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2016-11-30	4.3.0	AUTOSAR Release Management	• Removed Type BusTrcvErrorType because it is not used at all • Updated PduInfoType for addressing in Upper Layers using MetaData • Update of SWS document as per BSW General document

Document Change History

Date	Release	Changed by	Change Description
2015-07-31	4.2.2	AUTOSAR Release Management	• Editorial Changes
2014-10-31	4.2.1	AUTOSAR Release Management	• MetaData information is added in PduInfoType
2014-03-31	4.1.3	AUTOSAR Release Management	• Added support for Pretended network data type
2013-10-31	4.1.2	AUTOSAR Release Management	• Removed the published information • Editorial changes • Removed chapter(s) on change documentation
2013-03-15	4.1.1	AUTOSAR Administration	• Added support for Partial network data type • Revised Notification type and RetryInfo type • Additional input (SWS_BSW_General) added for SWS_CommunicationStackTypes
2011-12-22	4.0.3	AUTOSAR Administration	• ComStack Artifacts have been generated from BSW Model • Update of SWS document for new traceability mechanism
2010-09-30	3.1.5	AUTOSAR Administration	• Add TPParameterType and Enumeration value TP_NORETRY in RetryInfoType • ComStack_Types.h divided into ComStack_Types.h and ComStack_Cfg.h • PduIdType and PduLengthType defined in ComStack_Cfg.h file

Document Change History

Date	Release	Changed by	Change Description
2010-02-02	3.1.4	AUTOSAR Administration	• Typo errors are corrected throughout the document • General return codes for NotifResultType has been added to support Tp_ChangeParameterRequest • TpDataStateType and RetryInfoType has been added to store the Tp buffer status information • Common Published information has been updated • Legal disclaimer revised
2008-08-13	3.1.1	AUTOSAR Administration	• Legal disclaimer revised
2007-07-24	2.1.16	AUTOSAR Administration	• Chapter numbers in chapter 8.1 corrected • New data type NetworkHandleType created according item Comtype026 established • Syntax correction in PduInfoType • Document meta information extended • Small layout adaptations made
2007-01-24	2.1.15	AUTOSAR Administration	• “Advice for users” revised • “Revision Information” added • Changed “sender” to “receiver” at NTFRSLT_E_WFT_OVRN
2006-11-28	2.1.2	AUTOSAR Administration	• NTFRSLT_E_TIMEOUT_Bs changed NTFRSLT_E_TIMEOUT_BS • NTFRSLT_E_TIMEOUT_Cr changed to NTFRSLT_E_TIMEOUT_CR • Definitions according to compiler abstraction added • Legal disclaimer revised

Document Change History

Date	Release	Changed by	Change Description
2006-11-28	2.1.1	AUTOSAR Administration	• Initial release (The V1.0.0 was only as Pre-Release available within Release 1.0)

Disclaimer

Table of Contents

1 Introduction and functional overview

This document specifies the AUTOSAR communication stack type header file. It contains all types that are used across several modules of the communication stack of the basic software and all types of all basic software modules that are platform and compiler independent.
It is strongly recommended that those communication stack type files are unique within the AUTOSAR community to guarantee unique types and to avoid type changes when changing from supplier A to B.

2 Acronyms and abbreviations

Acronyms and abbreviations that have a local scope are not contained in the AUTOSAR glossary. These must appear in a local glossary.

