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1 Introduction

1.1 Scope of this Document

This document provides an overview of the complement of AUTOSAR documents comprising the Acceptance Tests Release 1.1 in its latest Revision 0.

1.2 Content of Chapters

This document is structured as follows:

- Chapter 2 provides a list of documentation references.
- Chapter 3 provides a summary of changes that were implemented since the preceding Release.
- Chapter 4 contains the overview of specifications comprising the Release 1.1 in its latest Revision 0.
- Chapter 5 contains remarks about known technical deficiencies.
- Chapter 6 contains the detailed revision history.
- Chapter 7.1 provides a set of definitions aimed to increase the understanding of the content of this document and the Acceptance Tests Release 1.1.

2 Related Documentation

- [1] Glossary
http://www.autosar.org/fileadmin/files/releases/4-2/main/auxiliary/AUTOSAR_TR_Glossary.pdf

3 Summary of changes

The Acceptance Tests for Classic Platform Release 1.1 is the second release of acceptance tests by the AUTOSAR partnership. The following changes and extensions have been made:

- Test cases have been synchronized with Classic Platform R4.2.1
- Additional test cases in the following areas:
 - Communication Management
 - Communication Via Bus
 - RTE
 - Communication Can
 - Communication Lin
 - Communication Flexray
- Introduction of new test suites for Ethernet (IPv4, UDP, TCP)

3.1.1 Specifications

The following specifications change their life cycle status with this release.

3.1.1.1 New Specifications

The following specifications have been added to this release:

- Acceptance Test Specification of IPv4 (UID 685, ATS, aux)
- Acceptance Test Specification of TCP (UID 684, ATS, aux)
- Acceptance Test Specification of UDP (UID 683, ATS, aux)
- Specification of Testability Protocol and Service Primitives (UID 778, PRS, aux)

3.1.1.2 Obsolete Specifications

No specifications have been set to obsolete in this release.

3.1.1.3 Canceled

No specifications have been canceled in this release.

3.1.2 Concepts

No concepts have been incorporated in this release.

3.1.3 Release Documentation

The following change to the infrastructure has been introduced in this release:

- The following document has been added to this release:
 - AUTOSAR Specification Hashes (UID 759, TR, inf):
The integrity of all released AUTOSAR specifications can be checked via this list.

Due to the new approach the released specifications are not protected against modifications via PDF attributes anymore. Instead the integrity of each specification can be checked by its original hash value provided in this list.

4 Specification overview

As of the latest Revision 0, the following specifications are part of the Acceptance Tests for Classic Platform Release 1.1.

Long Name	Classification	File Name	Life cycle changes
Cluster: Release Documentation			
Acceptance Tests Release Overview and Revision History	inf	AUTOSAR_TR_AcceptanceTestsReleaseOverview	
AUTOSAR Specification Hashes	inf	AUTOSAR_TR_SpecificationHashes	New in R1.1.0
Cluster: Specifications			
Acceptance Test Specification of Communication Management	aux	AUTOSAR_ATS_CommunicationManagement	
Acceptance Test Specification of Communication on CAN bus	aux	AUTOSAR_ATS_CommunicationCan	
Acceptance Test Specification of communication on FlexRay bus	aux	AUTOSAR_ATS_CommunicationFlexRay	
Acceptance Test Specification of communication on LIN bus	aux	AUTOSAR_ATS_CommunicationLin	
Acceptance Test Specification of communication via bus	aux	AUTOSAR_ATS_CommunicationViaBus	
Acceptance Test Specification of diagnostic services	aux	AUTOSAR_ATS_DiagnosticServices	
Acceptance Test Specification of ECU Mode Management	aux	AUTOSAR_ATS_EcuModeManagement	
Acceptance Test Specification of IPv4	aux	AUTOSAR_ATS_IPv4	New in R1.1.0
Acceptance Test Specification of Memory Stack	aux	AUTOSAR_ATS_MemoryStack	
Acceptance Test Specification of RTE	aux	AUTOSAR_ATS_RTE	
Acceptance Test Specification of TCP	aux	AUTOSAR_ATS_TCP	New in R1.1.0
Acceptance Test Specification of UDP	aux	AUTOSAR_ATS_UDP	New in R1.1.0
Specification of Testability Protocol and Service Primitives	aux	AUTOSAR_PRS_TestabilityProtocolAndServicePrimitives	New in R1.1.0
Cluster: General			
Acceptance Tests Main Requirements	aux	AUTOSAR_ATR_Main	
Applicability of test cases to software releases	aux	AUTOSAR_TR_ATSReleaseApplicability	
Feature Specification of the Acceptance Tests	aux	AUTOSAR_ATR_Features	
Overview of Acceptance Tests	aux	AUTOSAR_EXP_AcceptanceTestsOverview	
Requirements on Acceptance Tests	aux	AUTOSAR_ATR_Requirements	

4.1 Applicability to AUTOSAR Releases

The tests specification released as of the latest Revision 0 of the AUTOSAR Acceptance Tests Release 1.1 are applicable to the software specification of the AUTOSAR Release 4.2, Revision 1.

