identifies the SoftwareClusterDesign to which the dependency/conflict applies.
version	StrongRevisionLabel String	0..1	attr	This attribute represents the value of a version against which the comparison shall be executed.

Table A.470: SoftwareClusterDependencyCompareCondition

Class	**SoftwareClusterDependencyFormula**			
Note	This meta-class represents the ability to define a dependency among SoftwareClusters. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *SoftwareClusterDependencyFormulaPart*			
Aggregated by	SoftwareClusterDependencyFormula.part, SoftwareClusterDesign.conflictsTo, SoftwareCluster Design.dependsOn			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
operator	SoftwareCluster DependencyLogical OperatorEnum	0..1	attr	This logical operator can be used to relate the results of different SoftwareClusterDependencyParts.
part (ordered)	SoftwareCluster DependencyFormula Part	*	aggr	This aggregation represents the ordered collection of the parts of the SoftwareClusterDependencyFormula.

Table A.471: SoftwareClusterDependencyFormula

Class	**SoftwareClusterDesign**			
Note	This meta-class represents the ability for the OEM to design the grouping of software uploadable to a specific target Machine. **Tags:** atp.recommendedPackage=SoftwareClusterDesigns This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpClassifier*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
conflictsTo	SoftwareCluster DependencyFormula	0..1	aggr	This aggregation handles conflicts. If it yields true then the SoftwareClusterDesign shall not be installed. **Tags:** atp.Splitkey=conflictsTo

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Class	**SoftwareClusterDesign**			
contained Process	ProcessDesign	*	ref	This reference represent the ProcessDesigns contained in the enclosing SoftwareCluster. **Tags:** atp.Splitkey=containedProcess
dependsOn	SoftwareCluster DependencyFormula	0..1	aggr	This aggregation can be taken to identify a dependency for the enclosing SoftwareClusterDesign. **Tags:** atp.Splitkey=dependsOn
diagnostic Contribution	DiagnosticContribution Set	*	ref	This reference identifies the corresponding collection of DiagnosticContributionSet. **Tags:** atp.Splitkey=diagnosticContribution
doIpLogical Address	DoIpLogicalAddress	0..1	ref	This reference identifies the DoIp logical address that shall be used to contact the diagnostic management in the SoftwareCluster derived from the enclosing Software ClusterDesign. **Tags:** atp.Splitkey=doIpLogicalAddress
installation Behavior	SoftwareCluster InstallationBehavior Enum	0..1	attr	This attribute controls the behavior of the SoftwareCluster in terms of installation.
intendedTarget Machine	MachineDesign	*	ref	This reference can be taken to identify the Machine Design for which the final SoftwareCluster shall be developed. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=intendedTargetMachine
required ARElement	ARElement	*	ref	This reference represents the collection of ARElements that are required for the completeness of the definition of the SoftwareCluster. **Tags:** atp.Splitkey=requiredARElement
requiredDesign Element	UploadableDesign Element	*	ref	This reference points to uploadable design elements that have been identified as relevant in the context of the enclosing SoftwareClusterDesign. **Tags:** atp.Splitkey=requiredDesignElement
root Composition	RootSwClusterDesign ComponentPrototype	0..1	aggr	This aggregation represents the design of the software inside the SwClusterDesign terms of the communication endpoints. **Tags:** atp.Splitkey=rootComposition, root Composition.shortName
version	StrongRevisionLabel String	0..1	attr	This attribute can be used to describe a version information for the enclosing SoftwareClusterDesign.

Table A.472: SoftwareClusterDesign

Class	***SoftwareClusterDiagnosticAddress*** (abstract)			
Note	This meta-class represents the ability to define a diagnostic address in an abstract form. Sub-classes are supposed to clarify how the diagnostic address shall be defined according to the applicable addressing scheme (DoIP vs. CAN TP vs. ...). This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Subclasses	SoftwareClusterUdsDiagnosticAddress			
Aggregated by	DiagnosticCommonProps.diagnosticAddress			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.473: SoftwareClusterDiagnosticAddress

Enumeration	**SoftwareClusterDiagnosticAddressSemanticsEnum**
Note	This meta-class defines a list of semantics for the interpretation of diagnostic addresses in the context of a SoftwareCluster. This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	SoftwareClusterUdsDiagnosticAddress.udsAddressSemantics
Literal	***Description***
functionalAddress	This address represents a functional address. **Tags:** atp.EnumerationLiteralIndex=1
physicalAddress	This address represents a physical address. **Tags:** atp.EnumerationLiteralIndex=0

Table A.474: SoftwareClusterDiagnosticAddressSemanticsEnum

Class	**SoftwareClusterDiagnosticDeploymentProps**			
Note	This meta-class acts as the owner of all deployment-related diagnostic properties of a SoftwareCluster. **Tags:** atp.recommendedPackage=SoftwareClusterDiagnosticProps This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
diagnosticExtract	DiagnosticContributionSet	0..1	ref	This reference identifies the DiagnosticContributionSet that is applicable for the referencing SoftwareCluster. **Tags:** atp.Splitkey=diagnosticExtract
maxConversations	PositiveInteger	0..1	attr	Maximum number of diagnostic Conversations supported by the Diagnostic Server Instance. This attribute has no relation to the definition of the maximum number of clients in DoIP context, configured by means of DoIpNetworkConfiguration.maxTesterConnections.
powerDownTime	PositiveInteger	0..1	attr	This attribute indicates the minimum time of the stand-by sequence the server will remain in the power-down sequence. The unit is seconds.
validationConfiguration	DiagnosticServiceValidationConfiguration	0..1	aggr	This aggregation represents the ability to define the order of manufacturer and supplier validations in diagnostic management. **Tags:** atp.Splitkey=validationConfiguration

Table A.475: SoftwareClusterDiagnosticDeploymentProps

Enumeration	**SoftwareClusterInstallationBehaviorEnum**
Note	This enumeration defines possible approaches for the installation behavior of a SoftwareCluster. This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	SoftwareClusterDesign.installationBehavior
Literal	***Description***
canBeRemoved	The enclosing SoftwareCluster can be removed from the target Machine or updated with a newer version. **Tags:** atp.EnumerationLiteralIndex=0
cannotBeRemoved	The enclosing SoftwareCluster cannot be removed from the target Machine. It can only be updated with a newer version. **Tags:** atp.EnumerationLiteralIndex=1

Table A.476: SoftwareClusterInstallationBehaviorEnum

Class	**SoftwareClusterUdsDiagnosticAddress**			
Note	This meta-class represents the ability to define a diagnostic address specifically for the UDS case This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *SoftwareClusterDiagnosticAddress*			
Aggregated by	DiagnosticCommonProps.diagnosticAddress			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
diagnostic Address	PositiveInteger	0..1	attr	This attribute represents the collection of diagnostic addresses the SoftwareCluster occupies. **Stereotypes:** atpIdentityContributor
udsAddress Semantics	SoftwareCluster DiagnosticAddress SemanticsEnum	0..1	attr	This attribute clarifies whether the address value shall be interpreted as a physical or a functional address.

Table A.477: SoftwareClusterUdsDiagnosticAddress

Class	**SoftwarePackage**			
Note	This meta-class represents the ability to formalize the content of a software package. **Tags:** atp.recommendedPackage=SoftwarePackages This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
actionType	SoftwarePackageAction TypeEnum	0..1	attr	This attribute defines the action to be taken in the step of processing the enclosing SoftwarePackage.
activationAction	SoftwarePackage ActivationActionEnum	0..1	attr	This attribute governs the action to be taken after the installation of the SoftwareCluster completed.
artifactLocator	ArtifactLocator	0..1	aggr	This attribute identifies the software package at configuration time, out of the context of an AUTOSAR model. **Tags:** atp.Splitkey=artifactLocator, artifactLocator.short Name
compressed Software PackageSize	PositiveInteger	0..1	attr	This size represents the size of the compressed Software Package.
deltaPackage Applicable Version	StrongRevisionLabel String	0..1	attr	This attribute identifies the version of the included SoftwareCluster for which the enclosing SoftwarePackage can be used as a delta update
estimated DurationOf Operation	TimeValue	0..1	attr	This attribute provides an estimation about how long the operation of the SoftwarePackage is going to take for its transfer, processing and activation when updated standalone (not within an update campaign)
minimum SupportedUcm Version	RevisionLabelString	0..1	attr	This attribute identifies the minimum supported version of the UCM for this SoftwarePackage.
packagerId	PositiveInteger	0..1	attr	This attribute identifies Id of the organization that provides the packager generating the SoftwarePackage.
packager Signature	CryptoService Certificate	0..1	ref	This reference identifies the certificate that represents the packager's signature. **Tags:** atp.Splitkey=packagerSignature

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Class	**SoftwarePackage**			
primary DownloadUri	UriDescription	0..1	aggr	This attribute represents the description of the primary download location. **Tags:** atp.Splitkey=primaryDownloadUri, primary DownloadUri.shortName
purposeOf Update	Documentation	0..1	ref	The referenced Documentation is supposed to provide a description of the purpose of the update. **Tags:** atp.Splitkey=purposeOfUpdate
secondary DownloadUri	UriDescription	*	aggr	This attribute represents the description of the secondary download locations. **Tags:** atp.Splitkey=secondaryDownloadUri, secondary DownloadUri.shortName
softwareCluster	SoftwareCluster	0..1	ref	This reference identifies the SoftwareCluster that belongs to the SoftwarePackage. The nature of this relation is actually more like an aggregation than a reference. But the relation is still modelled as a reference because two ARElements cannot aggregate each other. **Tags:** atp.Splitkey=softwareCluster
uncompressed SoftwareCluster Size	PositiveInteger	0..1	attr	This attribute gives an indication about the storage that has to be available on the target.

Table A.478: SoftwarePackage

Class	**SoftwarePackageStep**			
Note	This meta-class represents the configuration of an activation step in the context of software package activation. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	UcmStep.softwarePackageStep			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
process	SoftwarePackage	0..1	ref	This reference identifies the SoftwarePackage to be processed in the enclosing SoftwarePackageStep. **Tags:** atp.Splitkey=process
transfer	SoftwarePackage Storing	*	aggr	This aggregation clarifies the storing of the Software Package. **Tags:** atp.Splitkey=transfer

Table A.479: SoftwarePackageStep

Class	**SoftwarePackageStoring**			
Note	This meta-class provides the ability to specify whether and where the referenced SoftwarePackage is stored. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	SoftwarePackageStep.transfer			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
storing	SoftwarePackage StoringEnum	0..1	attr	This attribute clarifies whether and where the referenced SoftwarePackage is stored.

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Class	**SoftwarePackageStoring**			
transfer	SoftwarePackage	*	ref	This reference identifies the SoftwarePackage(s) to be transferred in the enclosing SoftwarePackageStep. **Tags:** atp.Splitkey=transfer

Table A.480: SoftwarePackageStoring

Class	**SomeipDataPrototypeTransformationProps**			
Note	This meta-class represents the ability to define data transformation props specifically for a SOME/IP serialization for a given DataPrototype. **Tags:** atp.recommendedPackage=SomeipDataPrototypeTransformationPropss This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
dataPrototype	DataPrototypeInService InterfaceRef	*	aggr	Collection of DataPrototypes for which the settings in SomeipDataPrototypeTransformationProps are valid. For reuse reasons the SomeipDataPrototypeTransformation Props is able to aggregate several DataPrototypes. **Tags:** atp.Splitkey=dataPrototype
network Representation	SwDataDefProps	0..1	aggr	Optional specification of the actual network representation for the referenced primitive DataPrototype. If a network representation is provided then the baseType available in the SwDataDefProps shall be used as input for the serialization/deserialization. If the network Representation is not provided then the baseType of the AbstractImplementationDataType shall be used for the serialization/deserialization. **Tags:** atp.Splitkey=networkRepresentation
someip Transformation Props	ApSomeip TransformationProps	0..1	ref	This reference represents the ability to define data transformation props specifically for a SOME/IP serialization. **Tags:** atp.Splitkey=someipTransformationProps

Table A.481: SomeipDataPrototypeTransformationProps

Class	**SomeipEventDeployment**			
Note	SOME/IP configuration settings for an Event. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *ServiceEventDeployment*, *ServiceInterface DeploymentElement*			
Aggregated by	*ServiceInterfaceDeployment*.eventDeployment, SomeipFieldDeployment.notifier			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
burstSize	PositiveInteger	0..1	attr	Specifies the number of segments that shall be transmitted in a burst ignoring separationTime. SeparationTime will then only be applied between bursts. If not configured, SeparationTime will be applied between all frames.
eventId	PositiveInteger	0..1	attr	Unique Identifier within a ServiceInterface that identifies the Event in SOME/IP. This Identifier is sent as part of the Message ID in SOME/IP messages.

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Class	SomeipEventDeployment			
maximum SegmentLength	PositiveInteger	0..1	attr	This attribute describes the length in bytes of the SOME/IP segment. This includes 8 bytes for the Request ID, Protocol Version, Interface Version, Message Type and Return Code and 4 additional SOME/IP TP bytes. If this attribute is set to a value and the data length is larger than maximumSegmentLength then the corresponding SOME/IP message will be segmented into smaller parts that are transmitted over the network.
segment Reception TimeoutTime	TimeValue	0..1	attr	Timer to monitor the successful reception of segments (in seconds) in SOME/IP.
separationTime	TimeValue	0..1	attr	Sets the duration of the minimum time in seconds SOME/IP shall wait between the transmissions of segments.
serializer	SerializationTechnology Enum	0..1	attr	Defines which serialization technology shall be used.
transport Protocol	TransportLayerProtocol Enum	0..1	attr	This attribute defines over which Transport Layer Protocol this event is intended to be sent.

Table A.482: SomeipEventDeployment

Class	SomeipEventGroup			
Note	Grouping of events and notification events inside a ServiceInterface in order to allow subscriptions. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	SomeipServiceInterfaceDeployment.eventGroup			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
event	SomeipEvent Deployment	*	ref	Reference to an event that is part of the EventGroup. **Tags:** atp.Splitkey=event
eventGroupId	PositiveInteger	0..1	attr	Unique Identifier that identifies the EventGroup in SOME/IP. This Identifier is sent as Eventgroup ID in SOME/IP Service Discovery messages.

Table A.483: SomeipEventGroup

Class	SomeipFieldDeployment			
Note	SOME/IP configuration settings for a Field. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *ServiceFieldDeployment*, *ServiceInterface DeploymentElement*			
Aggregated by	*ServiceInterfaceDeployment*.fieldDeployment			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
get	SomeipMethod Deployment	0..1	aggr	This aggregation represents the setting of the get method. **Tags:** atp.Splitkey=get, get.shortName
notifier	SomeipEvent Deployment	0..1	aggr	This aggregation represents the settings of the notifier. **Tags:** atp.Splitkey=notifier, notifier.shortName
set	SomeipMethod Deployment	0..1	aggr	This aggregation represents the settings of the set method **Tags:** atp.Splitkey=set, set.shortName

Table A.484: SomeipFieldDeployment

Class	**SomeipMethodDeployment**			
Note	SOME/IP configuration settings for a Method. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *ServiceInterfaceDeploymentElement*, *ServiceMethodDeployment*			
Aggregated by	*ServiceInterfaceDeployment*.methodDeployment, SomeipFieldDeployment.get, SomeipFieldDeployment.set			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
burstSizeRequest	PositiveInteger	0..1	attr	Specifies the number of segments for the Method Call that shall be transmitted in a burst ignoring separation Time. SeparationTime will then only be applied between bursts. If not configured, SeparationTime will be applied between all frames.
burstSizeResponse	PositiveInteger	0..1	attr	Specifies the number of segments for the Method Response that shall be transmitted in a burst ignoring separationTime. SeparationTime will then only be applied between bursts. If not configured, SeparationTime will be applied between all frames.
maximumSegmentLengthRequest	PositiveInteger	0..1	attr	This attribute describes the length in bytes of one SOME/IP segment into which the Method Call Message will be divided. This length field includes 8 bytes for the Request ID, Protocol Version, Interface Version, Message Type and Return Code and 4 additional SOME/IP TP bytes. If this attribute is set to a value and the data length is larger than maximumSegmentLengthRequest then the corresponding SOME/IP message will be segmented into smaller parts that are transmitted over the network.
maximumSegmentLengthResponse	PositiveInteger	0..1	attr	This attribute describes the length in bytes of one SOME/IP segment into which the Method Return Message will be divided. This length field includes 8 bytes for the Request ID, Protocol Version, Interface Version, Message Type and Return Code and 4 additional SOME/IP TP bytes. If this attribute is set to a value and the data length is larger than maximumSegmentLengthResponse then the corresponding SOME/IP message will be segmented into smaller parts that are transmitted over the network.
methodId	PositiveInteger	0..1	attr	Unique Identifier within a ServiceInterface that identifies the Method in SOME/IP. This Identifier is sent as part of the Message ID in SOME/IP messages.
segmentReceptionTimeoutTimeRequest	TimeValue	0..1	attr	Timer to monitor the successful reception of segments (in seconds) in SOME/IP for the Method Call.
segmentReceptionTimeoutTimeResponse	TimeValue	0..1	attr	Timer to monitor the successful reception of segments (in seconds) in SOME/IP for the Method Response.
separationTimeRequest	TimeValue	0..1	attr	Sets the duration of the minimum time in seconds SOME/IP shall wait between the transmissions of segments into which the Method Call Message will be divided.
separationTimeResponse	TimeValue	0..1	attr	Sets the duration of the minimum time in seconds SOME/IP shall wait between the transmissions of segments into which the Method Return Message will be divided.
transportProtocol	TransportLayerProtocolEnum	0..1	attr	This attribute defines over which Transport Layer Protocol this method is intended to be sent.

Table A.485: SomeipMethodDeployment

Class	**SomeipProvidedEventGroup**			
Note	The meta-class represents the ability to configure ServiceInstance related communication settings on the provided side for each EventGroup separately. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	ProvidedSomeipServiceInstance.providedEventGroup			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
eventGroup	SomeipEventGroup	0..1	ref	Reference to the SomeipEventGroup in the System Manifest for which the ServiceInstance related Event Group settings are valid. **Tags:** atp.Splitkey=eventGroup
eventMulticast UdpPort	PositiveInteger	0..1	attr	UdpPort configuration that is used for Event communication in the IP-Multicast case. During SOME/IP Service Discovery: Send in the SD-SubscribeEventGroupAck Message to client (answer to SD-SubscribeEventGroup). Event: This is the destination-port where the server sends the multicast event messages if the multicastThreshold is exceeded.
ipv4MulticastIp Address	Ip4AddressString	0..1	attr	Multicast IPv4 Address that is transmitted in the Event GroupSubscribeAck message.
ipv6MulticastIp Address	Ip6AddressString	0..1	attr	Multicast IPv6 Address that is transmitted in the Event GroupSubscribeAck message.
multicast Threshold	PositiveInteger	0..1	attr	Specifies the number of subscribed clients that trigger the server to change the transmission of events to multicast. Example: If configured to 0 only unicast will be used. If configured to 1 the first client will be already served by multicast. If configured to 2 the first client will be served with unicast and as soon as the 2nd client arrives both will be served by multicast. This does not influence the handling of initial events, which are served using unicast only.
sdServerEvent GroupTiming Config	SomeipSdServerEvent GroupTimingConfig	0..1	ref	Server Timing configuration settings that are EventGroup specific. **Tags:** atp.Splitkey=sdServerEventGroupTimingConfig

Table A.486: SomeipProvidedEventGroup

Class	**SomeipRemoteMulticastConfig**			
Note	This meta-class is used to statically configure the remote peer's multicast address. **Tags:** atp.recommendedPackage=RemoteMulticastConfigs This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
eventGroup	SomeipEventGroup	*	ref	Reference to the SomeipEventGroups this Someip RemoteMulticastConfig applies to. **Tags:** atp.Splitkey=eventGroup
ipv4Address	Ip4AddressString	0..1	attr	This attribute defines the multicast IPv4 address to allow a static service connection between Service Provider and Service Consumers.

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Class	**SomeipRemoteMulticastConfig**			
ipv6Address	Ip6AddressString	0..1	attr	This attribute defines the multicast IPv6 address to allow a static service connection between Service Provider and Service Consumers.
udpPort	PositiveInteger	0..1	attr	This attribute defines the udpPort used for the multicast communication.

Table A.487: SomeipRemoteMulticastConfig

Class	**SomeipRemoteUnicastConfig**			
Note	This meta-class is used to statically configure the remote peer's unicast address in case that a static service connection is used and only a single remote peer exists. **Tags:** atp.recommendedPackage=SomeipRemoteUnicastConfigs This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
eventGroup	SomeipEventGroup	*	ref	Reference to the SomeipEventGroups this Someip RemoteUnicatConfig applies to. **Tags:** atp.Splitkey=eventGroup
ipv4Address	Ip4AddressString	0..1	attr	This attribute defines the IPv4 address of the remote peer to allow a static service connection between Service Provider and Service Consumer.
ipv6Address	Ip6AddressString	0..1	attr	This attribute defines the IPv6 address of the remote peer to allow a static service connection between Service Provider and Service Consumer.
tcpPort	PositiveInteger	0..1	attr	This attribute defines the tcpPort of the remote peer to allow a static service connection between Service Provider and Service Consumer.
udpPort	PositiveInteger	0..1	attr	This attribute defines the udpPort of the remote peer to allow a static service connection between Service Provider and Service Consumer.