Acronym:	Description:
API	Application Programming Interface
DCM	Diagnostic Communication Manager
I-PDU	Interaction Layer PDU. In AUTOSAR the Interaction Layer is equivalent to the Communication Services Layer.
L-PDU	Data Link Layer PDU. In AUTOSAR the Data Link Layer is equivalent to the Communication Hardware Abstraction and Microcontroller Abstraction Layer.
N-PDU	Network Layer PDU. In AUTOSAR the Network Layer is equivalent to the Transport Protocol.
OSEK/VDX	In May 1993 OSEK has been founded as a joint project in the German automotive industry aiming at an industry standard for an open-ended architecture for distributed control units in vehicles. OSEK is an abbreviation for the German term "Offene Systeme und deren Schnittstellen für die Elektronik im Kraftfahrzeug" (English: Open Systems and the Corresponding Interfaces for Automotive Electronics). Initial project partners were BMW, Bosch, DaimlerChrysler, Opel, Siemens, VW and the IIIT of the University of Karlsruhe as co-ordinator. The French car manufacturers PSA and Renault joined OSEK in 1994 introducing their VDX-approach (Vehicle Distributed eXecutive) which is a similar project within the French automotive industry. At the first workshop on October 1995 the OSEK/VDX group presented the results of the harmonised specification between OSEK and VDX. After the 2nd international OSEK/VDX Workshop in October 1997 the 2nd versions of the specifications were published.
PDU	Protocol Data Unit
SDU	Service Data Unit - Payload of PDU
TP	Transport Protocol

Abbreviation:	Description:
Com	Communication
EcuC	ECU Configuration
e.g.	[lat.] exempli gratia = [eng.] for example
i.e.	[lat.] it est = [eng.] that is

3 Related documentation

3.1 Input documents

[1] [GeneralSRS] General Requirements on Basic Software Modules
AUTOSAR_SRS_BSWGeneral.pdf

[2] [SRSSPAL] General Requirements on
SPAL AUTOSAR_SRS_SPALGeneral.pdf

[3] [StdTypes] Specification of Standard Types
AUTOSAR_SWS_Std_Types.pdf

[4] [PltfTypes] Specification of Platform Types
AUTOSAR_SWS_Platform_Types.pdf

[5] [CANTP] Specification of CAN Transport Layer
AUTOSAR_SWS_CANTransportLayer.pdf

[6] [FlexRayTP] Specification of FlexRay Transport Layer
AUTOSAR_SWS_FlexRayTransportLayer.pdf

[7] [CANTRCV] Specification of CAN Transceiver Driver
AUTOSAR_SWS_CANTransceiverDriver.pdf

[8] [FRTRCV] Specification of FlexRay Transceiver Driver
AUTOSAR_SWS_FlexRayTransceiverDriver.pdf

[9] [BSMDT]Basic Software Module Description Template,
AUTOSAR_TPS_BSWModuleDescriptionTemplate.pdf

[10] [BSWModule]List of Basic Software Modules
AUTOSAR_TR_BSWModuleList

[11] [BSWGeneral]General Specification of Basic Software Modules
AUTOSAR_SWS_BSWGeneral.pdf

3.2 Related standards and norms

[CProgLang] ISO/IEC 9899:1990 Programming Language – C
[ISONM] ISO/IEC 15765-2; 2003 Diagnostics on Controller Area Networks (CAN) – Network layer services

3.3 Related specification

AUTOSAR provides a General Specification on Basic Software modules (→ chapter 3.1) (SWS BSW General), which is also valid for Communication Stack Types.

Thus, the specification SWS BSW General shall be considered as additional and required specification for Communication Stack Types.

4 Constraints and assumptions

4.1 Limitations

No limitations.

4.2 Applicability to car domains

No limitations.

4.3 Applicability to safety related environments

No restrictions, because the subject of this specification is a header file specifying types. It does not include or implement any functionality.

5 Software Architecture

5.1 Dependencies to other modules

The communication stack type header file defines communication types based on the platform types [PltfTypes] (Platform_Types.h) header file. To prevent multiple includes of header files, the communication stack header file includes the standard types header file [StdTypes] which already includes both other files.