Earlier releases of the AUTOSAR software specification are supported in the following ways:

- When test cases are known to be applicable to earlier releases Release 4.1 Revision 1, Release 4.0 Revision 3, or Release 3.2 Revision 2, this is mentioned in the “AUTOSAR Releases” field of the test case specifications. The applicability of all test cases to the AUTOSAR software specification releases is summarized in the document AUTOSAR_TR_ATSReleaseApplicability.
- When test cases are known to require adaptations (in their configuration requirements or test sequences), this is mentioned in the “Needed Adaptation to other Releases” field of the test case specifications.

5 Remarks to Known Technical Deficiencies

The technical deficiencies per specification are – if applicable – mentioned inside the respective specification in a chapter called “Known Limitations” which is located after the table of contents.

There are the following technical deficiencies to be mentioned which are not related to a specific specification:

- **Requirements traceability**

Traceability from the AUTOSAR test specifications to the AUTOSAR software specifications, at feature, requirement or test case / SWS level is not complete.

- **Requirements on configuration**

The scope of the standard acceptance tests is to test an ICC1 stack. The configuration of the stack is needed to test the standard behaviors. Configuration therefore has to be expressed with upstream template parameters. It is however not always possible or useful for:

- diagnostic test cases
- RTE test cases

In such case, ECU configuration parameters have been used.

6 Revision History of the Release 1.1

The Acceptance Tests for Classic Platform Release 1.1 specification has been released the first time on the 30st of October 2015. The release comprises the following deliverables.

Name	Specification history entry
Acceptance Test Specification of Communication Management	- Checked and adapted to Classic Platform Release 4.2.1 - Formalized point of control and observation - Added 62 test cases - Formal Changes
Acceptance Test Specification of Communication on CAN bus	- Changes done on Bus-off test suite ATS_COMCAN_00269, step 11 - When "CANSM_BOR_TX_CONFIRMATION_POLLING" is disabled, then wait time "CanSMBorTimeTxEnsured" should be considered. - - Checked and adapted to Classic Platform Release 4.2.1 - ATS_COMCAN_00210 (SWS_Com_00305, SWS_Com_00767) - ATS_COMCAN_00211 (SWS_Com_00742, SWS_Com_00743) - ATS_COMCAN_00214 (SWS_Com_00741, SWS_Com_00769) - - New test cases related to CANIF Software filtering, DLC check: ATS_COMCAN_00715 to ATS_COMCAN_00720 - - Formalization of the point of control and observation for actions and expected results - Formal changes
Acceptance Test Specification of communication on FlexRay bus	- Minor corrections / clarifications / editorial changes - Checked and adapted to Classic Platform Release 4.2.1 - Formal changes
Acceptance Test Specification of communication on LIN bus	- Checked and adapted to Classic Platform Release 4.2.1 (NumberOfRepetitions set to 0 in ATS_COMLIN_00241) - Formalization of point of control and observation - Added test cases for LIN Transport Protocol - Formal changes
Acceptance Test Specification of communication via bus	- Checked and adapted to Classic Platform Release 4.2.1 (ATS_COMINDEP_00205, ATS_COMINDEP_00260, ATS_COMINDEP_00261 modified) - Formalization of the point of control and observation for actions and expected results - Added 29 new test cases
Acceptance Test Specification of diagnostic services	- Formalized PCO in test cases - Updated test cases according to Classic Platform R4.2.1 - fixed bug in test case ATS_DIAG_00034: Wrong value for TestNotCompletedSinceLastClear
Acceptance Test Specification of ECU Mode Management	- Some test steps were split to ensure that atomic test steps have a single PCO for their execution and their pass criteria - Checked and adapted to Classic Platform Release 4.2.1 - Formalization of point of control and observation
Acceptance Test Specification of IPv4	- Initial release, including test suites on - RS_BRF_01784 - AUTOSAR communication shall support the IP protocol stack