Table A.488: SomeipRemoteUnicastConfig

Class	**SomeipRequiredEventGroup**			
Note	The meta-class represents the ability to configure ServiceInstance related communication settings on the required side for each EventGroup separately. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Referrable*			
Aggregated by	RequiredSomeipServiceInstance.requiredEventGroup			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
eventGroup	SomeipEventGroup	0..1	ref	Reference to the SomeipEventGroup in the System Manifest for which the ServiceInstance related Event Group settings are valid. **Tags:** atp.Splitkey=eventGroup
sdClientEvent GroupTiming Config	SomeipSdClientEvent GroupTimingConfig	0..1	ref	Client Timing configuration settings that are EventGroup specific. **Tags:** atp.Splitkey=sdClientEventGroupTimingConfig

Table A.489: SomeipRequiredEventGroup

Class	**SomeipServiceDiscovery**			
Note	This meta-class represents a specialization of the generic service discovery for the SOME/IP case. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *ServiceDiscoveryConfiguration*			
Aggregated by	MachineDesign.serviceDiscoveryConfig			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
multicastSdIp Address	NetworkEndpoint	0..1	ref	This reference identifies the multicast IP address used for service discovery. **Tags:** atp.Splitkey=multicastSdIpAddress
multicastSecure ComProps	SecureComProps	0..1	ref	Reference to a communication security protocol and its configuration settings that will provide communication security for Service Discovery messages that are transmitted using multicast, e.g. FindService message. **Tags:** atp.Splitkey=multicastSecureComProps
someipService DiscoveryPort	PositiveInteger	0..1	attr	This attribute represents the port number reserved for service discovery.
unicastSecure ComProps	SecureComProps	*	ref	Reference to a communication security protocol and its configuration settings that will provide communication security for Service Discovery messages that are transmitted using unicast, e.g. OfferService as answer to a FindService message. . **Tags:** atp.Splitkey=unicastSecureComProps

Table A.490: SomeipServiceDiscovery

Class	**SomeipServiceInstanceToMachineMapping**			
Note	This meta-class allows to map SomeipServiceInstances to a CommunicationConnector of a Machine. In this step the network configuration (IP Address, Transport Protocol, Port Number) for the ServiceInstance is defined. **Tags:** atp.recommendedPackage=ServiceInstanceToMachineMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *ServiceInstanceToMachineMapping*, *UploadableDesignElement*, *Uploadable PackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
remoteMulticast Config	SomeipRemote MulticastConfig	*	ref	This reference defines a remote multicast Address (IP Address, Port) that is used in a static configuration to setup the communication path between a service provider and service consumer. This reference shall ONLY be used if the remote address is determined from the configuration and not at runtime from the Service Discovery. **Tags:** atp.Splitkey=remoteMulticastConfig
remoteUnicast Config	SomeipRemoteUnicast Config	*	ref	In case that a static service connection is used and a single peer exists this element is used to statically configure the remote peer's address. **Tags:** atp.Splitkey=remoteUnicastConfig
tcpPort	ApApplicationEndpoint	0..1	ref	local TcpPort that will be used by the ServiceInstance for the communication. **Tags:** atp.Splitkey=tcpPort

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Class	**SomeipServiceInstanceToMachineMapping**			
udpCollection BufferSize Threshold	PositiveInteger	0..1	attr	Specifies the amount of data in bytes that shall be buffered for data transmission over the udp connection specified by this SomeipServiceInstanceToMachine Mapping. If this attribute is set to a value, then the data collection feature is enabled.
udpPort	ApApplicationEndpoint	0..1	ref	local UdpPort that will be used by the ServiceInstance for the communication. **Tags:** atp.Splitkey=udpPort

Table A.491: SomeipServiceInstanceToMachineMapping

Class	**SomeipServiceInterfaceDeployment**			
Note	SOME/IP configuration settings for a ServiceInterface. **Tags:** atp.recommendedPackage=ServiceInterfaceDeployments This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *ServiceInterfaceDeployment*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
eventGroup	SomeipEventGroup	*	aggr	SOME/IP EventGroups that are defined within the SOME/IP ServiceClass. **Tags:** atp.Splitkey=eventGroup, eventGroup.shortName
serviceInterface Id	PositiveInteger	0..1	attr	Unique Identifier that identifies the ServiceInterface in SOME/IP. This Identifier is sent as Service ID in SOME/IP Service Discovery messages.
serviceInterface Version	SomeipServiceVersion	0..1	aggr	The SOME/IP major and minor Version of the Service. **Tags:** atp.Splitkey=serviceInterfaceVersion

Table A.492: SomeipServiceInterfaceDeployment

Class	**SomeipServiceVersion**			
Note	This meta-class represents the ability to describe a version of a SOME/IP Service.			
Base	*ARObject*			
Aggregated by	ConsumedServiceInstance.blocklistedVersion, RequiredSomeipServiceInstance.blocklistedVersion, SomeipServiceInterfaceDeployment.serviceInterfaceVersion			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
majorVersion	PositiveInteger	0..1	attr	Major Version of the ServiceInterface. **Tags:** xml.sequenceOffset=10
minorVersion	PositiveInteger	0..1	attr	Minor Version of the ServiceInterface. **Tags:** xml.sequenceOffset=20

Table A.493: SomeipServiceVersion

Class	***SovdAbstractContributingEntity*** (abstract)
Note	This meta-class acts as an abstract base class for meta-classes that contribute to the structure of an SOVD system design.
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*

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Class	***SovdAbstractContributingEntity*** (abstract)			
Subclasses	*SovdAbstractComponentDesign*, SovdAppDesign			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
dependsOn	SovdAbstract ContributingEntity	0..1	ref	This reference expresses a relationship between two contributing entities. The semantics of this reference is not defined by the AUTOSAR standard (or the SOVD standard, either) and can therefore be used for establishing a proprietary relation. **Tags:** atp.Splitkey=dependsOn This Attribute is only used by the AUTOSAR Adaptive Platform.
softwareCluster Design	SoftwareClusterDesign	0..1	ref	This reference identifies the "implementation" of the SOVD Contributing Entity. **Tags:** atp.Splitkey=softwareClusterDesign This Attribute is only used by the AUTOSAR Adaptive Platform.

Table A.494: SovdAbstractContributingEntity

Class	***SovdGatewayEthernetCredentials*** (abstract)			
Note	This meta-class represents the ability to define Ethernet credentials for the purpose of connecting a client to an SOVD gateway. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Subclasses	SovdGatewayLocalEndpointTcpConfig			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
ipv4Address	Ip4AddressString	0..1	attr	This attribute represents the IPv4 address for the case that IPv4 is used for communication between the SOVD gateway and a client.
ipv6Address	Ip6AddressString	0..1	attr	This attribute represents the IPv6 address for the case that IPv6 is used for communication between the SOVD gateway and a client.
udpPort	PositiveInteger	0..1	attr	This attribute describes the port number of the port used for UDP communication.

Table A.495: SovdGatewayEthernetCredentials

Class	**SovdGatewayInstantiation**			
Note	This meta-class represents the configuration of an SOVD gateway. **Tags:** atp.Status=candidate This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *NonOsModuleInstantiation*, *Referrable*, *SovdModuleInstantiation*			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
sovdGateway Design	SovdGatewayDesign	0..1	ref	Reference to the SovdGatewayDesign that this Sovd GatewayInstantiation implements. **Tags:** atp.Splitkey=sovdGatewayDesign

Table A.496: SovdGatewayInstantiation

Class	SovdGatewayLocalEndpointTcpConfig			
Note	This meta-class provides the ability to define the TCP configuration of a local endpoint for external communication of an SOVD gateway. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *SovdGatewayEthernetCredentials*			
Aggregated by	SovdGatewayDesign.unicastCredentials			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
tcpPort	PositiveInteger	0..1	attr	This attribute describes the port number of the port used for TCP communication.

Table A.497: SovdGatewayLocalEndpointTcpConfig

Class	SovdServerDesign			
Note	This meta-class represents the configuration of an SOVD server. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AbstractFunctionalClusterDesign*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *Sovd FunctionalClusterDesign*			
Aggregated by	MachineDesign.functionalClusterDesign			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
component Qualifier	String	0..1	attr	This attributes described the component qualifier used to compose an SOVD query.

Table A.498: SovdServerDesign

Class	SovdServerInstantiation			
Note	This meta-class represents the configuration of an SOVD server. **Tags:** atp.Status=candidate This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *NonOsModuleInstantiation*, *Referrable*, *SovdModuleInstantiation*			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
component Qualifier	String	0..1	attr	This attributes described the component qualifier used to compose an SOVD query. **Tags:** atp.Status=candidate
sovdServer Design	SovdServerDesign	0..1	ref	Reference to the SovdServerDesign that this SovdServer Instantiation implements. **Tags:** atp.Splitkey=sovdServerDesign

Table A.499: SovdServerInstantiation

Class	StartupConfig
Note	This meta-class represents a reusable startup configuration for processes.. **Tags:** atp.Status=obsolete atp.recommendedPackage=StartupConfigs This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*
Aggregated by	ARPackage.element



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Class	**StartupConfig**			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
environment Variable	TagWithOptionalValue	*	aggr	This aggregation represents the collection of environment variables that shall be added to the respective Process's environment prior to launch. **Tags:** atp.Splitkey=environmentVariable atp.Status=obsolete
permissionTo CreateChild Process	Boolean	0..1	attr	This attribute defines if Process is permitted to create child Processes. When setting this parameter to true two things should be kept in mind: 1) safety and security implication of this configuration, 2) the fact that Process will assume management responsibilities for child Processes (i.e. it will be responsible for terminating Processes that it creates). **Tags:** atp.Status=obsolete
process Argument (ordered)	ProcessArgument	*	aggr	This aggregation represents the collection of command-line arguments applicable to the enclosing StartupConfig. **Tags:** atp.Status=obsolete
process ExecutionError	ApApplicationError	0..1	ref	this reference is used to identify the applicable execution error. **Tags:** atp.Splitkey=processExecutionError atp.Status=obsolete
scheduling Policy	String	0..1	attr	This attribute represents the ability to define the scheduling policy for the initial thread of the application. **Tags:** atp.Status=obsolete
scheduling Priority	Integer	0..1	attr	This is the scheduling priority requested by the application itself. **Tags:** atp.Status=obsolete
termination Behavior	TerminationBehavior Enum	0..1	attr	This attribute defines the termination behavior of the Process. **Tags:** atp.Status=obsolete
timeout	EnterExitTimeout	0..1	aggr	This aggregation can be used to specify the timeouts for launching and terminating the process depending on the StartupConfig. **Tags:** atp.Splitkey=timeout atp.Status=obsolete

Table A.500: StartupConfig

Class	**StateClientInterface**
Note	This PortInterface is used communicate changes of a function group state towards the Execution Management. **Tags:** atp.Status=draft atp.recommendedPackage=StateManagementPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*, *StateManagementNotification Interface*, *StateManagementPortInterface*

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Class	StateClientInterface			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
functionGroup Type	ModeDeclarationGroup	0..1	ref	This reference identifies the ModeDeclarationGroup that shall be used in the API of the StateClientInterface. **Tags:** atp.Splitkey=functionGroupType atp.Status=draft

Table A.501: StateClientInterface

Class	StateDependentFirewall			
Note	Firewall rules that are defined in a firewall state **Tags:** atp.recommendedPackage=StateDependentFirewallRules			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
defaultAction	FirewallActionEnum	0..1	attr	This attribute defines a defaultAction in case that the VehicleMode is not yet set.
firewallRule Props (ordered)	FirewallRuleProps	*	aggr	Collection of firewall rules that apply in the vehicle mode
state	ModeDeclaration	*	iref	Reference to firewall states in which the Firewall is active. If one of the referenced ModeDeclarations is the current firewall state then the firewall rule shall be considered as active. **Tags:** atp.Splitkey=state, state.contextModeDeclaration GroupPrototype, state.targetModeDeclaration **InstanceRef implemented by:** FirewallStateInFirewall StateSwitchInterfaceInstanceRef This Attribute is only used by the AUTOSAR Adaptive Platform.

Table A.502: StateDependentFirewall

Class	StateDependentStartupConfig			
Note	This meta-class defines the startup configuration for the process depending on a collection of machine states. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	Process.stateDependentStartupConfig			
Attribute	Type	Mult.	Kind	Note
environment Variable	TagWithOptionalValue	*	aggr	This aggregation represents the collection of environment variables that shall be added to the respective Process's environment prior to launch. **Tags:** atp.Splitkey=environmentVariable
execution Dependency	ExecutionDependency	*	aggr	This attribute defines that all processes that are referenced via the ExecutionDependency shall be launched and shall reach a certain ProcessState before the referencing process is started. **Tags:** atp.Splitkey=executionDependency

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Class	**StateDependentStartupConfig**			
functionGroup State	ModeDeclaration	*	iref	This represent the applicable functionGroupMode. **Tags:** atp.Splitkey=functionGroupState, functionGroup State.contextModeDeclarationGroupPrototype, function GroupState.targetModeDeclaration **InstanceRef implemented by:** FunctionGroupStateIn FunctionGroupSetInstanceRef
permissionTo CreateChild Process	Boolean	0..1	attr	This attribute defines if Process is permitted to create child Processes. When setting this parameter to true two things should be kept in mind: 1) safety and security implication of this configuration, 2) the fact that Process will assume management responsibilities for child Processes (i.e. it will be responsible for terminating Processes that it creates).
process Argument (ordered)	ProcessArgument	*	aggr	This aggregation represents the collection of command-line arguments applicable to the enclosing StateDependentStartupConfig.
process ExecutionError	ApApplicationError	0..1	ref	This reference is used to identify the applicable execution error. **Tags:** atp.Splitkey=processExecutionError
resource Consumption	ResourceConsumption	0..1	aggr	This aggregation provides the ability to define resource consumption boundaries on a per-process-startup-config basis. **Tags:** atp.Splitkey=resourceConsumption, resource Consumption.shortName
resourceGroup	ResourceGroup	0..1	ref	Reference to an applicable resource group. **Tags:** atp.Splitkey=resourceGroup
scheduling Policy	String	0..1	attr	This attribute represents the ability to define the scheduling policy for the initial thread of the application.
scheduling Priority	Integer	0..1	attr	This is the scheduling priority requested by the application itself.
startupConfig	StartupConfig	0..1	ref	Reference to a reusable startup configuration with startup parameters. **Tags:** atp.Splitkey=startupConfig atp.Status=obsolete
supplementary Group	PosixGroup	*	ref	This reference identifies the collection of supplementary group IDs. **Tags:** atp.Splitkey=supplementaryGroup
termination Behavior	TerminationBehavior Enum	0..1	attr	This attribute defines the termination behavior of the Process.
timeout	EnterExitTimeout	0..1	aggr	This aggregation can be used to specify the timeouts for launching and terminating the process depending on the StateDependentStartupConfig. **Tags:** atp.Splitkey=timeout

Table A.503: StateDependentStartupConfig

Class	**StateManagementActionList**
Note	This meta-class represents the ability to define an action list that is associated with a state of a state machine. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.

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Class	**StateManagementActionList**			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	StateManagementModuleInstantiation.actionItemList			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
actionItem (ordered)	StateManagement ActionItem	*	aggr	This represents the collection of action items in the context of the action item list. **Tags:** atp.Status=draft
actionList Processing FailedError	ApApplicationError	0..1	ref	This reference identifies the error code for the case that the enclosing action list fails to process successfully. This reference is only relevant for state management agents. **Tags:** atp.Splitkey=actionListProcessingFailedError atp.Status=draft
affectedState	ModeDeclaration	0..1	iref	This reference identifies the state for which the referencing action list applies. **Tags:** atp.Splitkey=affectedState, affectedState.contextMode DeclarationGroupPrototype, affectedState.targetMode Declaration atp.Status=draft **InstanceRef implemented by:** ModeDeclarationInState ManagementStateNotificationInstanceRef
maxActionList Duration	TimeValue	0..1	attr	This attribute defines the maximum duration in which the enclosing StateManagementActionList shall finish execution **Tags:** atp.Status=draft
maxDuration ExceededError	ApApplicationError	0..1	ref	This reference identifies the ApApplicationError that shall be triggered if the configured maximum duration of the execution of the action item list is exceeded. **Tags:** atp.Splitkey=maxDurationExceededError atp.Status=draft

Table A.504: StateManagementActionList

Class	***StateManagementCompareCondition*** (abstract)			
Note	StateManagementCompareConditions are atomic conditions. They are based on the idea of a comparison at runtime of some variable data with something constant. The type of the comparison (==, !=, <, <=, ...) is specified in StateManagementCompareCondition.compareType. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *StateManagementCompareFormulaPart*			
Subclasses	StateManagementErrorCompareRule, StateManagementTriggerCompareRule			
Aggregated by	StateManagementCompareFormula.part			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
compareType	StateManagement CompareEnum	0..1	attr	This attributes represents the concrete type of the comparison. **Tags:** atp.Status=draft

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Class	***StateManagementCompareCondition*** (abstract)			
compareValue	ValueSpecification	0..1	aggr	This aggregation represents the reference value against which the value obtained from request shall be compared to. **Tags:** atp.Status=draft

Table A.505: StateManagementCompareCondition

Class	***StateManagementErrorInterface*** (abstract)			
Note	The usage of this meta-class for typing a PortPrototype indicates that the PortPrototype is used for the error provision in the context of state management on the AUTOSAR adaptive platform. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*, *StateManagementPort Interface*, *StateManagementRequestInterface*			
Subclasses	StateManagementEmErrorInterface, StateManagementPhmErrorInterface			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.506: StateManagementErrorInterface

Class	**StateManagementFunctionGroupSwitchNotificationInterface**			
Note	The usage of this meta-class for typing a PortPrototype indicates that the PortPrototype is used for sending out a notification of a function group state change in the context of state management on the AUTOSAR adaptive platform. **Tags:** atp.Status=draft atp.recommendedPackage=StateManagementPortInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*, *StateManagementNotification Interface*, *StateManagementPortInterface*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
modeGroup	ModeDeclarationGroup	0..1	ref	This reference identifies the ModeDeclarationGroup that defines the individual states that that can be switched to. **Tags:** atp.Splitkey=modeGroup atp.Status=draft

Table A.507: StateManagementFunctionGroupSwitchNotificationInterface

Class	**StateManagementModuleInstantiation**
Note	This meta-class represents the target-configuration-level configuration of the state management on the AUTOSAR adaptive platform. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.

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Class	**StateManagementModuleInstantiation**			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *NonOsModuleInstantiation*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
actionItemList	StateManagement ActionList	*	aggr	This represents the collection of action item lists defined in the context of the enclosing state management module. **Tags:** atp.Splitkey=actionItemList, actionItemList.shortName atp.Status=draft
functionGroup ErrorMapping	FunctionGroupError Mapping	*	aggr	This aggregation continas the collection of FunctionGroup ErrorMappings in the context of the enclosing State ManagementModuleInstantiation. **Tags:** atp.Splitkey=functionGroupErrorMapping atp.Status=draft
maxActionList Duration	TimeValue	0..1	attr	This attribute defines a global value for the maximum duration in which any enclosed StateManagementAction List shall finish execution. the value in this attribute will be superseded by the definition of attribute maxActionList Duration in the context of a specific StateManagement ActionList **Tags:** atp.Status=draft
nmNetwork HandleError Mapping	NmNetworkHandleError Mapping	*	aggr	This aggregation contains the collection of `NmNetworkHandleErrorMapping`s in the context of the enclosing `StateManagementModuleInstantiation`. **Tags:** atp.Splitkey=nmNetworkHandleErrorMapping atp.Status=draft
notification	StateManagementState Notification	*	aggr	This aggregation represents the state switch notifications handled by the state manager. **Tags:** atp.Splitkey=notification, notification.shortName atp.Status=draft
request	StateManagementState Request	*	aggr	This aggregation represents the state requests handled by the state manager. **Tags:** atp.Splitkey=request, request.shortName atp.Status=draft

Table A.508: StateManagementModuleInstantiation

Class	**StateManagementRequestError**			
Note	This meta-class has the ability to configure the submission of an error to the state management. **Tags:** atp.Status=draft atp.recommendedPackage=StateManagementRequests This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *StateManagementStateRequest*			
Aggregated by	StateManagementModuleInstantiation.request			
Attribute	***Type***	***Mult.***	***Kind***	***Note***

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Class	**StateManagementRequestError**			
rule	StateManagement RequestRule	*	aggr	This aggregation represents the collection of rules applicable for the error request. **Tags:** atp.Splitkey=rule atp.Status=draft

Table A.509: StateManagementRequestError

Class	**StateManagementRequestRule**			
Note	This meta-class represents a rule for deciding about a state change. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	StateManagementRequestError.rule, StateManagementRequestTrigger.rule			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
formula	StateManagement CompareFormula	0..1	aggr	This aggregation represents the definition of the formula for the StateManagementRequestRule **Tags:** atp.Splitkey=formula atp.Status=draft
nextState	ModeDeclaration	0..1	iref	This reference identifies the state to be switched to if the condition is fulfilled. **Tags:** atp.Splitkey=nextState, nextState.contextMode DeclarationGroupPrototype, nextState.targetMode Declaration atp.Status=draft **InstanceRef implemented by:** ModeDeclarationInState ManagementStateNotificationInstanceRef

Table A.510: StateManagementRequestRule

Class	**StateManagementRequestTrigger**			
Note	This meta-class has the ability to configure a trigger request to the state management. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *StateManagementStateRequest*			
Aggregated by	StateManagementModuleInstantiation.request			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
rule	StateManagement RequestRule	*	aggr	This aggregation represents the collection of rules applicable for the trigger request. **Tags:** atp.Splitkey=rule atp.Status=draft

Table A.511: StateManagementRequestTrigger

Class	StateManagementSetFunctionGroupStateActionItem			
Note	This meta-class represents a state management action item to set a specific state in a specific function group. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *StateManagementActionItem*			
Aggregated by	StateManagementActionList.actionItem			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
rPortPrototype	RPortPrototype	0..1	iref	This reference identifies the PortPrototype over which the function group state switch shall be communicated. **Tags:** atp.Splitkey=rPortPrototype, rPortPrototype.contextRoot SwComponentPrototype, rPortPrototype.context ComponentPrototype, rPortPrototype.targetRPort Prototype atp.Status=draft **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef
setFunction GroupState	ModeDeclaration	0..1	iref	This reference identifies the function group step that shall become active after the action step terminates. **Tags:** atp.Splitkey=setFunctionGroupState, setFunction GroupState.contextModeDeclarationGroupPrototype, set FunctionGroupState.targetModeDeclaration **InstanceRef implemented by:** FunctionGroupStateIn FunctionGroupSetInstanceRef

Table A.512: StateManagementSetFunctionGroupStateActionItem

Class	StateManagementSleepActionItem			
Note	This action item can be used to universally implement afterrun. One specific use case for afterrun comes up in the context of network management. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *StateManagementActionItem*			
Aggregated by	StateManagementActionList.actionItem			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
sleepTime	TimeValue	0..1	attr	This attribute represents the amount of time that the execution of the StateManagementActionItemList is supposed to go to sleep. **Tags:** atp.Status=draft

Table A.513: StateManagementSleepActionItem

Class	StateManagementStateMachineActionItem			
Note	This meta-class represents a state management action item to start or stop a state machine. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *StateManagementActionItem*			
Aggregated by	StateManagementActionList.actionItem			
Attribute	**Type**	**Mult.**	**Kind**	**Note**

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Class	**StateManagementStateMachineActionItem**			
overrideInitial State	ModeDeclaration	0..1	iref	The referenced ModeDeclaration shall be considered the initial state of the context ModeDeclarationGroup Prototype and the corresponding reference Mode DeclarationGroup.initialMode shall be ignored. **Tags:** atp.Splitkey=overrideInitialState, overrideInitial State.contextModeDeclarationGroupPrototype, override InitialState.targetModeDeclaration atp.Status=draft **InstanceRef implemented by:** ModeDeclarationInState ManagementStateNotificationInstanceRef
startAgent	ModeDeclarationGroup Prototype	0..1	ref	This reference identifies the state machine that shall be started when the enclosing action list item is executed. **Tags:** atp.Splitkey=startAgent atp.Status=draft
startAgentError	ApApplicationError	0..1	ref	This reference identifies the error that shall be raised if the staring of an agent failed. **Tags:** atp.Splitkey=startAgentError atp.Status=draft
stopAgent	ModeDeclarationGroup Prototype	0..1	ref	This reference identifies the state machine that shall be stopped when the enclosing action list item is executed. **Tags:** atp.Splitkey=stopAgent atp.Status=draft
stopAgentError	ApApplicationError	0..1	ref	This reference identifies the error that shall be raised if the stopping of an agent failed. **Tags:** atp.Splitkey=stopAgentError atp.Status=draft

Table A.514: StateManagementStateMachineActionItem

Class	**StateManagementStateNotification**			
Note	This meta-class represents the ability to formalize state notifications on the AUTOSAR adaptive platform. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AtpClassifier*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	StateManagementModuleInstantiation.notification			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
notificationPort	PPortPrototype	0..1	iref	This instanceRef identifies the PPortPrototype over which the notification is to be conveyed. **Tags:** atp.Splitkey=notificationPort, notificationPort.contextRoot SwComponentPrototype, notificationPort.context ComponentPrototype, notificationPort.targetPPort Prototype atp.Status=draft **InstanceRef implemented by:** PPortPrototypeIn ExecutableInstanceRef

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Class	**StateManagementStateNotification**			
stateMachine	ModeDeclarationGroup Prototype	0..1	aggr	This aggregation represents the existence of an actual state machine. **Tags:** atp.Splitkey=stateMachine, stateMachine.shortName atp.Status=draft

Table A.515: StateManagementStateNotification

Class	***StateManagementStateRequest*** (abstract)			
Note	This abstract class serves as the base class for state requests on the AUTOSAR adaptive platform. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	StateManagementRequestError, StateManagementRequestTrigger			
Aggregated by	StateManagementModuleInstantiation.request			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
stateRequest Port	RPortPrototype	0..1	iref	This represents the RPortPrototype in the application software that is issuing the request for state change. **Tags:** atp.Splitkey=stateRequestPort, stateRequestPort.context RootSwComponentPrototype, stateRequestPort.context ComponentPrototype, stateRequestPort.targetRPort Prototype atp.Status=draft **InstanceRef implemented by:** RPortPrototypeIn ExecutableInstanceRef

Table A.516: StateManagementStateRequest

Class	***StateManagementSuspendToRamActionItem*** (abstract)			
Note	This meta-class serves as an abstract base class for all suspend-to-RAM-related subclasses. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *StateManagementActionItem*			
Subclasses	StateManagementEnterSuspendToRamActionItem, StateManagementEnterSuspendToRamOsAction Item, StateManagementLeaveSuspendToRamActionItem			
Aggregated by	StateManagementActionList.actionItem			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
maxActionItem Duration	TimeValue	0..1	attr	This attribute denotes the amount of time after which the execution of the action item is considered failed. **Tags:** atp.Status=draft

Table A.517: StateManagementSuspendToRamActionItem

Class	**StateManagementTriggerCompareRule**
Note	This meta-class represents the configuration of a compare rule for the processing of a trigger request. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.