6 Requirements traceability

Requirement	Description	Satisfied by
SRS_Com_02043	AUTOSAR COM and LargeDataCOM shall provide a receive indication function	SWS_Comtype_00004, SWS_Comtype_00006, SWS_Comtype_00007, SWS_Comtype_00010, SWS_Comtype_00014, SWS_Comtype_00015, SWS_Comtype_00017, SWS_Comtype_00030
SRS_Com_02045	AUTOSAR COM and LargeDataCOM shall provide a function to request the transmit buffer data for lower layer triggered transmission	SWS_Comtype_00004, SWS_Comtype_00006, SWS_Comtype_00007, SWS_Comtype_00010, SWS_Comtype_00014, SWS_Comtype_00015, SWS_Comtype_00017, SWS_Comtype_00030
SRS_Com_02095	AUTOSAR COM and LargeDataCOM shall use the TP to fragment and reassemble large signals	SWS_Comtype_00004, SWS_Comtype_00006, SWS_Comtype_00007, SWS_Comtype_00010, SWS_Comtype_00014, SWS_Comtype_00015, SWS_Comtype_00017, SWS_Comtype_00030
SRS_Com_02114	AUTOSAR COM and LargeDataCOM shall support independent development of CP Software Clusters	SWS_COMTYPE_91001

7 Functional specification

7.1 General issues

[SWS_Comtype_00004] ⌈It is not allowed to add any project or supplier specific extension to this file. Any extension invalidates the AUTOSAR conformity. ⌋ (SRS_Com_02043, SRS_Com_02045, SRS_Com_02095)

[SWS_Comtype_00015] ⌈Because many of the communication stack type are depending on the appropriate ECU, this file shall be generated dependent on the specific ECU configuration for each ECU independently. ⌋ (SRS_Com_02043, SRS_Com_02045, SRS_Com_02095)

[SWS_Comtype_00030] ⌈The value of PduIdType and PduLengthType shall be derived from the 'PduIdTypeEnum' and 'PduLengthTypeEnum' of the EcuCPduCollection container respectively. ⌋ (SRS_Com_02043, SRS_Com_02045, SRS_Com_02095)

7.2 Error classification

7.2.1 Development Errors

There are no development errors.

7.2.2 Runtime Errors

There are no runtime errors.

7.2.3 Transient Faults

There are no transient faults.

7.2.4 Production Errors

There are no production errors.

7.2.5 Extended Production Errors

There are no extended production errors.

8 API specification

8.1 Type definitions

8.1.1 PduIdType

[SWS_COMTYPE_00005]⌈

Name	PduIdType		
Kind	Type		
Derived from	***Basetype***	***Variation***	
	uint16	The size of this global type depends on the maximum number of PDUs used within one software module.	
	uint8	The size of this global type depends on the maximum number of PDUs used within one software module.	
Range	0...<PduIdmax>	--	Zero-based integer number The size of this global type depends on the maximum number of PDUs used within one software module. This parameter shall be generated by the generator tool depending on the value configured in EcuC virtual layer. This parameter shall be generated in ComStack_Cfg.h file Example : If **no** software module deals with more PDUs that 256, this type can be set to uint8. If at least one software module handles more than 256 PDUs, this type must globally be set to uint16.
Description	This type is used within the entire AUTOSAR Com Stack except for bus drivers.		
Available via	ComStack_Types.h		

⌋()

[SWS_Comtype_00006]⌈ Variables of this type serve as a unique identifier of a PDU within a software module or a set thereof, and also for interaction of two software modules where the PduId of the corresponding target module is being used for referencing.

⌋(SRS_Com_02043, SRS_Com_02045, SRS_Com_02095)

[SWS_Comtype_00007]⌈ In order to be able to perform table-indexing within a software module, variables of this type shall be zero-based and consecutive.
There might be several ranges of PduIds in a module, one for each type of operation performed within that module (e.g. sending and receiving).

⌋(SRS_Com_02043, SRS_Com_02045, SRS_Com_02095)

[SWS_Comtype_00014]⌈ PduIdmax, the maximum number of a PduId range, is the number -1 of PDUs dealt with in the corresponding type of operation within that module.