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Class	StateManagementTriggerCompareRule			
Base	*ARObject*, *StateManagementCompareCondition*, *StateManagementCompareFormulaPart*			
Aggregated by	StateManagementCompareFormula.part			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
assumed CurrentState	ModeDeclaration	0..1	iref	This reference denotes the assumed current state for the given compare rule for trigger values. **Tags:** atp.Status=draft **InstanceRef implemented by:** ModeDeclarationInState ManagementStateNotificationInstanceRef

Table A.518: StateManagementTriggerCompareRule

Class	***StateManagementTriggerInterface*** (abstract)			
Note	The usage of this meta-class for typing a PortPrototype indicates that the PortPrototype is used for the trigger provision in the context of state management on the AUTOSAR adaptive platform. **Tags:** atp.Status=draft This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*, *StateManagementPort Interface*, *StateManagementRequestInterface*			
Subclasses	StateManagementDiagTriggerInterface			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.519: StateManagementTriggerInterface

Class	StdCppImplementationDataType			
Note	This meta-class represents the way to specify a data type definition that is taken as the basis for a C++ language binding to a C++ Standard Library feature. **Tags:** atp.recommendedPackage=CppImplementationDataTypes This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractImplementationDataType*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *Autosar DataType*, *CollectableElement*, *CppImplementationDataType*, *CppImplementationDataTypeContext Target*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.520: StdCppImplementationDataType

Class	SupervisionCheckpoint			
Note	This element contains an instance reference to a RPortPrototype representing a checkpoint for Platform Health Management. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	PlatformHealthManagementContribution.checkpoint			
Attribute	**Type**	**Mult.**	**Kind**	**Note**

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Class	**SupervisionCheckpoint**			
checkpointId	PositiveInteger	0..1	attr	Defines the numeric value which is used to identify the reporting of this SupervisionCheckpoint to the Phm.
phmCheckpoint	PhmCheckpoint	0..1	iref	Instance reference to the PhmCheckpoint defined in the context of a PortInterface. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=phmCheckpoint, phm Checkpoint.contextRootSwComponentPrototype, phm Checkpoint.contextComponentPrototype, phm Checkpoint.contextRPortPrototype, phm Checkpoint.targetPhmCheckpoint **InstanceRef implemented by:** PhmCheckpointIn ExecutableInstanceRef
process	Process	0..1	ref	Reference to the Process this checkoint shall be monitored. **Tags:** atp.Splitkey=process

Table A.521: SupervisionCheckpoint

Class	**SupervisionMode**			
Note	This element defines a SupervisionMode. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	GlobalSupervision.supervisionMode			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
active Supervision	PhmSupervision	*	ref	The reference defines which PhmSupervisions shall be active in this specific SupervisionMode. **Tags:** atp.Splitkey=activeSupervision
modeCondition	SupervisionMode Condition	0..1	ref	Reference to SupervisionModeCondition (Condition under which the configuration made under this SupervisionMode are to be applied). **Tags:** atp.Splitkey=modeCondition

Table A.522: SupervisionMode

Class	**SupervisionModeCondition**			
Note	This element defines a SupervisionModeCondition in the context of platform health management contribution. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	PlatformHealthManagementContribution.supervisionModeCondition			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
stateReference	PhmStateReference	*	aggr	Collection of stateReferences. **Tags:** atp.Splitkey=stateReference

Table A.523: SupervisionModeCondition

Class	SuspendToRamHubInterface			
Note	This meta-class represents a hub-side PortInterface for the implementation of suspend-to-RAM functionality. **Tags:** atp.Status=candidate atp.recommendedPackage=SuspendToRamInterfaces This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractSuspendToRamInterface*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
–	–	–	–	–

Table A.524: SuspendToRamHubInterface

Class	SuspendToRamHubMapping			
Note	This mapping associates a suspend-to-RAM hub with the applicable module instantiation. **Tags:** atp.Status=candidate atp.recommendedPackage=SuspendToRamMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractSuspendToRamMapping*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *Uploadable PackageElement*			
Aggregated by	ARPackage.element			
Attribute	Type	Mult.	Kind	Note
–	–	–	–	–

Table A.525: SuspendToRamHubMapping

Class	SuspendToRamModuleInstantiation			
Note	This meta-class represents the ability to define the target-configuration of a suspend-to-RAM module instantiation. **Tags:** atp.Status=candidate This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *NonOsModuleInstantiation*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	Type	Mult.	Kind	Note
–	–	–	–	–

Table A.526: SuspendToRamModuleInstantiation

Class	SuspendToRamSatelliteInterface
Note	This meta-class represents a satellite-side PortInterface for the implementation of suspend-to-RAM functionality. **Tags:** atp.Status=candidate atp.recommendedPackage=SuspendToRamInterfaces This Class is only used by the AUTOSAR Adaptive Platform.

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Class	SuspendToRamSatelliteInterface			
Base	*ARElement*, *ARObject*, *AbstractSuspendToRamInterface*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *PortInterface*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.527: SuspendToRamSatelliteInterface

Class	SuspendToRamSatelliteMapping			
Note	This mapping associates a suspend-to-RAM satellite with the applicable module instantiation. **Tags:** atp.Status=candidate atp.recommendedPackage=SuspendToRamMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *AbstractSuspendToRamMapping*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeploymentElement*, *Uploadable PackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.528: SuspendToRamSatelliteMapping

Class	SwBaseType			
Note	This meta-class represents a base type used within ECU software. **Tags:** atp.recommendedPackage=BaseTypes			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *BaseType*, *CollectableElement*, *Identifiable*, *Multilanguage Referrable*, *PackageableElement*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.529: SwBaseType

Class	SwComponentPrototype			
Note	Role of a software component within a composition.			
Base	*ARObject*, *AtpFeature*, *AtpPrototype*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, CompositionSwComponentType.component			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
type	SwComponentType	0..1	tref	Type of the instance. **Stereotypes:** isOfType **Tags:** atp.Splitkey=type

Table A.530: SwComponentPrototype

Class	***SwComponentType*** (abstract)			
Note	Base class for AUTOSAR software components.			
Base	*ARElement*, *ARObject*, *AtpBlueprint*, *AtpClassifier*, *AtpType*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*			
Subclasses	AdaptiveApplicationSwComponentType, *AtomicSwComponentType*, CompositionSwComponentType, ParameterSwComponentType			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
port	PortPrototype	*	aggr	The `PortPrototype`s through which this `SwComponentType` can communicate. The aggregation of `PortPrototype` is subject to variability with the purpose to support the conditional existence of `PortPrototype`s. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=port, port.shortName, port.variation Point.shortLabel vh.latestBindingTime=preCompileTime
portGroup	PortGroup	*	aggr	A port group being part of this component. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=portGroup, portGroup.shortName, port Group.variationPoint.shortLabel vh.latestBindingTime=preCompileTime
swComponent Documentation	SwComponent Documentation	0..1	aggr	This adds a documentation to the `SwComponentType`. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=swComponentDocumentation, sw ComponentDocumentation.variationPoint.shortLabel vh.latestBindingTime=preCompileTime xml.sequenceOffset=-10

Table A.531: SwComponentType

Class	***SwConnector*** (abstract)			
Note	The base class for connectors between ports. Connectors have to be identifiable to allow references from the system constraint template.			
Base	*ARObject*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	AssemblySwConnector, DelegationSwConnector, PassThroughSwConnector			
Aggregated by	*AtpClassifier*.atpFeature, CompositionSwComponentType.connector			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
mapping	PortInterfaceMapping	0..1	ref	Reference to a `PortInterfaceMapping` specifying the mapping of unequal named `PortInterface` elements of the two different `PortInterface`s typing the two `PortPrototype`s which are referenced by the `SwConnector`. **Tags:** atp.Splitkey=mapping

Table A.532: SwConnector

Class	«atpVariation» **SwDataDefProps**
Note	This class is a collection of properties relevant for data objects under various aspects. One could consider this class as a "pattern of inheritance by aggregation". The properties can be applied to all objects of all classes in which SwDataDefProps is aggregated. Note that not all of the attributes or associated elements are useful all of the time. Hence, the process definition (e.g. expressed with an OCL or a Document Control Instance MSR-DCI) has the task of implementing limitations. SwDataDefProps covers various aspects: • Structure of the data element for calibration use cases: is it a single value, a curve, or a map, but also the recordLayouts which specify how such elements are mapped/converted to the DataTypes in the programming language (or in AUTOSAR). This is mainly expressed by properties like swRecordLayout and swCalprmAxisSet • Implementation aspects, mainly expressed by swImplPolicy, swAddrMethod, baseType, implementationDataType and additionalNativeTypeQualifier • Access policy for the MCD system, mainly expressed by swCalibrationAccess • Semantics of the data element, mainly expressed by compuMethod and/or unit, dataConstr, invalid Value • Code generation policy provided by swRecordLayout **Tags:** vh.latestBindingTime=codeGenerationTime
Base	*ARObject*
Aggregated by	*AutosarDataType*.swDataDefProps, CompositeNetworkRepresentation.networkRepresentation, CppImplementationDataTypeElement.swDataDefProps, *DataPrototype*.swDataDefProps, DataPrototypeTransformationProps.networkRepresentationProps, DiagnosticDataElement.swDataDefProps, DiagnosticEnvDataElementCondition.swDataDefProps, DiagnosticExtendedDataRecordElement.swDataDefProps, DiagnosticSovdPrimitiveContentElement.swDataDefProps, DltArgumentProps.networkRep, FlatInstanceDescriptor.swDataDefProps, ImplementationDataTypeElement.swDataDefProps, InstantiationDataDefProps.swDataDefProps, ISignal.networkRepresentationProps, McDataInstance.resultingProperties, ParameterAccess.swDataDefProps, PerInstanceMemory.swDataDefProps, *ReceiverComSpec*.networkRepresentation, SecurityEventContextDataElement.networkRepresentation, *SenderComSpec*.networkRepresentation, SomeipDataPrototypeTransformationProps.networkRepresentation, SwPointerTargetProps.swDataDefProps, SwServiceArg.swDataDefProps, SwSystemconst.swDataDefProps, SystemSignal.physicalProps

Attribute	***Type***	***Mult.***	***Kind***	***Note***
additionalNativeTypeQualifier	NativeDeclarationString	0..1	attr	This attribute is used to declare native qualifiers of the programming language which can neither be deduced from the baseType (e.g. because the data object describes a pointer) nor from other more abstract attributes. Examples are qualifiers like "volatile", "strict" or "enum" of the C-language. All such declarations have to be put into one string. **Tags:** xml.sequenceOffset=235
annotation	Annotation	*	aggr	This aggregation allows to add annotations (yellow pads ...) related to the current data object. **Tags:** atp.Splitkey=annotation xml.roleElement=true xml.roleWrapperElement=true xml.sequenceOffset=20 xml.typeElement=false xml.typeWrapperElement=false
baseType	SwBaseType	0..1	ref	Base type associated with the containing data object. **Tags:** atp.Splitkey=baseType xml.sequenceOffset=50

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Class	«atpVariation» **SwDataDefProps**			
compuMethod	CompuMethod	0..1	ref	Computation method associated with the semantics of this data object. **Tags:** atp.Splitkey=compuMethod xml.sequenceOffset=180
dataConstr	DataConstr	0..1	ref	Data constraint for this data object. **Tags:** atp.Splitkey=dataConstr xml.sequenceOffset=190
displayFormat	DisplayFormatString	0..1	attr	This property describes how a number is to be rendered e.g. in documents or in a measurement and calibration system. **Tags:** xml.sequenceOffset=210
display Presentation	DisplayPresentation Enum	0..1	attr	This attribute controls the presentation of the related data for measurement and calibration tools.
implementation DataType	AbstractImplementation DataType	0..1	ref	This association denotes the ImplementationDataType of a data declaration via its aggregated SwDataDefProps. It is used whenever a data declaration is not directly referring to a base type. Especially • redefinition of an ImplementationDataType via a "typedef" to another ImplementationDatatype • the target type of a pointer (see SwPointerTarget Props), if it does not refer to a base type directly • the data type of an array or record element within an ImplementationDataType, if it does not refer to a base type directly • the data type of an SwServiceArg, if it does not refer to a base type directly **Tags:** atp.Splitkey=implementationDataType xml.sequenceOffset=215
invalidValue	ValueSpecification	0..1	aggr	Optional value to express invalidity of the actual data element. **Tags:** atp.Splitkey=invalidValue xml.sequenceOffset=255
stepSize	Float	0..1	attr	This attribute can be used to define a value which is added to or subtracted from the value of a DataPrototype when using up/down keys while calibrating.
swAddrMethod	SwAddrMethod	0..1	ref	Addressing method related to this data object. Via an association to the same SwAddrMethod it can be specified that several DataPrototypes shall be located in the same memory without already specifying the memory section itself. **Tags:** atp.Splitkey=swAddrMethod xml.sequenceOffset=30
swAlignment	AlignmentType	0..1	attr	The attribute describes the intended typical alignment of the DataPrototype. If the attribute is not defined the alignment is determined by the swBaseType size and the memoryAllocationKeywordPolicy of the referenced Sw AddrMethod. **Tags:** xml.sequenceOffset=33

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Class	«atpVariation» **SwDataDefProps**			
swBit Representation	SwBitRepresentation	0..1	aggr	Description of the binary representation in case of a bit variable. **Tags:** atp.Splitkey=swBitRepresentation xml.sequenceOffset=60
swCalibration Access	SwCalibrationAccess Enum	0..1	attr	Specifies the read or write access by MCD tools for this data object. **Tags:** xml.sequenceOffset=70
swCalprmAxis Set	SwCalprmAxisSet	0..1	aggr	This specifies the properties of the axes in case of a curve or map etc. This is mainly applicable to calibration parameters. **Tags:** atp.Splitkey=swCalprmAxisSet xml.sequenceOffset=90
swComparison Variable	SwVariableRefProxy	*	aggr	Variables used for comparison in an MCD process. **Tags:** atp.Splitkey=swComparisonVariable xml.sequenceOffset=170 xml.typeElement=false
swData Dependency	SwDataDependency	0..1	aggr	Describes how the value of the data object has to be calculated from the value of another data object (by the MCD system). **Tags:** atp.Splitkey=swDataDependency xml.sequenceOffset=200
swHostVariable	SwVariableRefProxy	0..1	aggr	Contains a reference to a variable which serves as a host-variable for a bit variable. Only applicable to bit objects. **Tags:** atp.Splitkey=swHostVariable xml.sequenceOffset=220 xml.typeElement=false
swImplPolicy	SwImplPolicyEnum	0..1	attr	Implementation policy for this data object. **Tags:** xml.sequenceOffset=230
swIntended Resolution	Numerical	0..1	attr	The purpose of this element is to describe the requested quantization of data objects early on in the design process. The resolution ultimately occurs via the conversion formula present (compuMethod), which specifies the transition from the physical world to the standardized world (and vice-versa) (here, "the slope per bit" is present implicitly in the conversion formula). In the case of a development phase without a fixed conversion formula, a pre-specification can occur through swIntendedResolution. The resolution is specified in the physical domain according to the property "unit". **Tags:** xml.sequenceOffset=240
swInterpolation Method	Identifier	0..1	attr	This is a keyword identifying the mathematical method to be applied for interpolation. The keyword needs to be related to the interpolation routine which needs to be invoked. **Tags:** xml.sequenceOffset=250

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Class	«atpVariation» **SwDataDefProps**			
swIsVirtual	Boolean	0..1	attr	This element distinguishes virtual objects. Virtual objects do not appear in the memory, their derivation is much more dependent on other objects and hence they shall have a swDataDependency . **Tags:** xml.sequenceOffset=260
swPointerTarget Props	SwPointerTargetProps	0..1	aggr	Specifies that the containing data object is a pointer to another data object. **Tags:** atp.Splitkey=swPointerTargetProps xml.sequenceOffset=280
swRecord Layout	SwRecordLayout	0..1	ref	Record layout for this data object. **Tags:** atp.Splitkey=swRecordLayout xml.sequenceOffset=290
swRefresh Timing	MultidimensionalTime	0..1	aggr	This element specifies the frequency in which the object involved shall be or is called or calculated. This timing can be collected from the task in which write access processes to the variable run. But this cannot be done by the MCD system. So this attribute can be used in an early phase to express the desired refresh timing and later on to specify the real refresh timing. **Tags:** atp.Splitkey=swRefreshTiming xml.sequenceOffset=300
swTextProps	SwTextProps	0..1	aggr	the specific properties if the data object is a text object. **Tags:** atp.Splitkey=swTextProps xml.sequenceOffset=120
swValueBlock Size	Numerical	0..1	attr	This represents the size of a Value Block **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=preCompileTime xml.sequenceOffset=80
swValueBlock SizeMult (ordered)	Numerical	*	attr	This attribute is used to specify the dimensions of a value block (VAL_BLK) for the case that that value block has more than one dimension. The dimensions given in this attribute are ordered such that the first entry represents the first dimension, the second entry represents the second dimension, and so on. For one-dimensional value blocks the attribute swValue BlockSize shall be used and this attribute shall not exist. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=preCompileTime
unit	Unit	0..1	ref	Physical unit associated with the semantics of this data object. This attribute applies if no compuMethod is specified. If both units (this as well as via compuMethod) are specified the units shall be compatible. **Tags:** atp.Splitkey=unit xml.sequenceOffset=350

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Class	«atpVariation» **SwDataDefProps**			
valueAxisData Type	ApplicationPrimitive DataType	0..1	ref	The referenced ApplicationPrimitiveDataType represents the primitive data type of the value axis within a compound primitive (e.g. curve, map). It supersedes CompuMethod, Unit, and BaseType. **Tags:** atp.Splitkey=valueAxisDataType xml.sequenceOffset=355

Table A.533: SwDataDefProps

Class	**SwPointerTargetProps**			
Note	This element defines, that the data object (which is specified by the aggregating element) contains a reference to another data object or to a function in the CPU code. This corresponds to a pointer in the C-language. The attributes of this element describe the category and the detailed properties of the target which is either a data description or a function signature.			
Base	*ARObject*			
Aggregated by	SwDataDefProps.swPointerTargetProps			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
swDataDef Props	SwDataDefProps	0..1	aggr	The properties of the target data type. **Tags:** atp.Splitkey=swDataDefProps xml.sequenceOffset=30
targetCategory	Identifier	0..1	attr	This specifies the category of the target: • In case of a data pointer, it shall specify the category of the referenced data. • In case of a function pointer, it could be used to denote the category of the referenced BswModuleEntry. **Tags:** xml.sequenceOffset=5

Table A.534: SwPointerTargetProps

Class	**SwTextProps**			
Note	This meta-class expresses particular properties applicable to strings in variables or calibration parameters.			
Base	*ARObject*			
Aggregated by	SwDataDefProps.swTextProps			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
arraySize Semantics	ArraySizeSemantics Enum	0..1	attr	This attribute controls the semantics of the arraysize for the array representing the string in an `ImplementationDataType`. It is there to support a safe conversion between `ApplicationDataType` and `ImplementationDataType`, even for variable length strings as required e.g. for Support of SAE J1939.

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Class	**SwTextProps**			
baseType	SwBaseType	0..1	ref	This is the base type of one character in the string. In particular this baseType denotes the intended encoding of the characters in the string on level of ApplicationDataType. **Tags:** atp.Splitkey=baseType xml.sequenceOffset=30
swFillCharacter	Integer	0..1	attr	Filler character for text parameter to pad up to the maximum length swMaxTextSize. The value will be interpreted according to the encoding specified in the associated base type of the data object, e.g. 0x30 (hex) represents the ASCII character zero as filler character and 0 (dec) represents an end of string as filler character. The usage of the fill character depends on the arraySizeSemantics. **Tags:** xml.sequenceOffset=40
swMaxTextSize	Integer	0..1	attr	Specifies the maximum text size in characters. Note the size in bytes depends on the encoding in the corresponding baseType. **Stereotypes:** atpVariation **Tags:** vh.latestBindingTime=preCompileTime xml.sequenceOffset=20

Table A.535: SwTextProps

Class	**SynchronizedTimeBaseConsumer**			
Note	This meta-class represents a Synchronized Time Base Consumer. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *TimeBaseResource*			
Aggregated by	TimeSyncModuleInstantiation.timeBase			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
networkTime Consumer	GlobalTimeSlave	0..1	ref	This reference defines the GlobalTime Consumer which is synchronized with this Time Base. **Tags:** atp.Splitkey=networkTimeConsumer

Table A.536: SynchronizedTimeBaseConsumer

Class	**SynchronizedTimeBaseProvider**			
Note	This meta-class represents a Synchronized Time Base Provider. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *TimeBaseResource*			
Aggregated by	TimeSyncModuleInstantiation.timeBase			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
networkTime Provider	GlobalTimeMaster	0..1	ref	This reference defines the GlobalTime Provider which is synchronized with this Time Base. **Tags:** atp.Splitkey=networkTimeProvider

Table A.537: SynchronizedTimeBaseProvider

Class	**System**			
Note	The top level element of the System Description. **Tags:** atp.recommendedPackage=Systems			
Base	*ARElement*, *ARObject*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element, *AtpClassifier*.atpFeature			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
fibexElement	FibexElement	*	ref	Reference to ASAM FIBEX elements specifying Communication and Topology. All Fibex Elements used within a System Description shall be referenced from the System Element. atpVariation: In order to describe a product-line, all Fibex Elements can be optional. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=fibexElement, fibexElement.fibexElement, fibexElement.variationPoint.shortLabel vh.latestBindingTime=postBuild
mapping	SystemMapping	*	aggr	Aggregation of all mapping aspects relevant in the System Description. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=mapping, mapping.shortName, mapping.variationPoint.shortLabel vh.latestBindingTime=postBuild
pncVector Length	PositiveInteger	0..1	attr	Length of the partial networking request release information vector (in bytes).
pncVectorOffset	PositiveInteger	0..1	attr	Absolute offset (with respect to the NM-PDU) of the partial networking request release information vector that is defined in bytes as an index starting with 0.
systemCom SpecDefinition	SystemComSpec DefinitionSet	*	ref	Reference to the set of ComSpec definitions that are used for inter-ECU communication in the System. **Tags:** atp.Splitkey=systemComSpecDefinition
systemVersion	RevisionLabelString	0..1	attr	Version number of the System Description.

Table A.538: System

Class	**SystemMapping**			
Note	The system mapping aggregates all mapping aspects that are relevant in the System Description.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	System.mapping			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
pncMapping	PncMapping	*	aggr	Mappings between Virtual Function Clusters and Partial Network Clusters. **Stereotypes:** atpVariation **Tags:** atp.Splitkey=pncMapping, pncMapping.ident.shortName, pncMapping.pncIdentifier, pncMapping.shortLabel, pnc Mapping.variationPoint.shortLabel vh.latestBindingTime=systemDesignTime

Table A.539: SystemMapping

Class	**TagWithOptionalValue**			
Note	A tagged value is a combination of a tag (key) and a value that gives supplementary information that is attached to a model element. Please note that keys without a value are allowed.			
Base	*ARObject*			
Aggregated by	*AbstractServiceInstance*.capabilityRecord, Machine.environmentVariable, ProvidedSomeipService Instance.capabilityRecord, RequiredSomeipServiceInstance.capabilityRecord, Startup Config.environmentVariable, StateDependentStartupConfig.environmentVariable			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
key	String	0..1	attr	Defines a key.
sequenceOffset	Integer	0..1	attr	The sequenceOffset attribute supports the use case where TagWithOptionalValue is aggregated as splitable. If multiple aggregations define the same value of attribute key then the order in which the value collection is merged might be significant. As an example consider the modeling of the $PATH environment variable by means of a meta class TagWithOptionalValue. The sequenceOffset describes the relative position of each contribution in the concatenated value. The contributions are sorted in increasing integer order.
value	String	0..1	attr	Defines the corresponding value.