⌋(SRS_Com_02043, SRS_Com_02045, SRS_Com_02095)

8.1.2 PduLengthType

[SWS_COMTYPE_00008]⌈

Name	PduLengthType		
Kind	Type		
Derived from	***Basetype***	***Variation***	
	uint16	The size of this global type depends on the maximum length of PDUs to be sent by an ECU.	
	uint32	The size of this global type depends on the maximum length of PDUs to be sent by an ECU.	
	uint8	The size of this global type depends on the maximum length of PDUs to be sent by an ECU.	
Range	0...<Pdu Lengthmax>	--	Zero-based integer number The size of this global type depends on the maximum length of PDUs to be sent by an ECU. This parameter shall be generated by the generator tool depending on the value configured in EcuC virtual layer. This parameter shall be generated in ComStack_Cfg.h file Example : If no segmentation is used the length depends on the maximum payload size of a frame of the underlying communication system (for FlexRay maximum size is 255, therefore uint8). If segmentation is used it depends on the maximum length of a segmented N-PDU (in general uint16 is used)
Description	This type shall be used within the entire AUTOSAR Com Stack of an ECU except for bus drivers.		
Available via	ComStack_Types.h		

⌋()

[SWS_Comtype_00010]⌈ Variables of this type serve as length information of a PDU. The length information is provided in number of bytes.

⌋(SRS_Com_02043, SRS_Com_02045, SRS_Com_02095)

[SWS_Comtype_00017]⌈ PduLengthmax, the maximum length of a Pdu, is the length of the largest (possibly segmented) PDU to be sent by the ECU.

⌋(SRS_Com_02043, SRS_Com_02045, SRS_Com_02095)

8.1.3 PduInfoType

[SWS_COMTYPE_00011]⌈

Name	PduInfoType	
Kind	Structure	
Elements	SduDataPtr	
	Type	uint8*
	Comment	Pointer to the SDU (i.e. payload data) of the PDU. The type of this pointer depends on the memory model being used at compile time.
	MetaDataPtr	
	Type	uint8*
	Comment	Pointer to the meta data (e.g. CAN ID, socket ID, diagnostic addresses) of the PDU, consisting of a sequence of meta data items. The length and type of the meta data items is statically configured for each PDU. Meta data items with more than 8 bits use platform byte order.
	SduLength	
	Type	PduLengthType
	Comment	Length of the SDU in bytes.
Description	Variables of this type shall be used to store the basic information about a PDU of any type, namely a pointer variable pointing to its SDU (payload), a pointer to Meta Data of the PDU, and the corresponding length of the SDU in bytes.	
Available via	ComStack_Types.h	

⌋()

8.1.4 PNCHandleType

[SWS_COMTYPE_00036]⌈

Name	PNCHandleType
Kind	Type
Derived from	uint8
Description	Used to store the identifier of a partial network cluster.
Available via	ComStack_Types.h

⌋()

8.1.5 TPParameterType

[SWS_COMTYPE_00031]⌈

Name	TPParameterType		
Kind	Enumeration		
Range	TP_STMIN	0x00	Separation Time
	TP_BS	0x01	Block Size
	TP_BC	0x02	The Band width control parameter used in FlexRay transport protocol module.
Description	Specify the parameter to which the value has to be changed (BS or STmin).		
Available via	ComStack_Types.h		

⌋()

8.1.6 BufReq_ReturnType

[SWS_COMTYPE_00012]⌈

Name	BufReq_ReturnType		
Kind	Enumeration		
Range	BUFREQ_OK	0x00	Buffer request accomplished successful. This status shall have the value 0.
	BUFREQ_E_NOT_OK	0x01	Buffer request not successful. Buffer cannot be accessed. This status shall have the value 1.
	BUFREQ_E_BUSY	0x02	Temporarily no buffer available. It's up the requester to retry request for a certain time. This status shall have the value 2.
	BUFREQ_E_OVFL	0x03	No Buffer of the required length can be provided. This status shall have the value 3.
Description	Variables of this type shall be used to store the result of a buffer request.		
Available via	ComStack_Types.h		

⌋()

8.1.7 TpDataStateType

[SWS_COMTYPE_00027]⌈

Name	TpDataStateType		
Kind	Enumeration		
Range	TP_DATACONF	0x00	TP_DATACONF indicates that all data, that have been copied so far, are confirmed and can be removed from the TP buffer. Data copied by this API call are excluded and will be confirmed later.
	TP_ DATARETRY	0x01	TP_DATARETRY indicates that this API call shall copyalready copied data in order to recover from an error. In this case TxTpDataCnt specifies the offset of the first byte to be copied by the API call.
	TP_ CONFPENDING	0x02	TP_CONFPENDING indicates that the previously copied data must remain in the TP.
Description	Variables of this type shall be used to store the state of TP buffer.		
Available via	ComStack_Types.h		

]()

8.1.8 RetryInfoType

[SWS_COMTYPE_00037]⌈

Name	RetryInfoType	
Kind	Structure	
Elements	TpDataState	
	Type	TpDataStateType
	Comment	The enum type to be used to store the state of Tp buffer.
	TxTpDataCnt	
	Type	PduLengthType
	Comment	Offset from the current position which identifies the number of bytes to be retransmitted.
Description	Variables of this type shall be used to store the information about Tp buffer handling.	
Available via	ComStack_Types.h	

]()

8.1.9 NetworkHandleType

[SWS_COMTYPE_00038]⌈

Name	NetworkHandleType		
Kind	Type		
Derived from	uint8		
Range	0..255	--	Zero-based integer number
Description	Variables of the type NetworkHandleType shall be used to store the identifier of a communication channel.		
Variation	--		
Available via	ComStack_Types.h		

](

8.1.10 CbkHandleIdType

[SWS_COMTYPE_91001]{DRAFT} [

Name	CbkHandleIdType (draft)
Kind	Type
Derived from	uint16
Description	Used for the handle Ids of Com and LdCom user callbacks. **Tags:** atp.Status=draft
Available via	ComStack_Types.h

](SRS_Com_02114)

8.2 Function definitions

Not applicable.

9 Sequence diagrams

Not applicable.

10 Configuration specification

10.1 Published parameters

For details refer to the chapter 10.3 “Published Information” in “SWS_BSWGeneral” [12].