Table A.540: TagWithOptionalValue

Enumeration	**TerminationBehaviorEnum**
Note	This enumeration provides options for controlling of how a Process terminates. This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	StartupConfig.terminationBehavior, StateDependentStartupConfig.terminationBehavior
Literal	***Description***
processIsNotSelf Terminating	The Process terminates only on request from Execution Management. **Tags:** atp.EnumerationLiteralIndex=0
processIsSelf Terminating	The Process is allowed to terminate without request from Execution Management. **Tags:** atp.EnumerationLiteralIndex=1

Table A.541: TerminationBehaviorEnum

Class	**TimeBaseProviderToPersistencyMapping**			
Note	This meta-class represents the ability to define a mapping between a TimeBaseProvider and a PersistencyDeploymentElement for the purpose of storing and retrieving the time value. **Tags:** atp.recommendedPackage=FCInteractions This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *FunctionalClusterInteractsWithFunctionalClusterMapping*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDeployment Element*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
cyclicBackup Interval	TimeValue	0..1	attr	Time interval in seconds to store the time base value periodically to persistence.
persistency Deployment Element	PersistencyDeployment Element	0..1	ref	This reference represents the PersistencyDeployment Element where the time value shall be stored in and retrieved from. **Tags:** atp.Splitkey=persistencyDeploymentElement

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Class	**TimeBaseProviderToPersistencyMapping**			
timeBase Provider	SynchronizedTimeBase Provider	0..1	ref	This reference represents the mapped TimeBase Provider. **Tags:** atp.Splitkey=timeBaseProvider

Table A.542: TimeBaseProviderToPersistencyMapping

Class	***TimeBaseResource*** (abstract)			
Note	This meta-class represents the attributes of one Time Base Resource for Time Synchronization. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Subclasses	SynchronizedTimeBaseConsumer, SynchronizedTimeBaseProvider			
Aggregated by	TimeSyncModuleInstantiation.timeBase			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.543: TimeBaseResource

Class	**TlsCryptoCipherSuite**			
Note	This meta-class represents a cipher suite for describing cryptographic operations in the context of establishing a connection of ApplicationEndpoints that is protected by TLS.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	TlsCryptoServiceMapping.tlsCipherSuite, TlsSecureComProps.tlsCipherSuite			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
authentication	CryptoServicePrimitive	0..1	ref	This reference identifies the crypto service primitive for the generation and verification of MACs. **Tags:** atp.Splitkey=authentication
authentication Key	CryptoServiceKey	0..1	ref	This reference identifies the private key or pre-shared key used for authentication. **Tags:** atp.Splitkey=authenticationKey
certificate	CryptoService Certificate	0..1	ref	This reference identifies the applicable local certificate. **Tags:** atp.Splitkey=certificate
cipherSuiteId	PositiveInteger	0..1	attr	Identification of the CipherSuite according to the IANA assignments list.
cipherSuite ShortLabel	String	0..1	attr	Name of the CipherSuite according to the IANA assignments list.
ellipticCurve	CryptoEllipticCurve Props	*	ref	This references point to the properties of elliptic curves. **Tags:** atp.Splitkey=ellipticCurve
encryption	CryptoServicePrimitive	0..1	ref	This reference identifies the crypto service primitive for the execution of encryption. **Tags:** atp.Splitkey=encryption
keyExchange	CryptoServicePrimitive	*	ref	This reference identifies the individual (i.e. per cipher suite) crypto service primitive for the execution of key exchange during the handshake phase. **Tags:** atp.Splitkey=keyExchange

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Class	**TlsCryptoCipherSuite**			
keyExchange Authentication	CryptoServicePrimitive	*	ref	This reference identifies the crypto service primitives for the generation and verification of signatures during the key exchange algorithm. **Tags:** atp.Splitkey=keyExchangeAuthentication
priority	PositiveInteger	0..1	attr	This attribute identifies the priority of the cipher suite. Range: 1..65535. Lower values represent higher priorities.
props	TlsCryptoCipherSuite Props	0..1	aggr	The aggregated TlsCryptoCipherSuiteProps provide details for the TLS Cipher Suite. **Tags:** atp.Splitkey=props, props.shortName
pskIdentity	TlsPskIdentity	0..1	aggr	Pre-shared key identity shared during the handshake among the communication parties, to establish a TLS connection if the handshake is based on the existence of a pre-shared key. **Tags:** atp.Splitkey=pskIdentity
remote Certificate	CryptoService Certificate	0..1	ref	This reference identifies the applicable remote certificate. **Tags:** atp.Splitkey=remoteCertificate
signature Scheme	CryptoSignature Scheme	*	ref	This reference points to the properties of a TLS Signature Scheme. **Tags:** atp.Splitkey=signatureScheme
version	TlsVersionEnum	0..1	attr	This attribute supports the definition of the applicable version of TLS.

Table A.544: TlsCryptoCipherSuite

Class	**TlsPskIdentity**			
Note	This element is used to describe the pre-shared key shared during the handshake among the communication parties, to establish a TLS connection if the handshake is based on the existence of a pre-shared key.			
Base	*ARObject*			
Aggregated by	TlsCryptoCipherSuite.pskIdentity			
Attribute	*Type*	*Mult.*	*Kind*	*Note*
pskIdentity	String	0..1	attr	This attribute provides the key identification.
pskIdentityHint	String	0..1	attr	This attribute provides the identity hint for a pre-shared key.

Table A.545: TlsPskIdentity

Class	**TlsSecureComProps**			
Note	Configuration of the Transport Layer Security protocol (TLS). **Tags:** atp.recommendedPackage=SecureComProps This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *SecureComProps*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	*Type*	*Mult.*	*Kind*	*Note*

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Class	TlsSecureComProps			
keyExchange	CryptoServicePrimitive	*	ref	This reference identifies the shared (i.e. applicable for each of the aggregated cipher suites) crypto service primitive for the execution of key exchange during the handshake phase. **Tags:** atp.Splitkey=keyExchange
tlsCipherSuite	TlsCryptoCipherSuite	*	aggr	Collection of supported cipher suites that are used to negotiate the security settings for a network connection defined by the ServiceInstanceToMachineMapping. **Tags:** atp.Splitkey=tlsCipherSuite, tlsCipherSuite.shortName

Table A.546: TlsSecureComProps

Class	TlvDataIdDefinition			
Note	This meta-class represents the ability to define the tlvDataId.			
Base	*ARObject*			
Aggregated by	TlvDataIdDefinitionSet.tlvDataIdDefinition			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
id	PositiveInteger	0..1	attr	This attribute represents the definition of the value of the TlvDataId **Stereotypes:** atpIdentityContributor
tlvArgument	ArgumentDataPrototype	0..1	ref	This reference assigns a tlvDataId to a given argument of a ClientServerOperation. **Tags:** atp.Splitkey=tlvArgument
tlvImplementationDataTypeElement	AbstractImplementationDataTypeElement	0..1	ref	This reference associates the definition of a TLV data id with a given AbstractImplementationDataTypeElement. **Tags:** atp.Splitkey=tlvImplementationDataTypeElement
tlvRecordElement	ApplicationRecordElement	0..1	ref	This reference associates the definition of a TLV data id with a given ApplicationRecordElement. **Tags:** atp.Splitkey=tlvRecordElement

Table A.547: TlvDataIdDefinition

Class	TlvDataIdDefinitionSet			
Note	This meta-class acts as a container of TlvDataIdDefinitions to be used in a given context **Tags:** atp.recommendedPackage=TlvDataDefinitionSets			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
tlvDataIdDefinition	TlvDataIdDefinition	*	aggr	This aggregation represents the collection of TlVDataTid Definitions aggregated by the TlvDataIdDefinitionSet **Tags:** atp.Splitkey=tlvDataIdDefinition, tlvDataIdDefinition.id

Table A.548: TlvDataIdDefinitionSet

Class	**TraceSwitchConfig**			
Note	This class maps a DltMessage to a trace switch type. **Tags:** atp.recommendedPackage=TraceSwitchConfigs This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
executable	Executable	0..1	ref	Executable that defines the context of the trace switch. **Tags:** atp.Splitkey=executable
namespace (ordered)	SymbolProps	*	aggr	This represents the SymbolProps used for the definition of a hierarchical namespace applicable for the generation of code artifacts out of the definition of a TraceSwitchConfig.
traceMessage	DltMessage	0..1	ref	Reference to the DltMessage that has to be routed in the trace switch. **Tags:** atp.Splitkey=traceMessage
traceSwitch	TraceSwitchEnum	0..1	attr	Defines how the message is routed, either to • ARTI trace, • Logger (default), • ARTI trace and logger • None

Table A.549: TraceSwitchConfig

Class	**TransformationPropsToServiceInterfaceElementMapping**			
Note	This meta-class represents the ability to associate a ServiceInterface element with TransformationProps. The referenced elements of the Service Interface will be serialized according to the settings defined in the TransformationProps. **Tags:** atp.recommendedPackage=TransformationPropsToServiceInterfaceElementMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
event	VariableDataPrototype	*	ref	This represents the reference to one or several events of one ServiceInterface. **Tags:** atp.Splitkey=event
field	Field	*	ref	This represents the reference to one or several fields of one ServiceInterface. **Tags:** atp.Splitkey=field
methodCall	ClientServerOperation	*	ref	This represents the reference to one or several method calls of one ServiceInterface. **Tags:** atp.Splitkey=methodCall
methodReturn	ClientServerOperation	*	ref	This represents the reference to one or several method return of one ServiceInterface. **Tags:** atp.Splitkey=methodReturn
tlvDataId Definition	TlvDataIdDefinitionSet	*	ref	This reference identifies the TlvDataIdDefinitions relevant for the enclosing TransformationPropsToServiceInterface Mapping. **Tags:** atp.Splitkey=tlvDataIdDefinition

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Class	**TransformationPropsToServiceInterfaceElementMapping**			
transformation Props	TransformationProps	0..1	ref	This represents the reference to the applicable Serialization properties. **Tags:** atp.Splitkey=transformationProps
trigger	Trigger	*	ref	This represents the reference to one or several triggers of one ServiceInterface. **Tags:** atp.Splitkey=trigger

Table A.550: TransformationPropsToServiceInterfaceElementMapping

Class	**TransmissionComSpecProps**			
Note	This meta-class defines a set of transmission attributes which the application software is assumed to implement.			
Base	*ARObject*			
Aggregated by	*SenderComSpec*.transmissionProps			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
dataUpdate Period	TimeValue	0..1	attr	This attribute defines the period in which the application is assumed to transmit the respective data.
minimumSend Interval	TimeValue	0..1	attr	This attribute defines the minimum interval between two consecutive transmissions of the respective data the application is assumed to ensure.
onChangeData Prototype	DataPrototype Reference	*	aggr	This reference defines which DataPrototypes trigger the onChange transmission of the data. **Tags:** atp.Splitkey=onChangeDataPrototype
transmission Mode	TransmissionMode DefinitionEnum	0..1	attr	The attribute defines the mode in which the application is assumed to transmit the respective data.

Table A.551: TransmissionComSpecProps

Enumeration	**TransportLayerProtocolEnum**
Note	This enumeration allows to choose a TCP/IP transport layer protocol. This Enumeration is only used by the AUTOSAR Adaptive Platform.
Aggregated by	SomeipEventDeployment.transportProtocol, SomeipMethodDeployment.transportProtocol
Literal	***Description***
tcp	Transmission control protocol **Tags:** atp.EnumerationLiteralIndex=1
udp	User datagram protocol **Tags:** atp.EnumerationLiteralIndex=0

Table A.552: TransportLayerProtocolEnum

Class	**Trigger**			
Note	The Trigger represents a special kind of an event (without data) at which occurrence the Service Consumer shall react in a particular manner.			
Base	*ARObject*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	*AtpClassifier*.atpFeature, BswModuleDescription.releasedTrigger, BswModuleDescription.requiredTrigger, ServiceInterface.trigger, TriggerInterface.trigger			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.553: Trigger

Class	**UcmDescription**			
Note	This meta-class represents the ability to define an identifier for a given UCM. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	VehiclePackage.ucm			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
identifier	String	0..1	attr	This attribute represents the unique identification of the UcmIdentifier.
ucmModule Instantiation	UcmModuleInstantiation	0..1	ref	This reference identifies the applicable UcmModule Instantiation. **Stereotypes:** atpUriDef **Tags:** atp.Splitkey=ucmModuleInstantiation

Table A.554: UcmDescription

Class	**UcmMasterModuleInstantiation**			
Note	This meta-class represents the ability to define the target-configuration of a UCM Master instantiation. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *NonOsModuleInstantiation*, *Referrable*, *UcmModuleInstantiation*			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
block Inconsistent	UcmRetryStrategy	0..1	aggr	This attribute defines the retry strategy of the UCM Master for the case that the block is inconsistent. **Tags:** atp.Splitkey=blockInconsistent, block Inconsistent.shortName
serviceBusy	UcmRetryStrategy	0..1	aggr	This attribute defines the retry strategy of the UCM Master for the case that the service is busy. **Tags:** atp.Splitkey=serviceBusy, serviceBusy.shortName
ucmNot AvailableOnThe Network	UcmRetryStrategy	0..1	aggr	This attribute defines the retry strategy of the UCMMaster for the case that one (or more) UCM is not available on the network. **Tags:** atp.Splitkey=ucmNotAvailableOnTheNetwork, ucm NotAvailableOnTheNetwork.shortName
updateSession Rejected	UcmRetryStrategy	0..1	aggr	This attribute defines the retry strategy of the UcmMaster for the case that the update session is rejected. **Tags:** atp.Splitkey=updateSessionRejected, update SessionRejected.shortName

Table A.555: UcmMasterModuleInstantiation

Class	***UcmModuleInstantiation*** (abstract)			
Note	This meta-class represents the ability to define the target-configuration of a UCM instantiation. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *NonOsModuleInstantiation*, *Referrable*			
Subclasses	UcmMasterModuleInstantiation, UcmSubordinateModuleInstantiation			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
identifier	String	0..1	attr	This represents the identification of a UCM.

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Class	***UcmModuleInstantiation*** (abstract)			
maxBlockSize	PositiveInteger	0..1	attr	This attribute denotes the maximum block size (unit: bytes) used in the UCM implementation.
version	StrongRevisionLabelString	0..1	attr	This attribute defines the software version of the UCM on this platform. Note that the definition of the version is required if the ability of the SoftwarePackage to require a minimum version of the UCM is utilized.

Table A.556: UcmModuleInstantiation

Class	**UcmRetryStrategy**			
Note	This meta-class describes the configuration of the retry strategy for a sub-class of UcmModule Implementation. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	UcmMasterModuleInstantiation.blockInconsistent, UcmMasterModuleInstantiation.serviceBusy, UcmMasterModuleInstantiation.ucmNotAvailableOnTheNetwork, UcmMasterModuleInstantiation.updateSessionRejected, UcmSubordinateModuleInstantiation.prepareRollback, UcmSubordinateModuleInstantiation.prepareUpdate, UcmSubordinateModuleInstantiation.verifyUpdate			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
maximumNumberOfRetries	PositiveInteger	0..1	attr	This attribute defines the maximum number of time the UCM module instantiation shall attempt a retry.
retryIntervalTime	TimeValue	0..1	attr	This attribute defines the time (in seconds) between two retry attempts.

Table A.557: UcmRetryStrategy

Class	**UcmStep**			
Note	This meta-class represents one rollout step in which software packages are processed on a specific Ucm. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	VehicleRolloutStep.ucmProcessing			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
softwarePackageStep (ordered)	SoftwarePackageStep	*	aggr	This aggregation represents the sequence of activities to be carried out in the context of the respective UCM.
ucm	UcmDescription	0..1	ref	This reference identifies the UCM for which the rollout step applies. **Tags:** atp.Splitkey=ucm

Table A.558: UcmStep

Class	**UcmSubordinateModuleInstantiation**
Note	This meta-class represents the ability to define the target-configuration of a UCM Subordinate instantiation. This Class is only used by the AUTOSAR Adaptive Platform.
Base	*ARObject*, *AdaptiveModuleInstantiation*, *AtpClassifier*, *AtpFeature*, *AtpStructureElement*, *Identifiable*, *MultilanguageReferrable*, *NonOsModuleInstantiation*, *Referrable*, *UcmModuleInstantiation*

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Class	**UcmSubordinateModuleInstantiation**			
Aggregated by	*AtpClassifier*.atpFeature, Machine.moduleInstantiation			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
maxAvailable Persistency StorageSpace	PositiveInteger	0..1	attr	This attribute names the maximum amount of space available for persistent data handled by the Persistency of installed packages. The UCM needs to figure out from traversing the minimum storage requirement from existing PersistencyDeployments whether specific packages can be installed from the perspective of available storage space. Note that the minimum storage requirement of PersistencyDeployment needs to include space for the handling of the storage, which shall be calculated by the tooling that creates the manifest information inside the package.
prepareRollback	UcmRetryStrategy	0..1	aggr	This attribute identifies the configuration of prepare rollback retries initiated by the Ucm Subordinate. **Tags:** atp.Splitkey=prepareRollback, prepare Rollback.shortName
prepareUpdate	UcmRetryStrategy	0..1	aggr	This attribute identifies the configuration of prepare update retries initiated by the Ucm Subordinate. **Tags:** atp.Splitkey=prepareUpdate, prepareUpdate.short Name
verifyUpdate	UcmRetryStrategy	0..1	aggr	This attribute identifies the configuration of verify update retries initiated by the Ucm Subordinate. **Tags:** atp.Splitkey=verifyUpdate, verifyUpdate.shortName

Table A.559: UcmSubordinateModuleInstantiation

Class	**UdpNmCluster**			
Note	Udp specific NmCluster attributes			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *NmCluster*, *Referrable*			
Aggregated by	NmConfig.nmCluster			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
network Configuration	UdpNmNetwork Configuration	0..1	aggr	Configuration of a UDP port and UDP multicast IP address of the Nm communication on a VLAN. **Tags:** atp.Splitkey=networkConfiguration This Attribute is only used by the AUTOSAR Adaptive Platform.
nmCbvPosition	Integer	0..1	attr	Defines the position of the control bit vector within the Nm Pdu (Byte position). If this attribute is not configured, the Control Bit Vector is not used.
nmImmediate NmCycleTime	TimeValue	0..1	attr	Defines the immediate NmPdu cycle time in seconds which is used for nmImmediateNmTransmissions NmPdu transmissions. This attribute is only valid if nmImmediate NmTransmissions is greater one.
nmImmediate Nm Transmissions	PositiveInteger	0..1	attr	Defines the number of immediate NmPdus which shall be transmitted. If the value is zero no immediate NmPdus are transmitted. The cycle time of immediate NmPdus is defined by nmImmediateNmCycleTime.
nmMsgCycle Time	TimeValue	0..1	attr	Period of a NmPdu in seconds. It determines the periodic rate in the periodic transmission mode with bus load reduction and is the basis for transmit scheduling in the periodic transmission mode without bus load reduction.

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Class	**UdpNmCluster**			
nmNetwork Timeout	TimeValue	0..1	attr	Network Timeout for NmPdus in seconds. It denotes the time how long the UdpNm shall stay in the Network Mode before transition into Prepare Bus-Sleep Mode shall take place.
nmNidPosition	Integer	0..1	attr	Defines the byte position of the source node identifier within the NmPdu. If this attribute is not configured, the Node Identification is not used.
nmPnHandle MultipleNetwork Requests	Boolean	0..1	attr	Defines if Nm performs an additional transition from Network Mode to Repeat Message State (true) or not (false).
nmRepeat MessageTime	TimeValue	0..1	attr	Timeout for Repeat Message State in seconds. Defines the time how long the NM shall stay in the Repeat Message State.
nmUserData Length	Integer	0..1	attr	Defines the length in bytes of the user data contained in the Nm message. User data excludes the PNC Request Bit Vector. This Attribute is only used by the AUTOSAR Adaptive Platform.
nmUserData Offset	PositiveInteger	0..1	attr	Specifies the offset (in bytes) of the user data information in the NM message. User data excludes the PNC Request Bit Vector. This Attribute is only used by the AUTOSAR Adaptive Platform.
nmWaitBus SleepTime	TimeValue	0..1	attr	Timeout for bus calm down phase in seconds. It denotes the time how long the CanNm shall stay in the Prepare Bus-Sleep Mode before transition into Bus-Sleep Mode shall take place.
vlan	EthernetPhysical Channel	0..1	ref	Reference to the vlan (represented by the Ethernet PhysicalChannel) this UdpNmCluster shall apply to. **Tags:** atp.Splitkey=vlan

Table A.560: UdpNmCluster

Class	**UdpNmNetworkConfiguration**			
Note	This meta-class defines the attributes for the configuration of a UDP port and UDP multicast IP address of the Nm communication on a VLAN. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	UdpNmCluster.networkConfiguration			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
ipv4MulticastIp Address	Ip4AddressString	0..1	attr	Multicast IPv4 Address to which the message will be transmitted.
ipv6MulticastIp Address	Ip6AddressString	0..1	attr	Multicast IPv6 Address to which the message will be transmitted
priority	PositiveInteger	0..1	attr	This attribute defines the VLAN frame priority for messages on the Socket defined by the udpPort and the multicast IP address. Values from 0 (best effort) to 7 (highest) are allowed.
udpPort	PositiveInteger	0..1	attr	This attribute allows to configure a udp port number that is used for reception and transmission of UdpNm messages.

Table A.561: UdpNmNetworkConfiguration

Class	***UploadableExclusivePackageElement*** (abstract)			
Note	This meta-class represents an abstract base class for an uploadable package element that is not supposed to be referenced from a different software cluster. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Subclasses	*PersistencyDeployment*, *PersistencyPortPrototypeToDeploymentMapping*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.562: UploadableExclusivePackageElement

Class	**UriDescription**			
Note	This meta-class can be used to define a URI. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	SoftwarePackage.primaryDownloadUri, SoftwarePackage.secondaryDownloadUri			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
uri	String	0..1	attr	This attribute represents the actual URI. There are intentionally no format restrictions for how the URI shall be created.

Table A.563: UriDescription

Class	**UserDefinedCommunicationConnector**			
Note	This element allows the modeling of arbitrary Communication Connectors.			
Base	*ARObject*, *CommunicationConnector*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	EcuInstance.connector, MachineDesign.communicationConnector			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.564: UserDefinedCommunicationConnector

Class	**UserDefinedEventDeployment**			
Note	UserDefined configuration settings for an Event. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *ServiceEventDeployment*, *ServiceInterface DeploymentElement*			
Aggregated by	*ServiceInterfaceDeployment*.eventDeployment, UserDefinedFieldDeployment.notifier			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.565: UserDefinedEventDeployment

Class	**UserDefinedFieldDeployment**			
Note	UserDefined configuration settings for a Field. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *ServiceFieldDeployment*, *ServiceInterface DeploymentElement*			
Aggregated by	*ServiceInterfaceDeployment*.fieldDeployment			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
get	UserDefinedMethod Deployment	0..1	aggr	This aggregation represents the settings of the get method **Tags:** atp.Splitkey=get, get.shortName
notifier	UserDefinedEvent Deployment	0..1	aggr	This aggregation represents the settings of the notifier. **Tags:** atp.Splitkey=notifier, notifier.shortName
set	UserDefinedMethod Deployment	0..1	aggr	This aggregation represents the settings of the set method **Tags:** atp.Splitkey=set, set.shortName

Table A.566: UserDefinedFieldDeployment

Class	**UserDefinedMethodDeployment**			
Note	UserDefined configuration settings for a Method. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*, *ServiceInterfaceDeploymentElement*, *ServiceMethodDeployment*			
Aggregated by	*ServiceInterfaceDeployment*.methodDeployment, UserDefinedFieldDeployment.get, UserDefinedField Deployment.set			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.567: UserDefinedMethodDeployment

Class	**UserDefinedServiceInstanceToMachineMapping**			
Note	This meta-class allows to map UserDefinedServiceInstances to a CommunicationConnector of a Machine. **Tags:** atp.recommendedPackage=ServiceInstanceToMachineMappings This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *ServiceInstanceToMachineMapping*, *UploadableDesignElement*, *Uploadable PackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
–	–	–	–	–

Table A.568: UserDefinedServiceInstanceToMachineMapping

Class	**UserDefinedServiceInterfaceDeployment**
Note	UserDefined configuration settings for a ServiceInterface. **Tags:** atp.recommendedPackage=ServiceInterfaceDeployments This Class is only used by the AUTOSAR Adaptive Platform.

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Class	UserDefinedServiceInterfaceDeployment			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *PackageableElement*, *Referrable*, *ServiceInterfaceDeployment*, *UploadableDesignElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
–	–	–	–	–

Table A.569: UserDefinedServiceInterfaceDeployment

Class	*ValueSpecification* (abstract)			
Note	Base class for expressions leading to a value which can be used to initialize a data object.			
Base	*ARObject*			
Subclasses	*AbstractRuleBasedValueSpecification*, ApplicationValueSpecification, *CompositeValueSpecification*, ConstantReference, NotAvailableValueSpecification, NumericalValueSpecification, ReferenceValue Specification, TextValueSpecification			
Aggregated by	ApplicationAssocMapElementValueSpecification.key, ApplicationAssocMapElementValue Specification.value, ArrayValueSpecification.element, CalibrationParameterValue.applInitValue, CalibrationParameterValue.implInitValue, ConstantSpecification.valueSpec, CryptoService Key.developmentValue, DiagnosticEnvDataCondition.compareValue, DiagnosticEnvDataElement Condition.compareValue, DiagnosticEnvSovdDataCondition.compareValue, FieldSenderComSpec.init Value, ISignal.initValue, ISignal.timeoutSubstitutionValue, NonqueuedReceiverComSpec.initValue, NonqueuedReceiverComSpec.timeoutSubstitutionValue, NonqueuedSenderComSpec.initValue, Nv ProvideComSpec.ramBlockInitValue, NvProvideComSpec.romBlockInitValue, NvRequireComSpec.init Value, ParameterDataPrototype.initValue, ParameterProvideComSpec.initValue, ParameterRequireCom Spec.initValue, PersistencyDataRequiredComSpec.initValue, PersistencyKeyValuePair.initValue, Port DefinedArgumentValue.value, PortPrototypeBlueprintInitValue.value, RecordValueSpecification.field, *StateManagementCompareCondition*.compareValue, SwDataDefProps.invalidValue, VariableData Prototype.initValue			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
shortLabel	Identifier	0..1	attr	This can be used to identify particular value specifications for human readers, for example elements of a record type.

Table A.570: ValueSpecification

Class	VariableDataPrototype			
Note	A `VariableDataPrototype` represents a formalized generic piece of information that is typically mutable by the application software layer. `VariableDataPrototype` is used in various contexts and the specific context gives the otherwise generic `VariableDataPrototype` a dedicated semantics.			
Base	*ARObject*, *AtpFeature*, *AtpPrototype*, *AutosarDataPrototype*, *DataPrototype*, *Identifiable*, *Multilanguage Referrable*, *Referrable*			
Aggregated by	ApplicationInterface.indication, *AtpClassifier*.atpFeature, BswInternalBehavior.arTypedPerInstance Memory, BswModuleDescription.providedData, BswModuleDescription.requiredData, BulkNvData Descriptor.bulkNvBlock, DiagnosticSovdAccessArgument.contentObject, *InternalBehavior*.staticMemory, NvBlockDescriptor.ramBlock, NvDataInterface.nvData, SenderReceiverInterface.dataElement, Service Interface.event, SwcInternalBehavior.arTypedPerInstanceMemory, SwcInternalBehavior.explicitInter RunnableVariable, SwcInternalBehavior.implicitInterRunnableVariable			
Attribute	**Type**	**Mult.**	**Kind**	**Note**
initValue	ValueSpecification	0..1	aggr	Specifies initial value(s) of the VariableDataPrototype **Tags:** atp.Splitkey=initValue

Table A.571: VariableDataPrototype

Class	**VehicleDriverNotification**			
Note	This meta-class provides the ability to configure a notification of the vehicle driver with respect to the update of vehicle software. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*			
Aggregated by	VehiclePackage.driverNotification			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
approval Required	Boolean	0..1	attr	This attribute controls whether approval is required for the driver notification.
notificationState	VehicleDriver NotificationEnum	0..1	attr	This attribute is used to configure the notification state.

Table A.572: VehicleDriverNotification

Class	**VehiclePackage**			
Note	This meta-class represents the ability to define a vehicle package for executing an update campaign. **Tags:** atp.recommendedPackage=VehiclePackages This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARElement*, *ARObject*, *CollectableElement*, *Identifiable*, *MultilanguageReferrable*, *Packageable Element*, *Referrable*, *UploadableDeploymentElement*, *UploadablePackageElement*			
Aggregated by	ARPackage.element			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
driver Notification	VehicleDriver Notification	*	aggr	This aggregation provides the ability to configure the necessary driver notifications. **Tags:** atp.Splitkey=driverNotification
estimated DurationOf Campaign	TimeValue	0..1	attr	This attribute provides an estimation about how long the campaign based on the VehiclePackage is going to take.
maximum DurationOf Campaign	TimeValue	0..1	attr	Maximum time allowed for the campaign to be active until UCM Master automatically cancels the campaign.
minimum SupportedUcm MasterVersion	RevisionLabelString	0..1	attr	This attribute identifies the minimum supported version of the UCM Master for this VehiclePackage.
packager Signature	CryptoService Certificate	0..1	ref	This reference identifies the certificate that represents the packager's signature. **Tags:** atp.Splitkey=packagerSignature
repository	UriString	0..1	attr	This attribute identifies the repository where the Vehicle Package is stored.
rollout Qualification (ordered)	VehicleRolloutStep	*	aggr	This represents the rollout qualification.
ucm	UcmDescription	*	aggr	This aggregation represents the UcmDescriptions to be considered in the context of the VehiclePackage. **Tags:** atp.Splitkey=ucm, ucm.shortName
ucmMaster Fallback (ordered)	UcmDescription	*	ref	This reference lists the fallback order of Ucms that can take over the master role if the master goes down.
vehicle Description	Documentation	0..1	ref	This reference identifies the vehicle description. **Tags:** atp.Splitkey=vehicleDescription

Table A.573: VehiclePackage

Class	**VehicleRolloutStep**			
Note	This meta-class represents the ability to define a rollout-condition for a vehicle update campaign. This Class is only used by the AUTOSAR Adaptive Platform.			
Base	*ARObject*, *Identifiable*, *MultilanguageReferrable*, *Referrable*			
Aggregated by	VehiclePackage.rolloutQualification			
Attribute	***Type***	***Mult.***	***Kind***	***Note***
safetyCondition	String	*	attr	This attribute represents a list of textual safety conditions (e.g.: close the driver window) that need to be fulfilled before the rollout step can proceed and need to be maintained while the campaign's rolloutQualification is executed.
ucmProcessing	UcmStep	*	aggr	This aggregation collects the UcmProcessingSteps that make up the rollout step. **Tags:** atp.Splitkey=ucmProcessing, ucmProcessing.shortName
violatedSafetyCondition Behavior	ViolatedSafetyCondition BehaviorEnum	0..1	attr	This attribute provides options for the configuration of the reaction to a violated safety condition.

Table A.574: VehicleRolloutStep

B Change history of AUTOSAR traceable items

Please note that the lists in this chapter also include traceable items that have been removed from the specification in a later version. These items do not appear as hyperlinks in the document.

B.1 Traceable item history of this document according to AUTOSAR Release R26-11

B.1.1 Added Constraints in R26-11

Number	Heading
[constr_01523]	Existence of the role `IdsmModuleInstantiationToCryptoKeySlotMapping.idsmModuleInstantiation`
[constr_01524]	Existence of the role `IdsmModuleInstantiationToCryptoKeySlotMapping.cryptoKeySlot`
[constr_10736]	Restriction applicable for `CryptoCertificateGroupToPortPrototypeMapping.portPrototype`
[constr_10737]	Existence of reference in the role `CryptoCertificateGroupToPortPrototypeMapping.process`
[constr_10738]	Existence of reference in the role `CryptoCertificateGroupToPortPrototypeMapping.certificateGroup`
[constr_10739]	Existence of instanceRef in the role `CryptoCertificateGroupToPortPrototypeMapping.portPrototype`
[constr_10742]	Reference to `DiagnosticSovdContent`
[constr_10743]	Existence of `TransformationPropsToServiceInterfaceElementMapping.methodReturn`
[constr_10746]	Existence of primitive attribute `CryptoKeySlotToClientPortPrototypeMapping.allowPlainTextImport`
[constr_10747]	Simultaneous existence of `Process.posixUser` and `Process.primaryGroup`
[constr_10748]	Existence of `PosixUser.uid`
[constr_10749]	Existence of `PosixGroup.gid`
[constr_10753]	Multiplicity of attribute `SoftwareClusterUdsDiagnosticAddress.udsAddressSemantics`
[constr_10754]	Restriction applicable for `CryptoKeySlotToPortPrototypeMapping.portPrototype`
[constr_10755]	Restriction applicable for `CryptoKeySlotToClientPortPrototypeMapping.portPrototype`
[constr_10756]	Multiplicity of `ApmcParamConfContainerDef`s aggregated in the role `ApmcChoiceContainerDef.choice`
[constr_10757]	Existence of the aggregation in the role `ApmcEnumerationParamDef.literal`
[constr_10758]	Restriction for Attributes `ApmcIntegerParamDef.min` and `max`
[constr_10759]	Restriction for Attributes `ApmcFloatParamDef.min` and `max`

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Number	Heading
[constr_10760]	Existence of attribute ApmcAbstractForeignReferenceDef.destinationType
[constr_10761]	Existence of attribute ApmcAbstractInstanceReferenceDef.destinationContext
[constr_10762]	Existence of attribute ApmcAbstractInstanceReferenceDef.destinationType
[constr_10763]	Existence of attribute ApmcNumericalParamValue.value
[constr_10764]	Existence of attribute ApmcTextualParamValue.value
[constr_10765]	Existence of attribute ApmcRevisionLabelParamValue.value
[constr_10766]	Existence of attribute ApmcStrongRevisionLabelParamValue.value
[constr_10767]	Existence of attribute ApmcIpV4AddressParamValue.value
[constr_10768]	Existence of attribute ApmcIpV6AddressParamValue.value
[constr_10769]	Existence of attribute ApmcMacAddressParamValue.value
[constr_10770]	Existence of attribute ApmcUriParamValue.value
[constr_10771]	Consistency of ApmcContainerReferenceValue
[constr_10772]	Existence of attribute ApmcContainerReferenceValue.value
[constr_10773]	Existence of attribute ApmcForeignReferenceValue.value
[constr_10774]	Existence of attribute ApmcUriForeignReferenceValue.value
[constr_10775]	Existence of attribute ApmcUpstreamDocForeignReferenceValue.value
[constr_10776]	Existence of attribute ApmcInstanceReferenceValue.value
[constr_10777]	Existence of attribute ApmcUriInstanceReferenceValue.value
[constr_10778]	Existence of attribute ApmcUpstreamDocInstanceReferenceValue.value
[constr_10779]	Reference to NM Network Handle from NmNetworkHandleErrorMapping
[constr_10780]	Uniqueness of the value of DiagnosticDoIPCustomPayloadRxPortMapping.payloadTypeId
[constr_10781]	Restriction for the applicability of DiagnosticDoIPCustomPayloadRxPortMapping
[constr_10782]	Restriction for the applicability of DiagnosticDoIPCustomPayloadRxInterface
[constr_10783]	Existence of DiagnosticDoIPCustomPayloadRxPortMapping.pPortPrototypeInExecutable
[constr_10784]	Existence of DiagnosticDoIPCustomPayloadAbstractPortMapping.process
[constr_10785]	Existence of DiagnosticDoIPCustomPayloadAbstractPortMapping.payloadTypeId
[constr_10786]	Restriction for the applicability of DiagnosticDoIPCustomPayloadTxPortMapping
[constr_10787]	Restriction for the applicability of DiagnosticDoIPCustomPayloadTxInterface
[constr_10788]	Existence of reference DiagnosticDoIPCustomPayloadTxPortMapping.rPortPrototypeInExecutable

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Number	Heading
[constr_10789]	Existence of reference DiagnosticDoIPCustomPayloadTxPortMapping.process
[constr_10790]	Existence of reference DiagnosticDoIPCustomPayloadTxPortMapping.payloadTypeId
[constr_10791]	Existence of DiagnosticSovdMethodPrimitive in the context of a DiagnosticSovdFaultMemoryAccess
[constr_10796]	Restriction for the applicability of DiagnosticInputOutputControlPortMapping
[constr_10797]	Reference in the role SovdAbstractContributingEntity. softwareClusterDesign
[constr_3825]	ProvidedSomeipServiceInstances with SomeipEventDeployment. serializer = signalBased shall be unique with respect to Message ID on one VLAN
[constr_9429]	Upper multiplicity of reference in the role IdsFunctionalClusterDesign. networkInterface
[constr_9430]	Existence of DoIpInstantiation.doIpDesign
[constr_9431]	Existence of SovdServerInstantiation.sovdServerDesign
[constr_9432]	Existence of SovdGatewayInstantiation.sovdGatewayDesign
[constr_9433]	Existence of reference IdsPlatformInstantiation.idsDesign
[constr_9434]	Overlap of ClientIdRanges in the context of the enclosing System
[constr_9435]	ServiceInstanceToPortPrototypeMapping.clientId is only applicable to RPortPrototypes and RequiredApServiceInstances
[constr_9436]	Restriction of allowed values for ServiceInstanceToPortPrototypeMapping.clientId in case that a ClientIdRange is defined
[constr_9437]	ServiceInstanceToPortPrototypeMapping.clientId shall be unique in the context of a Machine
[constr_9438]	Partial configuration of clientIds for ServiceInterface users that are located on the same Machine is not allowed
[constr_9460]	Attribute fixedStringSize of ApSomeipTransformationProps not applicable for TransformationPropsToServiceInterfaceElementMapping
[constr_9461]	fixedStringSize is only applicable for DataPrototypes of category STRING

Table B.1: Added Constraints in R26-11

B.1.2 Changed Constraints in R26-11

Number	Heading
[constr_10248]	Multiplicity of attribute named UcmDescription.identifier
[constr_10249]	Multiplicity of attribute named VehicleDriverNotification. approvalRequired

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Number	Heading
[constr_10250]	Multiplicity of attribute named VehicleDriverNotification.notificationState
[constr_10380]	Target of ArtifactLocator.representedModelElement
[constr_10420]	Restriction for the existence of initial values for PersistencyDataElement
[constr_10483]	Applicable values of baseTypeEncoding in the context of the definition of a DiagnosticDataElement
[constr_10487]	Only one physical address per DiagnosticCommonProps
[constr_1692]	Value of schedulingPriority
[constr_1697]	Restriction for ClientServerOperation aggregated by a DiagnosticDataIdentifierInterface
[constr_3709]	AliveSupervision.terminatingCheckpoint required for self terminating Processes
[constr_5161]	RequiredSomeipServiceInstance that is mapped by a SomeipServiceInstanceToMachineMapping without a configured tcpPort and udpPort
[constr_5348]	Mandatory initialMode in ModeDeclarationGroup that is referenced by StateDependentFirewall
[constr_5358]	AdaptiveFirewallToPortPrototypeMapping.rPort restriction
[constr_5392]	Assignment of the same event to several SomeipEventGroups on the same VLAN is forbidden if one of these SomeipEventGroups has the multicastThreshold set to a value greater than 0

Table B.2: Changed Constraints in R26-11

B.1.3 Deleted Constraints in R26-11

Number	Heading
[constr_10176]	Multiplicity of attribute StateDependentStartupConfig.startupConfig
[constr_10236]	Multiplicity of attribute SoftwareClusterDiagnosticAddress.addressSemantics
[constr_10404]	Existence of SoftwareClusterSovdAddress.componentQualifier
[constr_10594]	Restriction for the applicability of DiagnosticDoIpTriggerVehicleAnnouncementPortMapping
[constr_10595]	Restriction for the applicability of DiagnosticDoIPTriggerVehicleAnnouncementInterface
[constr_10596]	Existence of DiagnosticDoIpTriggerVehicleAnnouncementPort-Mapping.rPortPrototypeInExecutable
[constr_10597]	Existence of DiagnosticDoIpTriggerVehicleAnnouncementPortMapping.process
[constr_10628]	Allowed range of attribute TimeSyncCorrection.providerRateDeviationMax

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Number	Heading
[constr_10650]	Target of the reference in the role `DiagnosticDoIpTriggerVehicleAnnouncementPortMapping.networkConfigurationDesign`
[constr_10651]	Existence of reference in the role `DiagnosticDoIpTriggerVehicleAnnouncementPortMapping.networkConfigurationDesign`
[constr_3492]	`DoIpInstantiation.logicalAddress` shall be defined as member in the `DoIpRequestConfiguration`
[constr_3498]	Supported value range for attribute `DoIpInstantiation.logicalAddress`
[constr_3728]	Upper multiplicity of reference in the role `IdsPlatformInstantiation.networkInterface`
[constr_3734]	Upper multiplicity of reference in the role `DoIpNetworkConfiguration.networkConfiguration`
[constr_4569]	Restricted usage of Occurence Expression functions
[constr_4570]	Application rule for the occurrence expression in `TDEventComplex`
[constr_4571]	Use references only as function operands
[constr_4572]	Restricted usage of `AutosarOperationArgumentInstance` for Content Filter
[constr_4573]	Restricted usage of `AgeConstraint`
[constr_4574]	Specifying minimum and maximum number of occurrences
[constr_4575]	Specifying minimum inter-arrival time and pattern length
[constr_4576]	Specifying pattern length, pattern jitter and patter period
[constr_4579]	`SynchronizationTimingConstraint` shall reference at least two events
[constr_4580]	`SynchronizationTimingConstraint` shall reference at least two event chains
[constr_4581]	Specifying stimulus and response in `TimingDescriptionEventChain`
[constr_4582]	Specifying event chain `segment`s
[constr_4583]	Referencing no further event chain `segment`s
[constr_4584]	Specifying `stimulus` event and `response` event of first and last event chain segment
[constr_4585]	Specifying `patternLength`
[constr_4586]	Specifying attribute `synchronizationConstraintType`
[constr_4587]	Specifying attribute `synchronizationConstraintType`
[constr_4588]	`SynchronizationTimingConstraint` shall either reference events or event chains
[constr_4589]	Maximum value of the parameter `minimumInterArrivalTime`
[constr_4590]	Specifying `patternLength`, `patternJitter` and `patternPeriod`
[constr_4591]	Use only Numericals in `TDEventOccurrenceExpression`
[constr_4592]	Restricted usage of `AutosarVariableInstance` for Content Filter
[constr_5238]	`CryptoKeySlotAllowedModification.restrictUpdate` and the relationship to `maxNumberOfAllowedUpdates`
[constr_5239]	Predefined values for `CryptoKeySlotContentAllowedUsage.allowedKeyslotUsage`

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Number	Heading
[constr_5241]	Restriction applicable for AbstractCryptoKeySlotToPortPrototypeMapping.portPrototype
[constr_6902]	Existence of ExecutableTiming.executable
[constr_6903]	Existence of ServiceTiming.serviceInstance
[constr_6904]	Existence of MachineTiming.machine

Table B.3: Deleted Constraints in R26-11

B.2 Traceable item history of this document according to AUTOSAR Release R25-11

B.2.1 Added Constraints in R25-11

Number	Heading
[constr_10629]	DdsServiceInterfaceDeployment shall cover all applicable elements of the corresponding ServiceInterface
[constr_10630]	PPortPrototype that is typed by a DiagnosticDataIdentifierInterface shall be mapped to a DiagnosticDataIdentifier
[constr_10631]	PPortPrototype that is typed by a DiagnosticDataElementInterface shall be mapped to a DiagnosticDataElement
[constr_10633]	Existence of references StateManagementStateMachineActionItem.overrideInitialState and stopAgent
[constr_10634]	ClientServerOperation aggregated by meta-class DiagnosticDataIdentifierInterface or meta-class DiagnosticDataElementInterface
[constr_10635]	Allowed target type of the reference in the role ApmcRevisionLabelParamValue.definition
[constr_10636]	Allowed target type of the reference in the role ApmcStrongRevisionLabelParamValue.definition
[constr_10637]	Allowed target type of the reference in the role ApmcIpV4AddressParamValue.definition
[constr_10638]	Allowed target type of the reference in the role ApmcIpV6AddressParamValue.definition
[constr_10639]	Allowed target type of the reference in the role ApmcMacAddressParamValue.definition
[constr_10640]	Allowed target type of the reference in the role ApmcUriParamValue.definition
[constr_10641]	Existence of reference in the role StateManagementModuleInstantiation.maxActionListDuration
[constr_10643]	Existence of attributes ApmcDefinitionElement.upperMultiplicity and ApmcDefinitionElement.upperMultiplicityIsInfinite

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Number	Heading
[constr_10644]	Target of a ApmcReferenceValue where definition.isFuncClusterEndpointRef is set to true
[constr_10648]	Target of the reference in the role DiagnosticDoIpActivationLinePortMapping.networkConfigurationDesign
[constr_10649]	Existence of reference in the role DiagnosticDoIpActivationLinePortMapping.networkConfigurationDesign
[constr_10650]	Target of the reference in the role DiagnosticDoIpTriggerVehicleAnnouncementPortMapping.networkConfigurationDesign
[constr_10651]	Existence of reference in the role DiagnosticDoIpTriggerVehicleAnnouncementPortMapping.networkConfigurationDesign
[constr_10652]	SystemMappings applicable for a System of category MACHINE_DESIGN_EXTRACT
[constr_10653]	Existence of attribute UriDescription.uri
[constr_10654]	Existence of PersistencyFileRequiredComSpec
[constr_10655]	Allowed range of values for attribute ServiceInterfaceDeploymentElement.minimumSendInterval
[constr_10657]	Multiplicity of reference in the role ProcessDesignToMachineDesignMapping.machineDesign
[constr_10658]	Multiplicity of the reference in the role ProcessToMachineMapping.machine
[constr_10659]	Consistency of references in the roles ProcessDesignToMachineDesignMapping.machineDesign and shallRunOn resp. shallNotRunOn
[constr_10660]	Usage of shallRunOn and shallNotRunOn references
[constr_10661]	Consistency of references shallRunOn and shallNotRunOn
[constr_10662]	Mutual exclusive existence of references shallRunOn and shallNotRunOn
[constr_10663]	Existence of attribute DiagnosticCommonProps.authenticationTimeout
[constr_10666]	Restriction for StateManagementStateMachineActionItem
[constr_10682]	Restriction of the multiplicity of DiagnosticExtendedDataRecordInterface.provide.argument
[constr_10683]	Restriction for the data type of DiagnosticExtendedDataRecordInterface.provide.argument
[constr_10684]	Restriction for the applicability of DiagnosticExtendedDataRecordClientPortMapping
[constr_10685]	Restriction for the reference to an RPortPrototype typed by a DiagnosticExtendedDataRecordInterface
[constr_10686]	Multiplicity of reference in the role DiagnosticExtendedDataRecordClientPortMapping.recordElement
[constr_10690]	Existence of CryptoAlgorithmDescription.cryptoAlgorithmId
[constr_10691]	Existence of CryptoAlgorithmDescription.cryptoKeyType