11 Not applicable requirements

[SWS_COMTYPE_00042]⌈ These requirements are not applicable to this specification.⌋(SRS_BSW_00344, SRS_BSW_00404, SRS_BSW_00405, SRS_BSW_00345, SRS_BSW_00159, SRS_BSW_00167, SRS_BSW_00171, SRS_BSW_00380, SRS_BSW_00383, SRS_BSW_00388, SRS_BSW_00389, SRS_BSW_00390, SRS_BSW_00392, SRS_BSW_00393, SRS_BSW_00394, SRS_BSW_00395, SRS_BSW_00396, SRS_BSW_00397, SRS_BSW_00398, SRS_BSW_00399, SRS_BSW_00400, SRS_BSW_00342, SRS_BSW_00343, SRS_BSW_00160, SRS_BSW_00408, SRS_BSW_00346, SRS_BSW_00401, SRS_BSW_00168, SRS_BSW_00423, SRS_BSW_00101, SRS_BSW_00406, SRS_BSW_00416, SRS_BSW_00424, SRS_BSW_00425, SRS_BSW_00426, SRS_BSW_00427, SRS_BSW_00428, SRS_BSW_00429, SRS_BSW_00161, SRS_BSW_00162, SRS_BSW_00005, SRS_BSW_00164, SRS_BSW_00325, SRS_BSW_00413, SRS_BSW_00347, SRS_BSW_00314, SRS_BSW_00410, SRS_BSW_00361, SRS_BSW_00172, SRS_BSW_00323, SRS_BSW_00415, SRS_BSW_00007, SRS_BSW_00300, SRS_BSW_00307, SRS_BSW_00310, SRS_BSW_00373, SRS_BSW_00335, SRS_BSW_00411, SRS_BSW_00348, SRS_BSW_00353, SRS_BSW_00301, SRS_BSW_00302, SRS_BSW_00328, SRS_BSW_00312, SRS_BSW_00006, SRS_BSW_00357, SRS_BSW_00377, SRS_BSW_00304, SRS_BSW_00378, SRS_BSW_00306, SRS_BSW_00308, SRS_BSW_00309, SRS_BSW_00358, SRS_BSW_00407, SRS_BSW_00432, SRS_BSW_00433, SRS_BSW_00414, SRS_BSW_00359, SRS_BSW_00360, SRS_BSW_00330, SRS_BSW_00331, SRS_BSW_00009, SRS_BSW_00010, SRS_BSW_00333, SRS_BSW_00374, SRS_BSW_00379, SRS_BSW_00321, SRS_BSW_00341, SRS_BSW_00334, SRS_BSW_00336, SRS_BSW_00337, SRS_BSW_00369, SRS_BSW_00339, SRS_BSW_00422, SRS_BSW_00417, SRS_BSW_00409, SRS_BSW_00385, SRS_BSW_00386, SRS_BSW_00327, SRS_BSW_00350, SRS_BSW_00447, SRS_BSW_00456, SRS_BSW_00493, SRS_BSW_00488, SRS_BSW_00489, SRS_BSW_00490, SRS_BSW_00491, SRS_BSW_00492, SRS_BSW_00464, SRS_BSW_00465, SRS_BSW_00003, SRS_BSW_00004, SRS_BSW_00305, SRS_BSW_00318, SRS_BSW_00351, SRS_BSW_00384, SRS_BSW_00402, SRS_BSW_00403, SRS_BSW_00419, SRS_BSW_00437, SRS_BSW_00438, SRS_BSW_00439, SRS_BSW_00440, SRS_BSW_00441, SRS_BSW_00448, SRS_BSW_00449, SRS_BSW_00450, SRS_BSW_00451, SRS_BSW_00452, SRS_BSW_00453, SRS_BSW_00454, SRS_BSW_00457, SRS_BSW_00458, SRS_BSW_00459, SRS_BSW_00460, SRS_BSW_00461, SRS_BSW_00462, SRS_BSW_00463, SRS_BSW_00466, SRS_BSW_00467, SRS_BSW_00469, SRS_BSW_00470, SRS_BSW_00471, SRS_BSW_00472, SRS_BSW_00473, SRS_BSW_00477, SRS_BSW_00478, SRS_BSW_00479, SRS_BSW_00480, SRS_BSW_00481, SRS_BSW_00482, SRS_BSW_00483, SRS_BSW_00484, SRS_BSW_00485, SRS_BSW_00486, SRS_BSW_00487, SRS_BSW_00494, , SWS_BSW_00001, SWS_BSW_00002, SWS_BSW_00003, SWS_BSW_00004, SWS_BSW_00005, SWS_BSW_00006, SWS_BSW_00007, SWS_BSW_00008, SWS_BSW_00009, SWS_BSW_00010, SWS_BSW_00013, SWS_BSW_00014, SWS_BSW_00015, SWS_BSW_00016,