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Number	Heading
[constr_10692]	Existence of aggregation in the role DiagnosticSovdOperationInterface.start
[constr_10693]	Existence of reference in the role DiagnosticSovdAccessArgument.contentObject
[constr_10694]	Restriction for DiagnosticSovdAccessOperation aggregated by a DiagnosticSovdContentInterface
[constr_10695]	Existence of DiagnosticSovdAccessOperation.argument if DiagnosticSovdAccessOperation that is aggregated in the role DiagnosticSovdContentElementInterface.read
[constr_10696]	Target of the reference DiagnosticSovdContentPortMapping.pPortPrototypeInExecutable
[constr_10697]	DiagnosticSovdContentPortMapping maps on the level of SOVD Data
[constr_10698]	DiagnosticSovdContentPortMapping maps on the level of SOVD Data Element
[constr_10699]	Existence of the Reference in the role DiagnosticSovdContentPortMapping.pPortPrototypeInExecutable
[constr_10700]	Existence of the Reference in the role DiagnosticSovdContentPortMapping.content
[constr_10701]	Existence of the Reference in the role DiagnosticSovdContentPortMapping.process
[constr_10702]	Existence of the Reference in the role DiagnosticSovdOperationPortMapping.pPortPrototypeInExecutable
[constr_10703]	Existence of the Reference in the role DiagnosticSovdOperationPortMapping.sovdOperation
[constr_10704]	Existence of the Reference in the role DiagnosticSovdOperationPortMapping.process
[constr_10705]	Restriction regarding references in the roles DiagnosticSovdDataCategory.group and DiagnosticSovdData.sovdGroup
[constr_10706]	Existence of reference in the role DiagnosticSovdData.sovdDataCategory
[constr_10707]	Relation of the values of attributes minNumberOfElements and maxNumberOfElements
[constr_10708]	DiagnosticSovdContentElement aggregated in the role DiagnosticSovdArrayContentElement.element shall not be declared *optional*
[constr_10711]	Existence of attribute DiagnosticSovdArrayContentElement.maxNumberOfElements
[constr_10712]	Allowed roles within SwDataDefProps in the context of DiagnosticSovdPrimitiveContentElement
[constr_10713]	Target of the reference DiagnosticSovdOperationPortMapping.pPortPrototypeInExecutable
[constr_10714]	PPortPrototype that is typed by a DiagnosticSovdOperationInterface as a mapping target
[constr_10715]	DiagnosticSovdOperation shall not refer to DiagnosticSovdMethod
[constr_10716]	Existence of DiagnosticSovdOperation.start

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Number	Heading
[constr_10717]	Existence of DiagnosticSovdOperation.proximityProofRequired
[constr_10718]	Existence of DiagnosticEnvSovdDataCondition.compareValue
[constr_10719]	Existence of DiagnosticEnvSovdDataCondition.contentElement
[constr_10720]	Restriction for the value of StateManagementSuspendToRamActionItem.maxActionItemDuration
[constr_10721]	Target of AbstractSuspendToRamMapping.pPortPrototypeInExecutable
[constr_10722]	Restriction for PPortPrototype that is typed by a SuspendToRamSatelliteInterface
[constr_10723]	Existence of SuspendToRamSatelliteMapping.moduleInstantiation
[constr_10724]	Existence of SuspendToRamSatelliteMapping.pPortPrototypeInExecutable
[constr_10725]	Existence of SuspendToRamSatelliteMapping.process
[constr_10726]	Target of AbstractSuspendToRamMapping.pPortPrototypeInExecutable
[constr_10727]	Restriction for PPortPrototype that is typed by a SuspendToRamHubInterface
[constr_10728]	Restriction for SuspendToRamHubMapping.moduleInstantiation
[constr_10729]	Existence of SuspendToRamHubMapping.moduleInstantiation
[constr_10730]	Existence of SuspendToRamHubMapping.pPortPrototypeInExecutable
[constr_10731]	Existence of SuspendToRamHubMapping.process
[constr_10732]	Existence of attributes DiagnosticExtendedDataRecord.trigger and update on the *AUTOSAR adaptive platform*
[constr_10733]	Uniqueness of reference from DiagnosticSovdConfigContentMapping to DiagnosticSovdConfigurationParameter
[constr_10734]	Existence of the reference in the role DiagnosticSovdConfigContentMapping.serviceInstance
[constr_10735]	Existence of the reference in the role DiagnosticSovdConfigContentMapping.content
[constr_3795]	No Platform Health Management supervision for non-reporting Executables
[constr_3798]	Applicable attributes for an Ethernet node on the adaptive platform
[constr_3823]	Existence of GlobalSupervision.expiredSupervisionTolerance
[constr_9350]	All Provided Service Instances using the same UDP endpoint shall use the same DTLS SERVER configuration settings
[constr_9351]	All Provided Service Instances using the same TCP endpoint shall use the same TLS SERVER configuration settings
[constr_9352]	Mutual exclusive existence of RemoteEndpointConfiguration.tcpPort and RemoteEndpointConfiguration.udpPort
[constr_9353]	Mutual exclusive existence of RemoteEndpointConfiguration.ipv4Address and RemoteEndpointConfiguration.ipv6Address
[constr_9356]	Upper multiplicity of reference in the role DoIpNetworkConfigurationDesign.networkConfiguration
[constr_9370]	ApSomeipTransformationProps shall be defined at most once for a ServiceInterface element

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Number	Heading
[constr_9392]	Existence of reference `TraceSwitchConfig.traceMessage`
[constr_9393]	Existence of attribute `TraceSwitchConfig.traceSwitch`
[constr_9394]	Existence of reference `TraceSwitchConfig.executable`

Table B.4: Added Constraints in R25-11

B.2.2 Changed Constraints in R25-11

Number	Heading
[constr_10029]	`ServiceInterfaceDeployment` (except `DdsServiceInterfaceDeployment`) shall cover all elements of the corresponding `ServiceInterface`
[constr_10037]	Existence of attribute `TagWithOptionalValue.sequenceOffset` in the context of attribute `capabilityRecord` owned by `ProvidedSomeipServiceInstance`, `RequiredSomeipServiceInstance`, or `AbstractServiceInstance`
[constr_10154]	Multiplicity of reference in the role `ProcessDesignToMachineDesignMapping.processDesign`
[constr_10172]	Multiplicity of attribute `Processor.core`
[constr_10173]	Multiplicity of attribute `ProcessorCore.coreId`
[constr_10386]	Existence of references `StateManagementStateMachineActionItem.startAgent` and `stopAgent`
[constr_10400]	Existence of `SovdServerInstantiation.componentQualifier`
[constr_10401]	Existence of `SovdGatewayLocalEndpointTcpConfig.tcpPort`
[constr_10402]	Existence of `SovdGatewayEthernetCredentials.ipv4Address` vs. `SovdGatewayEthernetCredentials.ipv6Address`
[constr_10403]	Existence of `SovdGatewayEthernetCredentials.udpPort`
[constr_10404]	Existence of `SoftwareClusterSovdAddress.componentQualifier`
[constr_10410]	Value of `SoftwareClusterDesign.installationBehavior` for a `SoftwareClusterDesign` of `category` `PLATFORM_CORE`
[constr_10442]	Restriction for the applicability of `DiagnosticSovdProximityChallengePortMapping`
[constr_10443]	Restriction for the applicability of `DiagnosticSovdProximityChallengeInterface`
[constr_10444]	Existence of `DiagnosticSovdProximityChallengePortMapping`
[constr_10445]	Existence of the reference in the role `DiagnosticSovdProximityChallenge-PortMapping.pPortPrototypeInExecutable`
[constr_10446]	Existence of the reference in the role `DiagnosticSovdProximityChallengePortMapping.process`
[constr_10447]	Restriction for the applicability of `DiagnosticSovdAuthorizationPortMapping`
[constr_10448]	Restriction for the applicability of `DiagnosticSovdAuthorizationInterface`

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Number	Heading
[constr_10449]	Existence of DiagnosticSovdAuthorizationPortMapping
[constr_10450]	Existence of the reference in the role DiagnosticSovdAuthorizationPort-Mapping.pPortPrototypeInExecutable
[constr_10451]	Existence of the reference in the role DiagnosticSovdAuthorizationPortMapping.process
[constr_10452]	Restriction for the applicability of DiagnosticSovdBulkDataPortMapping
[constr_10453]	Restriction for the applicability of DiagnosticSovdBulkDataInterface
[constr_10454]	Uniqueness of reference from DiagnosticSovdBulkDataPortMapping to DiagnosticSovdBulkData
[constr_10455]	Existence of the reference in the role DiagnosticSovdBulkDataPortMapping.serviceInstance
[constr_10456]	Existence of the reference in the role DiagnosticSovdBulkDataPortMapping.pPortPrototypeInExecutable
[constr_10457]	Existence of the reference in the role DiagnosticSovdBulkDataPortMapping.process
[constr_10458]	Restriction for the applicability of DiagnosticSovdUpdatePortMapping
[constr_10459]	Restriction for the applicability of DiagnosticSovdUpdateInterface
[constr_10460]	Uniqueness of reference from DiagnosticSovdUpdatePortMapping to DiagnosticSovdUpdate
[constr_10461]	Existence of the reference in the role DiagnosticSovdUpdatePortMapping.serviceInstance
[constr_10462]	Existence of the reference in the role DiagnosticSovdUpdatePortMapping.pPortPrototypeInExecutable
[constr_10463]	Existence of the reference in the role DiagnosticSovdUpdatePortMapping.process
[constr_10464]	Restriction for the applicability of DiagnosticSovdServiceValidationPortMapping
[constr_10465]	Restriction for the applicability of DiagnosticSovdServiceValidationInterface
[constr_10466]	Existence of the reference in the role DiagnosticSovdServiceValidation-PortMapping.pPortPrototypeInExecutable
[constr_10467]	Existence of the reference in the role DiagnosticSovdServiceValidationPortMapping.process
[constr_10468]	Restriction for the applicability of DiagnosticSovdConfigurationPortMapping
[constr_10469]	Restriction for the applicability of DiagnosticSovdConfigurationInterface
[constr_10470]	Uniqueness of reference from DiagnosticSovdConfigurationPortMapping to DiagnosticSovdConfiguration
[constr_10471]	Existence of the reference in the role DiagnosticSovdConfigurationPortMapping.serviceInstance
[constr_10472]	Existence of the reference in the role DiagnosticSovdConfigurationPort-Mapping.pPortPrototypeInExecutable
[constr_10473]	Existence of the reference in the role DiagnosticSovdConfigurationPortMapping.process

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Number	Heading
[constr_10477]	Existence of DiagnosticSovdLog
[constr_10478]	Existence of DiagnosticSovdUpdate
[constr_10479]	Restriction on values of attribute DiagnosticSovdMethodPrimitive.category aggregated in the role put in the context of SOVD Update
[constr_10480]	Restriction on value of attribute DiagnosticSovdMethodPrimitive.category aggregated in the role get in the context of SOVD Update
[constr_10481]	Restriction on values of attribute DiagnosticSovdMethodPrimitive.category aggregated in the role get in the context of SOVD Log
[constr_10482]	Restriction on values of attribute DiagnosticSovdMethodPrimitive.category aggregated in the roles put and delete in the context of SOVD Log
[constr_10483]	Applicable values of baseTypeEncoding in the context of the definition of a DiagnosticDataElement
[constr_10490]	DiagnosticDataElement shall be directly or indirectly the target of a reference owned by a subclass of DiagnosticMapping
[constr_10567]	Existence of DiagnosticSovdMethod.get resp. delete in the context of DiagnosticSovdFaultMemoryAccess
[constr_10612]	Standardized values for attribute CryptoKeySlotDesignDescription.cryptoObjectType
[constr_1507]	PortInterfaceToDataTypeMapping is only applicable to PortInterfaces that contain modeled data types
[constr_1549]	Value of ProcessorCore.coreId
[constr_1693]	Relation of Executable, ProcessDesign, and Process
[constr_1697]	Restriction for ClientServerOperation aggregated by a DiagnosticDataIdentifierInterface
[constr_1785]	Restriction regarding the reference into another SoftwareCluster
[constr_3421]	Fibex elements applicable for a System of category MACHINE_DESIGN_EXTRACT
[constr_3650]	headerId required in case of Arbitrary Message Header
[constr_5239]	Predefined values for CryptoKeySlotContentAllowedUsage.allowedKeyslotUsage
[constr_5291]	Allowed usage of LTMessageCollectionToPortPrototypeMapping.rPort

Table B.5: Changed Constraints in R25-11

B.2.3 Deleted Constraints in R25-11

Number	Heading
[constr_10007]	Existence of ProcessExecutionError.executionError
[constr_10008]	Value of ProcessExecutionError.executionError
[constr_10195]	Multiplicity of attribute DoIpNetworkConfiguration.vehicleIdentificationSyncStatus

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Number	Heading
[constr_10211]	Multiplicity of the reference in the role `CryptoCertificateToCryptoKeySlotMapping.cryptoCertificate`
[constr_10474]	Uniqueness of reference from `DiagnosticSovdConfigurationDataIdentifierMapping` to `DiagnosticSovdConfigurationParameter`
[constr_10475]	Existence of the reference in the role `DiagnosticSovdConfigurationDataIdentifierMapping.serviceInstance`
[constr_10476]	Existence of the reference in the role `DiagnosticSovdConfigurationDataIdentifierMapping.dataIdentifier`
[constr_10488]	Existence of attribute `DiagnosticCommonProps.authenticationTimeout`
[constr_11000]	`SomeipEventDeployment.eventReceptionDefaultValue` or `UserDefinedEventDeployment.eventReceptionDefaultValue` shall not be specified in the physical domain
[constr_3639]	Existence of `SupervisionMode.expiredSupervisionTolerance`
[constr_5386]	Existence of `Executable.traceSwitchConfiguration`
[constr_5387]	Existence of reference `Executable.traceSwitchConfiguration.traceMessage`
[constr_5388]	Existence of attribute `Executable.traceSwitchConfiguration.traceSwitch`

Table B.6: Deleted Constraints in R25-11

B.3 Traceable item history of this document according to AUTOSAR Release R24-11

B.3.1 Added Constraints in R24-11

Number	Heading
[constr_10517]	Upper multiplicity of reference in the role `IdsPlatformInstantiation.idsTimeBase`
[constr_10518]	Mutually exclusive existence of `FunctionalClusterInteractsWithDiagnosticEventMapping.persistencyDeployment` vs. `functionalCluster`
[constr_10519]	Existence of reference `FunctionalClusterInteractsWithDiagnosticEventMapping.diagnosticEvent`
[constr_10526]	`DiagnosticAuthenticationPortMapping` refers to a `PPortPrototype` that is typed by a `DiagnosticTransmitCertificateInterface`
[constr_10528]	Existence of `FirewallStateSwitchInterface.firewallStateMachine`
[constr_10530]	Each Ucm shall process at least one software package
[constr_10535]	Restriction for attribute `SenderComSpec.transmissionProps.onChangeDataPrototype`

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Number	Heading
[constr_10536]	Existence of TransmissionComSpecProps.onChangeDataPrototype.dataPrototypeInServiceInterface.rootDataPrototype
[constr_10537]	Existence of TransmissionComSpecProps.onChangeDataPrototype.rootDataPrototype
[constr_10540]	Arguments of a ClientServerOperation shall be fully covered by SignalBasedFireAndForgetMethodToISignalTriggeringMappings
[constr_10541]	Consistent assignment of ISignalTriggerings to an ISignalGroup for SignalBasedFireAndForgetMethodToISignalTriggeringMapping
[constr_10546]	PortPrototype typed by DiagnosticGenericUdsInterface shall only be referenced by DiagnosticServiceGenericMapping
[constr_10547]	Reference in the role UcmStep.ucm in the context of the enclosing VehicleRolloutStep
[constr_10566]	Allowed values of attribute CppImplementationDataType.swDataDefProps.compuMethod.category
[constr_10567]	Existence of DiagnosticSovdMethod.get resp. delete in the context of DiagnosticSovdFaultMemoryAccess
[constr_10568]	Type of RPortPrototype referenced in the role IdsmReportingModeProviderMapping.rPortPrototypeInExecutable
[constr_10569]	RPortPrototype typed by an IdsmReportingModeProviderInterface
[constr_10570]	Existence of IdsmReportingModeProviderMapping.idsPlatformInstantiation
[constr_10571]	Existence of IdsmReportingModeProviderMapping.rPortPrototypeInExecutable
[constr_10572]	Existence of IdsmReportingModeProviderMapping.process
[constr_10574]	Value of ApApplicationErrorDomain.value shall be unique in the context of a ClientServerOperation
[constr_10576]	Existence of attribute PersistencyDataRequiredComSpec.accessMode
[constr_10578]	Existence of the attribute UcmMasterModuleInstantiation.ucmNotAvailableOnTheNetwork
[constr_10579]	Existence of definition
[constr_10580]	Restriction regarding the value of ApmcDefinitionElement.lowerMultiplicity vs. ApmcDefinitionElement.lowerMultiplicity
[constr_10581]	Existence of reference in the role ApmcFunctionalClusterValue.definition
[constr_10582]	Existence of reference in the role ApmcContainerValue.definition
[constr_10583]	Existence of reference in the role ApmcContainerElementValue.definition
[constr_10584]	Allowed value for a ApmcNumericalParamValue that implements an boolean-style parameter
[constr_10585]	Allowed value for a ApmcTextualParamValue that implements an enumeration-style parameter
[constr_10586]	Restriction for the applicability of DiagnosticDoIpGroupIdentificationPortMapping
[constr_10587]	Restriction for the applicability of DiagnosticDoIPGroupIdentificationInterface

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Number	Heading
[constr_10588]	Existence of DiagnosticDoIpGroupIdentificationPortMapping.pPort-PrototypeInExecutable
[constr_10589]	Existence of DiagnosticDoIpGroupIdentificationPortMapping.process
[constr_10590]	Restriction for the applicability of DiagnosticDoIpActivationLinePortMapping
[constr_10591]	Restriction for the applicability of DiagnosticDoIPActivationLineInterface
[constr_10592]	Existence of DiagnosticDoIpActivationLinePortMapping.pPort-PrototypeInExecutable
[constr_10593]	Existence of DiagnosticDoIpActivationLinePortMapping.process
[constr_10594]	Restriction for the applicability of DiagnosticDoIpTriggerVehicleAnnouncementPortMapping
[constr_10595]	Restriction for the applicability of DiagnosticDoIPTriggerVehicleAnnouncementInterface
[constr_10596]	Existence of DiagnosticDoIpTriggerVehicleAnnouncementPort-Mapping.rPortPrototypeInExecutable
[constr_10597]	Existence of DiagnosticDoIpTriggerVehicleAnnouncementPortMapping.process
[constr_10598]	Restriction for the applicability of DiagnosticDoIpEntityIdentificationPortMapping
[constr_10599]	Restriction for the applicability of DiagnosticDoIPEntityIdentificationInterface
[constr_10600]	Existence of DiagnosticDoIpEntityIdentificationPortMapping.pPort-PrototypeInExecutable
[constr_10601]	Existence of DiagnosticDoIpEntityIdentificationPortMapping.process
[constr_10602]	Restriction for the applicability of DiagnosticDoIpPowerModePortMapping
[constr_10603]	Restriction for the applicability of DiagnosticDoIPPowerModeInterface
[constr_10604]	Existence of DiagnosticDoIpPowerModePortMapping.pPortPrototypeInExecutable
[constr_10605]	Existence of DiagnosticDoIpPowerModePortMapping.process
[constr_10609]	Existence of references in the role AbstractDoIpPortMapping.rPortPrototypeInExecutable and AbstractDoIpPortMapping.pPortPrototypeInExecutable
[constr_10611]	Existence of attribute DoIpLogicalAddress.logicalAddress
[constr_10612]	Standardized values for attribute CryptoKeySlotDesign.cryptoObjectType
[constr_10613]	CryptoKeySlotDesign where attribute shared is set to false
[constr_10614]	Existence of attribute CryptoKeySlotDesign.shared
[constr_10616]	Existence of the reference in the role StateClientInterface.functionGroupType
[constr_10617]	Existence of the reference in the role FunctionGroupPortMapping.functionGroup
[constr_10618]	Existence of the reference in the role FunctionGroupPortMapping.process

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Number	Heading
[constr_10619]	Existence of the reference in the role FunctionGroupPortMapping.rPortPrototypeInExecutable
[constr_10620]	Reference to function group from FunctionGroupPortMapping
[constr_10621]	Same ModeDeclarationGroup for StateClientInterface and FunctionGroupPortMapping.functionGroup
[constr_10622]	Existence of FunctionGroupPortMapping depending on the role rPortPrototypeInExecutable and process
[constr_10623]	Type of RPortPrototype referenced in the role IdsmQualifiedEventReceiverMapping.rPortPrototypeInExecutable
[constr_10624]	RPortPrototype typed by an IdsmQualifiedEventReceiverInterface
[constr_10625]	Existence of IdsmQualifiedEventReceiverMapping.idsPlatformInstantiation
[constr_10626]	Existence of IdsmQualifiedEventReceiverMapping.rPortPrototypeInExecutable
[constr_10627]	Existence of IdsmQualifiedEventReceiverMapping.process
[constr_10628]	Allowed range of attribute TimeSyncCorrection.providerRateDeviationMax
[constr_3772]	Range of ApApplicationError.errorCode for interoperability with the AUTOSAR classic platform
[constr_3773]	Uniqueness of ApApplicationError.errorCode for interoperability with the AUTOSAR classic platform
[constr_3774]	Existence of EthernetMacRawDataStreamMapping.localCommConnector
[constr_3775]	Existence of IEEE1722RawDataStreamConsumerMapping.ieee1722Stream
[constr_3776]	Existence of IEEE1722RawDataStreamProducerMapping.ieee1722Stream
[constr_3777]	Existence of IEEE1722AcfBusRawDataStreamConsumerMapping.acfBus
[constr_3778]	Existence of IEEE1722AcfBusPartRawDataStreamConsumerMapping.acfBusPart
[constr_9322]	ApmcFunctionalClusterDef category restriction
[constr_9323]	Restriction of DoIpFunctionalClusterDesign on a MachineDesign
[constr_9324]	Allowed PlatformModuleEthernetEndpoint-Configuration.communicationConnector references
[constr_9325]	DoIpFunctionalClusterDesign.doIpLogicalAddress.logicalAddress shall be within the physical address boundaries defined by DoIpRequestConfiguration
[constr_9327]	SOME/IP segment reception monitoring allowed for udp SomeipEventDeployments
[constr_9328]	Reception Monitoring of SOME/IP segments is allowed for udp SomeipMethodDeployments
[constr_9329]	Allowed PlatformModuleEthernetEndpointConfiguration.tcpPort and PlatformModuleEthernetEndpointConfiguration.udpPort references
[constr_9334]	Supported value range for attribute GenericTpConnection.sourceAddressRangeStart
[constr_9335]	Supported value range for attribute GenericTpConnection.sourceAddressRangeEnd

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Number	Heading
[constr_9336]	`DoIpNetworkConfigurationDesign` shall reference a `GenericTpConnection`
[constr_9337]	Same `priority` for overlapping address ranges in the context of the same `MachineDesign`
[constr_9338]	`GenericTpConnection.sourceAddressRangeStart` shall be less or equal of `GenericTpConnection.sourceAddressRangeEnd`
[constr_9344]	Supported value range for attribute `DoIpFunctionalClusterDesign.doIpProtocolVersion`

Table B.7: Added Constraints in R24-11

B.3.2 Changed Constraints in R24-11

Number	Heading
[constr_10002]	Only one mapping per `PortPrototype`
[constr_10003]	Restriction for the existence of `DiagnosticDataPortMapping.diagnosticDataIdentifier` vs. `DiagnosticDataPortMapping.diagnosticDataElement`
[constr_10007]	Existence of `ProcessExecutionError.executionError`
[constr_10008]	Value of `ProcessExecutionError.executionError`
[constr_10023]	Mandatory content of any `functionGroup`
[constr_10029]	`ServiceInterfaceDeployment` shall cover all elements of the corresponding `ServiceInterface`
[constr_10030]	Existence of `DiagnosticDataIdentifierInterface.read`
[constr_10031]	Existence of `DiagnosticRoutineInterface.start`
[constr_10035]	Completeness of the `PersistencyDeployment.version`
[constr_10037]	Existence of attribute `TagWithOptionalValue.sequenceOffset` in the context of attribute `capabilityRecord` owned by `ProvidedSomeipServiceInstance`, `RequiredSomeipServiceInstance`, `SdServerConfig`, `SdClientConfig`, or `AbstractServiceInstance`
[constr_10046]	Value of `PersistencyRedundancyMOutOfN.n`
[constr_10047]	Restriction for the applicability of `DiagnosticMonitorPortMapping`
[constr_10048]	Existence of reference from `DiagnosticMonitorPortMapping` to `DiagnosticEvent`
[constr_10049]	Restriction for the applicability of `DiagnosticEventPortMapping`
[constr_10050]	Restriction for the applicability of `DiagnosticOperationCyclePortMapping`
[constr_10051]	Existence of reference from `DiagnosticOperationCyclePortMapping` to `DiagnosticOperationCycle`
[constr_10052]	Restriction for the applicability of `DiagnosticEnableConditionPortMapping`
[constr_10053]	Existence of reference from `DiagnosticEnableConditionPortMapping` to `DiagnosticEnableCondition`

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Number	Heading
[constr_10054]	Restriction for the applicability of DiagnosticClearConditionPortMapping
[constr_10055]	Existence of reference from DiagnosticClearConditionPortMapping to DiagnosticClearCondition
[constr_10056]	Restriction for the applicability of DiagnosticIndicatorPortMapping
[constr_10057]	Restriction for the applicability of DiagnosticMemoryDestinationPortMapping
[constr_10058]	Restriction for the applicability of DiagnosticSecurityLevelPortMapping
[constr_10059]	Existence of reference from DiagnosticSecurityLevelPortMapping to DiagnosticSecurityLevel
[constr_10060]	PortInterface of PPortPrototype referenced by DiagnosticDataPortMapping
[constr_10061]	Mapping to DiagnosticDataIdentifierInterface, DiagnosticDataElementInterface, or DiagnosticDataIdentifierGenericInterface
[constr_10063]	Possible values for DiagnosticServiceValidationMapping.category
[constr_10064]	Existence of DiagnosticServiceValidationMapping.pPortPrototypeInExecutable
[constr_10065]	Validity of DiagnosticServiceValidationConfiguration.manufacturer-ValidationOrder
[constr_10066]	Validity of DiagnosticServiceValidationConfiguration.supplier-ValidationOrder
[constr_10069]	Existence of SoftwareClusterDiagnosticDeploymentProps.powerDownTime
[constr_10070]	Value of RequiredSomeipServiceInstance.requiredServiceInstanceId
[constr_10076]	Existence of RawDataStreamEthernetUdpCredentials.udpPort
[constr_10077]	Existence of ipV4Address and ipV6Address within AbstractRawDataStreamEthernetCredentials
[constr_10078]	Existence of RawDataStreamEthernetTcpUdpCredentials.tcpPort and udpPort
[constr_10079]	Existence of EthernetRawDataStreamMapping.localTcpPort and localUdpPort
[constr_10080]	Existence of initial values for PersistencyFileElement
[constr_10081]	Existence of initial values in the definition of PersistencyDataRequiredComSpec
[constr_10082]	Existence of initial values for PersistencyFile
[constr_10083]	Existence of initial values for PersistencyKeyValuePair
[constr_10086]	Existence of unicastUdpCredentials and multicastCredentials in the context of a EthernetRawDataStreamServerMapping
[constr_10090]	Existence of ProcessToMachineMapping.persistencyCentralStorageURI
[constr_10092]	Restriction for the applicability of DiagnosticAuthenticationPortMapping
[constr_10093]	Existence of reference from DiagnosticAuthenticationPortMapping to DiagnosticAuthentication

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Number	Heading
[constr_10094]	Restriction for the applicability of DiagnosticExternalAuthenticationPortMapping
[constr_10098]	Relation of MachineDesign.pnResetTimer and UdpNmCluster.nmMsgCycleTime
[constr_10101]	Attribute NmHandleToFunctionGroupStateMapping.mappingDirection is set to nmHandleActiveToFunctionGroupState or nmHandleInactiveToFunctionGroupState
[constr_10102]	Existence of initial values for PersistencyKeyValuePair
[constr_10103]	Existence of initial values for PersistencyFile
[constr_10105]	Existence of UcmRetryStrategy.maximumNumberOfRetries
[constr_10106]	Existence of UcmRetryStrategy.retryIntervalTime
[constr_10107]	Existence of the attribute UcmMasterModuleInstantiation.blockInconsistent
[constr_10108]	Existence of the attribute UcmMasterModuleInstantiation.serviceBusy
[constr_10109]	Existence of the attribute UcmMasterModuleInstantiation.updateSessionRejected
[constr_10110]	Existence of UcmSubordinateModuleInstantiation on a Machine
[constr_10113]	Restriction for the existence of ExecutableLoggingImplementationProps
[constr_10114]	Existence of attributes of DiagnosticEnvDataElementCondition if the reference in the role pPortPrototype exists
[constr_10124]	Multiplicity of attribute ApplicationAssocMapDataType.key
[constr_10125]	Multiplicity of attribute ApplicationAssocMapDataType.value
[constr_10126]	Multiplicity of attribute ApplicationAssocMapElementValueSpecification.key
[constr_10127]	Multiplicity of attribute ApplicationAssocMapElementValueSpecification.value
[constr_10128]	Multiplicity of attribute CppImplementationDataTypeElementQualifier.typeReference
[constr_10129]	Multiplicity of attribute Field.hasGetter
[constr_10130]	Multiplicity of attribute Field.hasSetter
[constr_10131]	Multiplicity of attribute Field.hasNotifier
[constr_10132]	Multiplicity of attribute ApApplicationError.errorCode
[constr_10133]	Multiplicity of attribute ApApplicationErrorDomain.value
[constr_10134]	Multiplicity of reference in the role PortInterfaceToDataTypeMapping.dataTypeMappingSet
[constr_10135]	Multiplicity of reference in the role PortInterfaceToDataTypeMapping.portInterface
[constr_10136]	Multiplicity of reference in the role ServiceInterfaceMapping.compositeServiceInterface
[constr_10137]	Multiplicity of reference in the role ServiceInterfaceMapping.sourceServiceInterface
[constr_10138]	Multiplicity of reference in the role ServiceInterfaceEventMapping.sourceEvent

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Number	Heading
[constr_10139]	Multiplicity of reference in the role ServiceInterfaceEventMapping.targetEvent
[constr_10140]	Multiplicity of reference in the role ServiceInterfaceFieldMapping.sourceField
[constr_10141]	Multiplicity of reference in the role ServiceInterfaceFieldMapping.targetField
[constr_10142]	Multiplicity of reference in the role ServiceInterfaceMethodMapping.sourceMethod
[constr_10143]	Multiplicity of reference in the role ServiceInterfaceMethodMapping.targetMethod
[constr_10144]	Multiplicity of reference in the role PersistencyRedundancyChecksum.algorithmFamily
[constr_10145]	Multiplicity of reference in the role PersistencyRedundancyChecksum.length
[constr_10146]	Multiplicity of reference in the role PersistencyRedundancyMOutOfN.m
[constr_10147]	Multiplicity of reference in the role PersistencyRedundancyMOutOfN.n
[constr_10148]	Multiplicity of reference in the role PersistencyFileElement.contentUri
[constr_10149]	Multiplicity of reference in the role PersistencyFileElement.fileName
[constr_10151]	Multiplicity of reference in the role PhmCheckpoint.checkpointId
[constr_10152]	Multiplicity of reference in the role FieldSenderComSpec.initValue
[constr_10154]	Multiplicity of reference in the role ProcessDesignToMachineDesignMapping.processDesign
[constr_10162]	Multiplicity of reference in the role DiagnosticClearConditionPortMapping.clearCondition
[constr_10163]	Multiplicity of reference in the role DiagnosticIndicatorPortMapping.indicator
[constr_10164]	Multiplicity of reference in the role DiagnosticMemoryDestinationPortMapping.memoryDestination
[constr_10165]	Multiplicity of reference in the role DiagnosticDataPortMapping.process
[constr_10166]	Multiplicity of attribute DiagnosticProvidedDataMapping.dataProvider
[constr_10167]	Multiplicity of attribute SomeipServiceDiscovery.someipServiceDiscoveryPort
[constr_10169]	Multiplicity of reference in the role Machine.machineDesign
[constr_10170]	Multiplicity of attribute Machine.trustedPlatformExecutableLaunchBehavior
[constr_10171]	Multiplicity of attribute Machine.processor
[constr_10172]	Multiplicity of attribute Processor.core
[constr_10173]	Multiplicity of attribute ProcessorCore.coreId
[constr_10174]	Multiplicity of the reference in the role ProcessToMachineMapping.process
[constr_10175]	Multiplicity of attribute StateDependentStartupConfig.resourceGroup
[constr_10176]	Multiplicity of attribute StateDependentStartupConfig.startupConfig
[constr_10177]	Multiplicity of attribute PersistencyDeployment.updateStrategy

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Number	Heading
[constr_10178]	Multiplicity of the reference in the role PersistencyPortPrototypeToDeploymentMapping.process
[constr_10179]	Multiplicity of attribute PersistencyKeyValuePair.valueDataType
[constr_10180]	Multiplicity of the reference in the role PersistencyPortPrototypeToKey-ValueStorageMapping.keyValueStorage
[constr_10182]	Multiplicity of the reference in the role PersistencyPortPrototypeToFileStorageMapping.fileStorage
[constr_10183]	Multiplicity of attribute PersistencyFile.fileName
[constr_10184]	Multiplicity of the reference in the role SynchronizedTimeBaseConsumer.networkTimeConsumer
[constr_10185]	Multiplicity of the reference in the role SynchronizedTimeBaseProvider.networkTimeProvider
[constr_10186]	Multiplicity of attribute DoIpFunctionalClusterDesign.entityStatusMaxByteFieldUse
[constr_10188]	Multiplicity of attribute DoIpInstantiation.logicalAddress
[constr_10189]	Multiplicity of attribute DoIpFunctionalClusterDesign.maxRequestBytes
[constr_10191]	Multiplicity of attribute DoIpNetworkConfiguration.isActivationLineDependent
[constr_10192]	Multiplicity of attribute DoIpNetworkConfiguration.maxInitialVehicleAnnouncementTime
[constr_10193]	Multiplicity of attribute DoIpNetworkConfiguration.maxTesterConnections
[constr_10194]	Multiplicity of attribute DoIpNetworkConfiguration.networkInterfaceId
[constr_10195]	Multiplicity of attribute DoIpNetworkConfiguration.vehicleIdentificationSyncStatus
[constr_10197]	Multiplicity of attribute DoIpRequestConfiguration.endAddress
[constr_10198]	Multiplicity of attribute DoIpRequestConfiguration.requestType
[constr_10199]	Multiplicity of attribute DoIpRequestConfiguration.startAddress
[constr_10200]	Multiplicity of attribute UcmModuleInstantiation.identifier
[constr_10207]	Multiplicity of the reference in the role CryptoProviderToPortPrototypeMapping.cryptoProvider
[constr_10208]	Multiplicity of the reference in the role CryptoProviderToPortPrototypeMapping.process
[constr_10209]	Existence of the reference in the role AbstractCryptoKeySlotToPortPrototypeMapping.keySlot
[constr_10210]	Existence of the reference in the role AbstractCryptoKeySlotToPortPrototypeMapping.process
[constr_10211]	Multiplicity of the reference in the role CryptoCertificateToCryptoKeySlotMapping.cryptoCertificate
[constr_10212]	Multiplicity of attribute SomeipServiceInterfaceDeployment.serviceInterfaceId
[constr_10213]	Multiplicity of attribute SomeipServiceInterfaceDeployment.serviceInterfaceVersion
[constr_10214]	Multiplicity of attribute SomeipEventGroup.eventGroupId

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Number	Heading
[constr_10215]	Multiplicity of attribute SomeipEventDeployment.eventId
[constr_10216]	Multiplicity of attribute SomeipEventDeployment.transportProtocol
[constr_10217]	Multiplicity of the attribute DdsServiceInterfaceDeployment.serviceInterfaceId
[constr_10218]	Multiplicity of reference in the role ProvidedSomeipServiceInstance.sdServerConfig
[constr_10219]	Multiplicity of attribute ProvidedSomeipServiceInstance.serviceInstanceId
[constr_10220]	Multiplicity of attribute SomeipProvidedEventGroup.multicastThreshold
[constr_10221]	Multiplicity of reference in the role RequiredSomeipServiceInstance.sdClientConfig
[constr_10222]	Multiplicity of the reference in the role SomeipRequiredEventGroup.sdClientEventGroupTimingConfig
[constr_10223]	Multiplicity of attribute DdsServiceInstanceProps.domainId
[constr_10224]	Multiplicity of reference in the role DdsEventQosProps.event
[constr_10225]	Multiplicity of reference in the role DdsFieldQosProps.field
[constr_10226]	Multiplicity of attribute E2EProfileConfiguration.profileName
[constr_10227]	Multiplicity of attribute SecOcJobRequirement.secOcJobSemantic
[constr_10230]	Multiplicity of attribute SignalServiceTranslationEventProps.safeTranslation
[constr_10231]	Multiplicity of attribute SignalServiceTranslationEventProps.secureTranslation
[constr_10232]	Multiplicity of reference in the role PersistencyDeploymentToCryptoKey-SlotMapping.persistencyDeployment
[constr_10233]	Multiplicity of the reference in the role SoftwareCluster.vendorSignature
[constr_10234]	Multiplicity of attribute SoftwareCluster.version
[constr_10235]	Multiplicity of attribute SoftwareCluster.vendorId
[constr_10236]	Multiplicity of attribute SoftwareClusterDiagnosticAddress.addressSemantics
[constr_10237]	Multiplicity of attribute SoftwareClusterDependencyCompareCondition.compareType
[constr_10240]	Multiplicity of attribute SoftwarePackage.actionType
[constr_10242]	Multiplicity of attribute SoftwarePackage.minimumSupportedUcmVersion
[constr_10243]	Multiplicity of attribute SoftwarePackage.packagerId
[constr_10244]	Multiplicity of reference in the role SoftwarePackage.packagerSignature
[constr_10245]	Multiplicity of reference in the role SoftwarePackage.softwareCluster
[constr_10246]	Multiplicity of attribute SoftwarePackage.uncompressedSoftwareClusterSize
[constr_10247]	Multiplicity of reference in the role VehiclePackage.packagerSignature
[constr_10248]	Multiplicity of reference in the role UcmDescription.identifier
[constr_10249]	Multiplicity of reference in the role VehicleDriverNotification.approvalRequired

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Number	Heading
[constr_10250]	Multiplicity of reference in the role VehicleDriverNotification.notificationState
[constr_10251]	Multiplicity of the reference in the role ServiceFieldDeployment.field
[constr_10253]	Multiplicity of attribute SoftwareClusterDependencyCompareCondition.considerBuildNumber
[constr_10254]	Multiplicity of attribute SoftwareClusterDependencyCompareCondition.version
[constr_10255]	Multiplicity of attribute SignalServiceTranslationProps.serviceControl
[constr_10256]	Multiplicity of reference in the role SoftwarePackageStoring.storing
[constr_10365]	Existence of PersistencyDeployment.deploymentUri
[constr_10366]	Possible multiplicities of PersistencyDeployment.deploymentUri
[constr_10367]	Condition for the multiplicity of attribute PersistencyDeployment.deploymentUri
[constr_10374]	Existence of the attribute UcmSubordinateModuleInstantiation.verifyUpdate
[constr_10375]	Existence of the attribute UcmSubordinateModuleInstantiation.prepareUpdate
[constr_10376]	Existence of the attribute UcmSubordinateModuleInstantiation.prepareRollback
[constr_10377]	Completeness of the modeling of PersistencyKeyValueDataTypeMapping
[constr_10378]	PersistencyKeyValueDataTypeMapping references AbstractImplementationDataType in the role currentDataType
[constr_10379]	PersistencyKeyValueDataTypeMapping references ApplicationDataType in the role currentDataType
[constr_10380]	Target of ArtifactLocator.representedModelElement
[constr_10381]	Existence of attribute ArtifactLocator.uri
[constr_10382]	Existence of attribute ArtifactLocator.representedModelElement
[constr_10399]	Allowed interval of the "index" field according to the initialization rule for data object typed by a CppImplementationDataType of category VARIANT
[constr_10411]	Existence of ExecutionDependency and references to Function Group States
[constr_10416]	Aggregation of optional templateArgument that defines an Allocator for a VECTOR
[constr_10417]	Existence of attributes of CppImplementationDataTypes depending on the category
[constr_10420]	Restriction for the existence of initial values for PersistencyDataElement
[constr_10425]	Existence of initial values for PersistencyDataElement
[constr_10426]	Multiplicity of attribute PersistencyDeploymentElement.updateStrategy
[constr_10427]	Multiplicity of attribute PersistencyInterfaceElement.updateStrategy
[constr_10428]	Existence of attribute UcmModuleInstantiation.identifier in subclasses
[constr_10429]	Existence of attribute VehicleRolloutStep.violatedSafetyConditionBehavior

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Number	Heading
[constr_10430]	Existence of attribute Machine.defaultApplicationTimeout
[constr_10431]	Existence of attribute Machine.defaultApplicationTimeout.enterTimeoutValue
[constr_10432]	Existence of attribute Machine.defaultApplicationTimeout.exitTimeoutValue
[constr_10436]	Restriction for the applicability of DiagnosticMultipleMonitorPortMapping
[constr_10437]	Restriction for the applicability of DiagnosticMultipleEventPortMapping
[constr_10438]	Restriction for the applicability of DiagnosticMultipleConditionPortMapping
[constr_10441]	Restriction for NetworkHandlePortMapping.pPortPrototypeInExecutable
[constr_10483]	Applicable values of baseTypeEncoding in the context of the definition of a DiagnosticDataElement
[constr_10484]	Existence of FunctionalClusterInteractsWithPersistencyDeployment-Mapping.contractVersion
[constr_10485]	Existence of PersistencyInterface.contractVersion
[constr_10486]	Existence of PersistencyKeyValueDataTypeMapping.previousContractVersion
[constr_10487]	Only one physical address per DiagnosticCommonProps
[constr_10488]	Existence of attribute DiagnosticCommonProps.authenticationTimeout
[constr_10490]	DiagnosticDataElement shall be directly or indirectly the target of a reference owned by a subclass of DiagnosticMapping
[constr_10491]	Type of PPortPrototype referenced in the role IdsmTimestampProviderMapping.pPortPrototypeInExecutable
[constr_10492]	PPortPrototype typed by a IdsmTimestampProviderInterface
[constr_10493]	Existence of IdsmTimestampProviderMapping.idsPlatformInstantiation
[constr_10494]	Existence of IdsmTimestampProviderMapping.pPortPrototypeInExecutable
[constr_10495]	Existence of IdsmTimestampProviderMapping.process
[constr_10496]	Type of PPortPrototype referenced in the role IdsmContextProviderMapping.pPortPrototypeInExecutable
[constr_10497]	PPortPrototype typed by a IdsmContextProviderInterface
[constr_10499]	Existence of IdsmContextProviderMapping.pPortPrototypeInExecutable
[constr_10500]	Existence of IdsmContextProviderMapping.process
[constr_10501]	Access to time stamps for *Intrusion Detection System Management*
[constr_10508]	Existence of the attribute UcmSubordinateModuleInstantiation.max-AvailablePersistencyStorageSpace
[constr_10509]	Existence of attribute PersistencyDeployment.maximumAllowedSize
[constr_10510]	Existence of attribute PersistencyDeployment.minimumSustainedSize

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Number	Heading
[constr_10511]	Reference StateManagementStateRequest.stateRequestPort shall not exist if StateManagementStateRequest is referenced from NmInteractsWithSmMapping
[constr_11000]	SomeipEventDeployment.eventReceptionDefaultValue or UserDefinedEventDeployment.eventReceptionDefaultValue shall not be specified in the physical domain
[constr_1473]	No support for PRPortPrototype
[constr_1478]	SwDataDefProps applicable to ApplicationDataTypes exclusive to the *AUTOSAR adaptive platform*
[constr_1482]	Mapping of service interfaces vs. mapping of service interface elements
[constr_1483]	Applicability of a ServiceInterface
[constr_1488]	Initialization of a DataPrototype typed by an ApplicationAssocMapDataType
[constr_1489]	Uniqueness of ApplicationAssocMapValueSpecification.mapElementTuple.key
[constr_1490]	Allowed value for Executable.category if ProcessToMachineMapping references a NonOsModuleInstantiation
[constr_1492]	SwComponentType referenced in the role Executable.rootSwComponentPrototype.applicationType
[constr_1494]	Initial value for event
[constr_1507]	PortInterfaceToDataTypeMapping is only applicable to ServiceInterface or PersistencyKeyValueStorageInterface
[constr_1536]	Definition of SoftwareCluster applies for a single Machine
[constr_1549]	Value of ProcessorCore.coreId
[constr_1550]	Reference from Process to ProcessDesign
[constr_1551]	Existence of DataPrototypeInServiceInterfaceRef.dataPrototype vs. DataPrototypeInServiceInterfaceRef.elementInImplDatatype
[constr_1553]	Restriction for ProcessToMachineMapping
[constr_1554]	Restriction regarding attribute PersistencyKeyValuePair.initValue
[constr_1555]	Restriction applicable for PersistencyPortPrototypeToKeyValueStorageMapping.portPrototype
[constr_1556]	Restriction applicable for PersistencyPortPrototypeToFileStorageMapping.portPrototype
[constr_1560]	Usage of SoftwareClusterDesign.requiredARElement
[constr_1566]	Usage of SoftwareCluster.containedARElement
[constr_1570]	Restriction for UserDefinedServiceInterfaceDeployment of category SERVICE_INTERFACE_DEPLOYMENT_IPC
[constr_1571]	CppImplementationDataType is limited
[constr_1576]	Existence of CppTemplateArgument.templateType vs. CppTemplateArgument.allocator
[constr_1578]	Applicable data categories

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Number	Heading
[constr_1579]	SwDataDefProps applicable to CppImplementationDataTypes exclusive to the *AUTOSAR adaptive platform*
[constr_1581]	Value of fileElement.fileName
[constr_1582]	PersistencyKeyValuePair.valueDataType shall match to AbstractImplementationDataType for the corresponding PersistencyDataElement
[constr_1589]	Value of file.fileName
[constr_1593]	Completeness of the existence of a set of TlvDataIdDefinition.tlvArguments
[constr_1594]	Consistent assignment of TLV data ids to ApplicationRecordDataType
[constr_1595]	Consistent assignment of TLV data ids to CppImplementationDataType or CppImplementationDataTypeElement
[constr_1596]	Scope of the uniqueness of the value of TlvDataIdDefinition.id for references to ArgumentDataPrototype
[constr_1597]	Scope of the uniqueness of the value of TlvDataIdDefinition.id for references to ApplicationRecordElement
[constr_1598]	Scope of the uniqueness of the value of TlvDataIdDefinition.id for references to CppImplementationDataTypeElement
[constr_1599]	TlvDataIdDefinition referencing ArgumentDataPrototype
[constr_1600]	TlvDataIdDefinition referencing ApplicationRecordElement
[constr_1601]	TlvDataIdDefinition referencing CppImplementationDataTypeElement
[constr_1603]	Completeness of the existence of a set of TlvDataIdDefinition.tlvRecordElements
[constr_1604]	Completeness of the existence of a set of TlvDataIdDefinition.tlvImplementationDataTypeElements
[constr_1605]	Standardized values of attribute Executable.category
[constr_1606]	Processes with mutual ExecutionDependencys
[constr_1613]	File name of matching pairs of PersistencyFileElement and PersistencyFile
[constr_1618]	Ability to shut down
[constr_1619]	Ability to restart
[constr_1625]	Existence of reference ApApplicationError.errorDomain
[constr_1628]	Definition of static length field sizes in case of TLV usage
[constr_1629]	Identical sizes of length fields in case of TLV usage
[constr_1630]	No definition of length field sizes on DataPrototype level in case of TLV usage
[constr_1658]	Number of DiagnosticTroubleCodeUdsToClearConditionGroupMapping elements per DiagnosticTroubleCodeUds
[constr_1659]	Restriction for the usage of CppImplementationDataTypeElementQualifier.inplace
[constr_1660]	Restriction for the usage of CppTemplateArgument.inplace
[constr_1661]	Multiplicity of OsModuleInstantiation.resourceGroup
[constr_1664]	Unique ApApplicationError.shortName