SWS_BSW_00017, SWS_BSW_00018, SWS_BSW_00019, SWS_BSW_00020, SWS_BSW_00021, SWS_BSW_00023, SWS_BSW_00024, SWS_BSW_00025, SWS_BSW_00029, SWS_BSW_00036, SWS_BSW_00037, SWS_BSW_00038, SWS_BSW_00039, SWS_BSW_00040, SWS_BSW_00041, SWS_BSW_00042, SWS_BSW_00043, SWS_BSW_00045, SWS_BSW_00046, SWS_BSW_00048, SWS_BSW_00049, SWS_BSW_00050, SWS_BSW_00051, SWS_BSW_00052, SWS_BSW_00054, SWS_BSW_00056, SWS_BSW_00057, SWS_BSW_00059, SWS_BSW_00060, SWS_BSW_00061, SWS_BSW_00063, SWS_BSW_00064, SWS_BSW_00065, SWS_BSW_00066, SWS_BSW_00068, SWS_BSW_00069, SWS_BSW_00071, SWS_BSW_00072, SWS_BSW_00073, SWS_BSW_00101, SWS_BSW_00102, SWS_BSW_00103, SWS_BSW_00104, SWS_BSW_00105, SWS_BSW_00110, SWS_BSW_00115, SWS_BSW_00116, SWS_BSW_00117, SWS_BSW_00119, SWS_BSW_00120, SWS_BSW_00121, SWS_BSW_00123, SWS_BSW_00124, SWS_BSW_00125, SWS_BSW_00126, SWS_BSW_00127, SWS_BSW_00129, SWS_BSW_00130, SWS_BSW_00131, SWS_BSW_00132, SWS_BSW_00133, SWS_BSW_00134, SWS_BSW_00135, SWS_BSW_00136, SWS_BSW_00137, SWS_BSW_00138, SWS_BSW_00142, SWS_BSW_00143, SWS_BSW_00144, SWS_BSW_00146, SWS_BSW_00147, SWS_BSW_00150, SWS_BSW_00152, SWS_BSW_00153, SWS_BSW_00154, SWS_BSW_00156, SWS_BSW_00157, SWS_BSW_00158, SWS_BSW_00160, SWS_BSW_00161, SWS_BSW_00162, SWS_BSW_00164, SWS_BSW_00167, SWS_BSW_00170, SWS_BSW_00171, SWS_BSW_00172, SWS_BSW_00173, SWS_BSW_00178, SWS_BSW_00179, SWS_BSW_00180, SWS_BSW_00181, SWS_BSW_00182, SWS_BSW_00183, SWS_BSW_00184, SWS_BSW_00186, SWS_BSW_00187, SWS_BSW_00188, SWS_BSW_00190, SWS_BSW_00191, SWS_BSW_00192, SWS_BSW_00200, SWS_BSW_00201, SWS_BSW_00202, SWS_BSW_00203, SWS_BSW_00204, SWS_BSW_00205, SWS_BSW_00206, SWS_BSW_00207, SWS_BSW_00208, SWS_BSW_00209, SWS_BSW_00210, SWS_BSW_00212, SWS_BSW_00218, SWS_BSW_00219, SWS_BSW_00222, SWS_BSW_00223, SWS_BSW_00224, SWS_BSW_00225, SWS_BSW_00226, SWS_BSW_00227, SWS_BSW_00228, SWS_BSW_00230, SWS_BSW_00231, SWS_BSW_00232, SWS_BSW_00233, SWS_BSW_00234, SWS_BSW_00235, SWS_BSW_00236, SWS_BSW_00237, SWS_BSW_00238, SWS_BSW_00239, SWS_BSW_00240, SWS_BSW_00241, SWS_BSW_00242, SWS_BSW_00243, SWS_BSW_00244, SWS_BSW_00249, SWS_BSW_00250, SWS_BSW_00251, SWS_BSW_00252, SWS_BSW_00253, SWS_BSW_00254, SRS_Com_00177, SRS_Com_00192, SRS_Com_00218, SRS_Com_02030, SRS_Com_02037, SRS_Com_02040, SRS_Com_02041, SRS_Com_02042, SRS_Com_02044, SRS_Com_02046, SRS_Com_02058, SRS_Com_02067, SRS_Com_02077, SRS_Com_02078, SRS_Com_02079, SRS_Com_02080, SRS_Com_02082, SRS_Com_02083, SRS_Com_02084, SRS_Com_02086, SRS_Com_02087, SRS_Com_02088, SRS_Com_02089, SRS_Com_02090, SRS_Com_02091, SRS_Com_02092, SRS_Com_02093, SRS_Com_02094, SRS_Com_02096, SRS_Com_02097, SRS_Com_02098, SRS_Com_02107, SRS_Com_02108, SRS_Com_02109, SRS_Com_02110, SRS_Com_02111, SRS_Com_02112, SRS_Com_02113, SRS_Com_02114)