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Number	Heading
[constr_1665]	Unique ApApplicationError.errorCode
[constr_1666]	References from PersistencyPortPrototypeToKeyValueStorageMapping to PersistencyKeyValueStorage
[constr_1667]	References from PersistencyPortPrototypeToFileStorageMapping to PersistencyFileStorage
[constr_1668]	Allowed combinations of PersistencyRedundancyChecksum.length and algorithmFamily
[constr_1673]	Existence of attributes hasGetter, hasSetter, and hasNotifier
[constr_1675]	Existence of attribute ApSomeipTransformationProps.stringEncoding
[constr_1676]	Consistency of references shallRunOn and shallNotRunOn
[constr_1677]	Mutual exclusive existence of references shallRunOn and shallNotRunOn
[constr_1678]	Allowed values for attribute ApSomeipTransformationProps.stringEncoding
[constr_1688]	StateDependentStartupConfig shall only refer to Function Group States of the same Function Group
[constr_1689]	Modeling of a startup dependency between different Processes
[constr_1691]	UcmModuleInstantiation.identifier shall be unique
[constr_1692]	Value of schedulingPriority
[constr_1693]	Relation of Executable, ProcessDesign, and Process
[constr_1695]	Semantics of a Grant depends on the existence of CmModuleInstantiation
[constr_1696]	ClientServerOperation aggregated by DiagnosticRoutineInterface
[constr_1697]	Restriction for ClientServerOperation aggregated by a DiagnosticDataIdentifierInterface or DiagnosticDataElementInterface
[constr_1708]	Combination of CppImplementationDataTypeElement.isOptional and CppImplementationDataTypeElementQualifier.inplace
[constr_1710]	Consistency of values of attributes PersistencyInterface.redundancy and PersistencyRedundancyHandling.scope
[constr_1723]	ProvidedSomeipServiceInstance shall be unique in respect of serviceInstanceId, serviceInterfaceId and majorVersion on a VLAN
[constr_1727]	Qualified combinations of PortPrototypes and PhmSupervisedEntityInterface on application software level
[constr_1729]	Qualified combinations of PortPrototypes and PhmSupervisionRecoveryNotificationInterface on State Management software level
[constr_1731]	Value of UcmDescription.identifier in the scope of a VehiclePackage
[constr_1736]	Multiplicity of reference LogicalSupervision.initialCheckpoint
[constr_1737]	Multiplicity of reference LogicalSupervision.finalCheckpoint
[constr_1740]	Multiplicity of reference LogicalSupervision.transition
[constr_1742]	Multiplicity of reference SupervisionCheckpoint.phmCheckpoint
[constr_1743]	CppImplementationDataType.headerFile vs. CppImplementationDataType.typeEmitter

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Number	Heading
[constr_1746]	Mutual exclusive existence of PersistencyInterface.redundancy and PersistencyInterface.redundancyHandling
[constr_1747]	Completeness of the SoftwareCluster.version
[constr_1748]	Existence of references TlvDataIdDefinition.tlvArgument, TlvDataIdDefinition.tlvRecordElement, and TlvDataIdDefinition.tlvImplementationDataTypeElement
[constr_1751]	Value of PersistencyRedundancyMOutOfN.m
[constr_1764]	Counterpart of PhmCheckpoint
[constr_1769]	Existence of ProcessArgument.argument
[constr_1770]	Value of ProvidedSomeipServiceInstance.serviceInstanceId
[constr_1784]	Restriction for the reference to UploadableExclusivePackageElement
[constr_1785]	Restriction regarding the reference into another SoftwareCluster
[constr_1786]	Restriction to use functionGroup in terms of SoftwareCluster
[constr_1787]	Restricted use of Function Groups in the context of a SoftwareCluster
[constr_1788]	Restriction to SoftwareCluster of category PLATFORM_CORE
[constr_3287]	Mandatory information of a ProvidedSomeipServiceInstance
[constr_3288]	IP configuration restriction for unicastNetworkEndpoints
[constr_3290]	Transport Protocol attributes defined for a ProvidedSomeipServiceInstance
[constr_3300]	Allowed ServiceMethodDeployment.method references
[constr_3301]	Allowed ServiceEventDeployment.event references
[constr_3302]	Allowed ServiceFieldDeployment.field references
[constr_3304]	Value of attribute SomeipEventGroup.eventGroupId shall be unique
[constr_3305]	Value of attribute SomeipEventDeployment.eventId shall be unique
[constr_3306]	Value of attribute methodId shall be unique per SomeipServiceInterfaceDeployment
[constr_3308]	SomeipEventDeployment.transportProtocol setting to tcp and the impact on ProvidedSomeipServiceInstances
[constr_3309]	SomeipMethodDeployment.transportProtocol setting to udp and the impact on ProvidedSomeipServiceInstances
[constr_3310]	SomeipMethodDeployment.transportProtocol setting to tcp and the impact on ProvidedSomeipServiceInstances
[constr_3320]	Aggregation of CommunicationConnector by MachineDesign
[constr_3349]	Usage of ApplicationAssocMapDataType is limited
[constr_3351]	SOME/IP segmentation allowed for udp SomeipEventDeployments
[constr_3352]	SOME/IP segmentation allowed for udp SomeipMethodDeployments
[constr_3353]	Restriction in usage of ApSomeipTransformationProps.sizeOfArrayLengthField
[constr_3354]	Restriction in usage of ApSomeipTransformationProps.sizeOfStructLengthField
[constr_3355]	Restriction in usage of ApSomeipTransformationProps.sizeOfUnionLengthField

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Number	Heading
[constr_3356]	Restriction in usage of ApSomeipTransformationProps.alignment
[constr_3357]	Restriction in usage of ApSomeipTransformationProps.sizeOfUnionTypeSelectorField
[constr_3359]	RPortPrototypeProps are related only to RPortPrototypes
[constr_3361]	Selective definition of serialization settings
[constr_3362]	SomeipEventDeployments aggregated by a SomeipFieldDeployment
[constr_3363]	SomeipMethodDeployments aggregated by a SomeipFieldDeployment
[constr_3367]	FieldMapping.notifierDataElement reference
[constr_3368]	FieldMapping.getterOperation reference
[constr_3369]	FieldMapping.setterOperation reference
[constr_3370]	InterfaceMapping shall map all elements of a single ServiceInterface
[constr_3371]	Mutually exclusive existence of FireAndForgetMethodMapping.dataElement reference and FireAndForgetMethodMapping.trigger reference
[constr_3372]	Restriction in usage of ApSomeipTransformationProps.sizeOfStringLengthField
[constr_3374]	method with attribute fireAndForget set to true shall not have any inout or out arguments
[constr_3375]	method with attribute fireAndForget set to true shall not reference an ApApplicationError
[constr_3376]	FireAndForgetMethodMapping shall reference only fire and forget methods
[constr_3391]	ServiceInterfaceElementSecureComConfig references to ServiceInterfaceDeployment elements
[constr_3392]	ServiceInterfaceElementSecureComConfig.dataId and ServiceInterfaceElementSecureComConfig.freshnessValueId are mandatory in case of SecOC communication
[constr_3393]	Usage of shallRunOn and shallNotRunOn references
[constr_3395]	TransformationPropsToServiceInterfaceElementMapping is restricted to one single ServiceInterface
[constr_3396]	Number of Process.stateDependentStartupConfig that refer to the same functionGroupState
[constr_3408]	Value range of SomeipEventDeployment.eventId
[constr_3409]	Value range of SomeipMethodDeployment.methodId
[constr_3410]	Value range of SomeipServiceInterfaceDeployment.serviceInterfaceId
[constr_3413]	StateDependentStartupConfig of a Process is mapped to exactly one ResourceGroup
[constr_3414]	Allowed usage of PlatformModuleEthernetEndpointConfiguration attributes that are allowed to be used to configure the network communication in the different platform modules
[constr_3415]	Value range of ProvidedSomeipServiceInstance.loadBalancingPriority
[constr_3416]	Value range of ProvidedSomeipServiceInstance.loadBalancingWeight
[constr_3417]	UserDefinedEventDeployments aggregated by a UserDefinedFieldDeployment

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Number	Heading
[constr_3418]	UserDefinedMethodDeployments aggregated by a UserDefinedFieldDeployment
[constr_3419]	Allowed usage of UdpNmNetworkConfiguration attributes
[constr_3421]	Fibex elements applicable for a System of category MACHINE_DESIGN_EXTRACT
[constr_3423]	StateDependentStartupConfig of a Process shall reference a functionGroupState
[constr_3424]	StateDependentStartupConfig shall never reference the functionGroupState Off
[constr_3425]	Restriction of DoIpInstantiations on a Machine
[constr_3429]	No allocator usage for CppImplementationDataTypes of category VARIANT
[constr_3433]	Aggregation of templateArguments for an ARRAY
[constr_3434]	Aggregation of templateArguments for a VECTOR
[constr_3443]	Specification of a namespace for a StdCppImplementationDataType
[constr_3446]	CppTemplateArgument with allocator reference and the inplace flag
[constr_3447]	ApSomeipTransformationProps.sizeOfArrayLengthField that equals 0
[constr_3462]	CppTemplateArgument.templateType reference to StdCppImplementationDataType of category STRUCTURE and the inplace flag
[constr_3485]	UDP endpoint using DTLS SERVER role can only serve provided service instances
[constr_3486]	TCP endpoint using TLS SERVER role can only serve provided service instances
[constr_3487]	TCP endpoint can only serve provided or required service instances exclusively
[constr_3492]	DoIpInstantiation.logicalAddress shall be defined as member in the DoIpRequestConfiguration
[constr_3493]	Applicable attributes for standardized E2E Profiles
[constr_3495]	Supported value range for attribute DoIpFunctionalClusterDesign.eid
[constr_3496]	Supported value range for attribute DoIpInstantiation.gid
[constr_3497]	Supported value range for attribute DoIpFunctionalClusterDesign.maxRequestBytes
[constr_3498]	Supported value range for attribute DoIpInstantiation.logicalAddress
[constr_3499]	Supported value range for attribute DoIpRequestConfiguration.startAddress
[constr_3528]	Value range of DdsServiceInstanceProps.domainId
[constr_3529]	Value range of DdsProvidedServiceInstance.serviceInstanceId
[constr_3530]	Mandatory definition of checkpointId
[constr_3538]	Only one ServiceInstanceToMachineMapping per technology and CommunicationConnector
[constr_3539]	Only one AliveSupervision per SupervisionCheckpoint
[constr_3540]	SupervisionCheckpoint in supervision graph
[constr_3541]	qosProfile mandatory for DdsProvidedServiceInstance
[constr_3542]	qosProfile mandatory for DdsRequiredServiceInstance

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Number	Heading
[constr_3554]	E2E protection configuration check
[constr_3557]	Mandatory majorVersion at SomeipServiceInterfaceDeployment.serviceInterfaceVersion
[constr_3558]	RequiredSomeipServiceInstance.blocklistedVersion is restricted to the usage of minorVersion
[constr_3561]	minimumMinorVersion and RequiredSomeipServiceInstance.requiredMinorVersion value
[constr_3563]	Mandatory topic name values
[constr_3564]	Consistency between DDS Service Interface Deployment and Provided DDS Service Instance
[constr_3565]	Consistency between DDS Service Interface Deployment and Required DDS Service Instance
[constr_3568]	No support for cross PlatformHealthManagementContribution references
[constr_3569]	Applicability of attribute invalidValue on CppImplementationDataType of category TYPE_REFERENCE
[constr_3612]	Multiplicity of references recoveryNotification, recoveryAction, and process at RecoveryNotificationToPPortPrototypeMapping
[constr_3613]	Reference to a PhmSupervisionRecoveryNotificationInterface in the context of a HealthChannelSupervision
[constr_3619]	Mandatory references of TimeBaseProviderToPersistencyMapping
[constr_3623]	SupervisionCheckpoints in the context of a GlobalSupervision
[constr_3624]	At least one Supervision defined in the context of a GlobalSupervision
[constr_3625]	DeadlineSupervision referencing CheckpointTransition in the context of a GlobalSupervision
[constr_3626]	LogicalSupervision referencing CheckpointTransition in the context of a GlobalSupervision
[constr_3627]	Existence of SupervisionModeCondition.stateReference
[constr_3628]	Reference to Function Group State from a SupervisionModeCondition
[constr_3629]	Identical Function Group in the scope of a GlobalSupervision
[constr_3630]	GlobalSupervision and Process relation
[constr_3631]	Global supervision restricted to one Function Group
[constr_3632]	Supervision of a Supervised Entity Instance in the scope of a Function Group State
[constr_3633]	Mandatory attributes of AliveSupervision
[constr_3634]	Multiplicity of CheckpointTransition.source and CheckpointTransition.target
[constr_3635]	Mandatory attributes of DeadlineSupervision
[constr_3639]	Existence of SupervisionMode.expiredSupervisionTolerance
[constr_3640]	Existence of SupervisionMode.modeCondition
[constr_3641]	Allowed combinations of ServiceInterfaceDeployment, AdaptivePlatformServiceInstance, ServiceInstanceToMachineMapping

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Number	Heading
[constr_3642]	Restriction of aggregation of PortPrototypeProps to the Adaptive Platform
[constr_3645]	discoveryType mandatory for DdsProvidedServiceInstance
[constr_3646]	resourceIdentifierType mandatory for DdsProvidedServiceInstance
[constr_3647]	resourceIdentifierType value for USER_DATA QoS-based discovery
[constr_3648]	discoveryType mandatory for DdsRequiredServiceInstance
[constr_3649]	Consistent SupervisionCheckpoint.process reference
[constr_3674]	Existence of NoSupervision.targetPhmSupervisedEntity
[constr_3675]	Existence of NoSupervision.process
[constr_3676]	Exclusive usage of NoSupervision
[constr_3677]	ComGrants referencing DDS Service Instances
[constr_3680]	Existence of attributes for DdsTopicAccessRule
[constr_3681]	Supported values of DdsTopicAccessRule.dataProtectionKind
[constr_3682]	Values of DdsDomainRange.min and DdsDomainRange.max
[constr_3683]	Attributes referencing DdsTopicAccessRule
[constr_3684]	Mutual exclusivity of Secure Communication Properties
[constr_3690]	DdsServiceInterfaceDeployment.serviceInterfaceId value shall not conflict with topic-based service discovery
[constr_3691]	Existence of ServiceInterfaceElementSecureComConfig.securedRxVerification
[constr_3693]	EthernetCommunicationConnector.category is set to CAN_XL
[constr_3694]	Existence of canXlConfig vs. canXlConfigReqs
[constr_3709]	AliveSupervision.terminatingCheckpoint required for self terminating Processes
[constr_3710]	Process referenced by AliveSupervision.terminatingCheckpoint
[constr_3711]	AliveSupervision.terminatingCheckpointTimeoutUntilTermination
[constr_3712]	Exclusive usage of NoCheckpointSupervision
[constr_3715]	Reference in the role SomeipEventGroup.event
[constr_3721]	Upper multiplicity of reference in the role EthernetCommunicationConnector.unicastNetworkEndpoint
[constr_3722]	Upper multiplicity of reference in the role EthernetCommunicationConnector.canXlProps
[constr_3723]	Upper multiplicity of reference in the role MachineDesign.tcpIpProps
[constr_3724]	Upper multiplicity of reference in the role MachineDesign.tcpIpIcmpProps
[constr_3725]	Upper multiplicity of reference in the role MachineDesign.ethIpProps
[constr_3727]	Upper multiplicity of reference in the role SoftwareClusterDesign.intendedTargetMachine
[constr_3729]	Upper multiplicity of reference in the role LogAndTraceInstantiation.timeBaseResource
[constr_3730]	Upper multiplicity of reference in the role HealthChannel.recoveryNotification
[constr_3731]	Upper multiplicity of reference in the role ProcessDesign.executable

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Number	Heading
[constr_3732]	Upper multiplicity of reference in the role `Process.executable`
[constr_3734]	Upper multiplicity of reference in the role `DoIpNetworkConfiguration.networkConfiguration`
[constr_5000]	Supported value range for attribute `DoIpRequestConfiguration.endAddress`
[constr_5004]	Mapping of a `Process` to a `Machine` is mandatory in the Execution Manifest
[constr_5033]	Compatibility of data types with `category VALUE`
[constr_5034]	Compatibility of data types with `category BOOLEAN`
[constr_5035]	Compatibility of data types with `category STRING`
[constr_5036]	Compatibility of data types with `category ARRAY`
[constr_5037]	Compatibility of data types with `category ARRAY` with `variableSize`
[constr_5038]	Compatibility of data types with `category ARRAY` with `fixedSize`
[constr_5039]	Compatibility of data types with `category STRUCTURE`
[constr_5040]	Compatibility of `ApplicationRecordDataType` and `CppImplementationDataType` that both represent an `Optional Element Structure`
[constr_5041]	Compatibility of data types with `category ASSOCIATIVE_MAP`
[constr_5042]	No data type mapping for `CppImplementationDataType` of `category VARIANT`
[constr_5043]	Forbidden mappings to `CppImplementationDataType`
[constr_5044]	`DataTypeMap` for composite data types
[constr_5045]	Only one `SomeipServiceDiscovery` configuration per VLAN is allowed
[constr_5047]	Supported values of `TlsSecureComProps.category`
[constr_5048]	Existence of `TlsCryptoCipherSuite.certificate` and `TlsCryptoCipherSuite.pskIdentity` in the *server* role
[constr_5052]	`ProvidedSomeipServiceInstance`s of the same serviceInterface on one Machine
[constr_5056]	Restriction of sub-class of `CompositionSwComponentType.connector`
[constr_5057]	`PassThroughSwConnector` and `ServiceInterfaceMapping`
[constr_5102]	Usage of remote port ranges in `IPSecRule` is not allowed
[constr_5103]	Usage of local port ranges in `IPSecRule` is not allowed
[constr_5115]	Search for a specific SOME/IP ServiceInstance and for all SOME/IP Service Instances over the same `RPortPrototype`
[constr_5155]	`SomeipServiceInstanceToMachineMapping` only supports a single Address Family
[constr_5156]	`SomeipEventDeployment.transportProtocol` setting to `udp` and the impact on `ProvidedSomeipServiceInstance`s
[constr_5161]	`RequiredSomeipServiceInstance` that is mapped by a `SomeipServiceInstanceToMachineMapping` without a configured `tcpPort` and `udpPort`
[constr_5227]	Mandatory elements of `UdpNmCluster`
[constr_5228]	Partial Networking timing constraint

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Number	Heading
[constr_5230]	Attribute E2EProfileCompatibilityProps.transitToInvalidExtended shall exist for each E2EProfileConfiguration
[constr_5241]	Restriction applicable for AbstractCryptoKeySlotToPortPrototypeMapping.portPrototype
[constr_5250]	Protection of AdaptivePlatformServiceInstances of the same ServiceInterfaceDeployment
[constr_5260]	UDP endpoint using DTLS CLIENT role can only serve required service instances
[constr_5261]	TCP endpoint using TLS CLIENT role can only serve required service instances
[constr_5275]	Existence of LogAndTraceInstantiation.dltEcu
[constr_5276]	Existence of LogAndTraceInstantiation.logSink
[constr_5277]	Applicable values of DltLogSink.category vs. DltLogSink attributes
[constr_5278]	DltLogSink with category DLT_LOGSINK_REMOTE is only allowed to be referenced by DltLogSinkToPortPrototypeMapping
[constr_5279]	DltLogSink with category DLT_LOGSINK_DLT is only allowed to be referenced by LogAndTraceInstantiation
[constr_5281]	Existence of DltLogSink.defaultTraceState
[constr_5282]	Existence of DltLogSinkToPortPrototypeMapping.process
[constr_5283]	Existence of DltLogSinkToPortPrototypeMapping.dltLogSink
[constr_5284]	Existence of DltLogSinkToPortPrototypeMapping.dltContext
[constr_5285]	Existence of PortPrototype references in DltLogSinkToPortPrototypeMapping
[constr_5286]	Restriction applicable for DltLogSinkToPortPrototypeMapping.rPortPrototype
[constr_5287]	Restriction applicable for DltLogSinkToPortPrototypeMapping.pPortPrototype
[constr_5288]	Existence of process reference in DltApplicationToProcessMapping
[constr_5289]	Existence of dltApplication reference in DltApplicationToProcessMapping
[constr_5290]	PPortPrototype is not allowed to be typed by LogAndTraceInterface
[constr_5291]	Allowed usage of LTMessageCollectionToPortPrototypeMapping.rPortPrototype
[constr_5292]	Assigned dltSessionId shall be consistent for the same PortPrototype
[constr_5316]	Allowed ServiceEventDeployment.trigger references
[constr_5317]	ServiceEventDeployment not allowed to reference an event and a trigger at the same time
[constr_5324]	MachineDesign.communicationController aggregation restriction
[constr_5332]	Mandatory multicast endpoint in case of multicastThreshold different from 0
[constr_5333]	No multicast in case of TCP
[constr_5338]	ProvidedSomeipServiceInstance shall offer all SomeipEventGroups for subscription

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Number	Heading
[constr_5339]	SomeipEventGroups of a SomeipServiceInterfaceDeployment shall be referenced at most once from a RequiredSomeipServiceInstance that instantiates the SomeipServiceInterfaceDeployment
[constr_5343]	Usage of DoIpNetworkConfiguration.eidRetrieval
[constr_5347]	Supported value range for attribute SecOcSecureComProps.authenticationVerifyAttempts
[constr_5348]	Mandatory initialMode in ModeDeclarationGroup that is referenced by StateDependentFirewall
[constr_5349]	Mandatory defaultAction in StateDependentFirewall
[constr_5350]	Mandatory action in FirewallRuleProps
[constr_5351]	FirewallRule is allowed to aggregate at most one protocol subelement
[constr_5352]	DdsRule.submessageType value restriction
[constr_5353]	DdsRule.readerEntityId and DdsRule.writerEntityId value restriction
[constr_5358]	AdaptiveFirewallToPortPrototypeMapping.rPortPrototype restriction
[constr_5368]	Multiplicity of the reference in the role ComTriggerGrant.serviceDeployment
[constr_5372]	SecureComProps for a PlatformModuleEthernetEndpointConfiguration that contains a UDP configuration
[constr_5373]	SecureComProps for a PlatformModuleEthernetEndpointConfiguration that contains a TCP configuration
[constr_5381]	Modeling of Security Event reports by FunctionalCluster shall not be done via ProcessToMachineMapping
[constr_5386]	Existence of Executable.traceSwitchConfiguration
[constr_5387]	Existence of reference Executable.traceSwitchConfiguration.traceMessage
[constr_5388]	Existence of attribute Executable.traceSwitchConfiguration.traceSwitch
[constr_5392]	Assignment of the same event to several SomeipEventGroups is forbidden in case one of the SomeipEventGroups has the multicastThreshold set to a value greater than 0
[constr_6815]	Existence of CppTemplateArgument.templateType for CppImplementationDataType of category STRING
[constr_6905]	CppTemplateArgument.allocator

Table B.8: Changed Constraints in R24-11

B.3.3 Deleted Constraints in R24-11

Number	Heading
[constr_10022]	
[constr_10062]	
[constr_10150]	

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Number	Heading
[constr_10153]	
[constr_10187]	
[constr_10190]	
[constr_10241]	
[constr_1690]	
[constr_1728]	
[constr_3532]	
[constr_3614]	
[constr_3719]	

Table B.9: Deleted Constraints in R24-11