Name	Specification history entry
Acceptance Test Specification of Memory Stack	- Formalize point of control and observation for all test cases - Some test steps were split to ensure that atomic test steps have a single PCO for their execution and their pass criteria - Checked and adapted to Classic Platform Release 4.2.1 - Formal changes
Acceptance Test Specification of RTE	- Adaptations needed to test Classic Platform R3.2 are no more maintained. Please refer to Classic Platform Acceptance Tests R1.0.0. - Added test cases for - Sender-receiver communication - Scheduling (ATS_RTE_00694 & ATS_RTE_00707) - Miscellaneous features (IRV, Enhanced modes, Ports, Pim, CData, Prm APIs) - Checked and adapted to Classic Platform Release 4.2.1 - Formalization of the point of control and observation for actions and expected results - Formal changes
Acceptance Test Specification of TCP	- Initial release, including test suites on - RS_BRF_01784 - AUTOSAR communication shall support the TCP-IP protocol stack
Acceptance Test Specification of UDP	- Initial release, including test suites on - RS_BRF_01784 - AUTOSAR communication shall support the UDP protocol stack
Acceptance Tests Main Requirements	- ATR_Main_00010 updated - Formal changes
Acceptance Tests Release Overview and Revision History	- Update according to revision 1.1.0
Applicability of test cases to software releases	- Update applicability for modified test cases - Add applicability for new test cases
AUTOSAR Specification Hashes	- Initial release
Feature Specification of the Acceptance Tests	- Add RS_BRF_01776 (Ethernet) and RS_BRF_01784 (TCP/IP) as tested items of ATR_ATF_00014. - Formal changes
Overview of Acceptance Tests	- Documentation of the Point of Control and Observation (PCO) - Checked and adapted to Classic Platform Release 4.2.1 - Formal changes
Requirements on Acceptance Tests	- Add requirements ATR_ATR_00124 (UDP), ATR_ATR_00125 (TCP), ATR_ATR_00126 (IPv4). - Formal changes
Specification of Testability Protocol and Service Primitives	- Initial release

7 Appendix

7.1 Definitions

As far as not explained in this chapter, a collection of AUTOSAR definitions is provided in the Glossary [1].

7.1.1 Release Number

AUTOSAR applies a two-digit numbering scheme Rx.y to identify Releases. Its primary purpose is to identify a Release as a major (upgrade, can contain non-backward-compatible extensions) or as minor (update, backward compatible extensions) Release. Incrementing the first digit “x” does identify a Release as major, whereas incrementing “y” will mark a Release as only minor by nature.

7.1.2 Revision Number

The Revision Number extends the Release Numbering scheme as explained in section 7.1.1. Combined with the Release Number, the Revision Number shall:

- 1) Precisely identify the actual content (set of specification) of a given Release,
- 2) As depicted in every specification, precisely identify a given document (with its unique name and three-digit version ID) as being part of the Release

Item 1) addresses the fact that the set of specifications comprising a Release (in the meaning of a baseline) is rarely established once at a certain point in time (“Big Bang”), but rather evolves and/or varies over a certain timeframe. The maximum duration, which is limited by the timeframe, a Release is declared as “valid” by the AUTOSAR Partnership (see section 7.1.3).

Hence with Item 1), a major prerequisite will be put in place to enable the Standard Maintenance as planned by the AUTOSAR Partnership. In general, the primary objective is to avoid the provision of an additional – previously not planned – Release in case only one or a few specifications were to be modified as part of the Standard Maintenance. Conversely, without the application of a Revision Number, if the AUTOSAR partnership wants to avoid the provision of (an) additional intermediate Release(s), one would have to defer the introduction of any changes until the next planned Release – even in case of changes urgently needed by the applicants of the AUTOSAR Standard.

Item 2) is complementary to Item 1) in that for every specification a unique identifier is provided upon which Revision a) a specification was either 1st time added to/removed from a Release or b) a specification was modified as being part of one and the same Release, as long the latter is valid and therefore subject to Standard Maintenance.

Hence with item 2), the combination of Release and Revision Number in a specification can be interpreted either as a) “specification was (1st time) added to the

Release x.y Rev n” or b) as “specification was modified as part of Release x.y Rev m”, with $m > n$.

Conversely, the Revision number will only change for specification subject to addition or modification of a valid Release (baseline). After their 1st time addition to the Release (baseline), it will not change for specifications which are not modified.

In the light of the above provided background, as an additional remark, the Revision Number will only be applied for each specification’s Release version, i.e. it will not be applied to working versions.

7.1.3 Release Life Cycle of a major Release

Each major release goes through four consecutive steps within its lifecycle:

1. Development: Between start of life cycle and the initial release (e.g. R1.0.0)
2. Evolution: Following the initial release with zero, one or several minor releases and/or revisions (e.g. R1.0.1, R1.1.0)
3. Maintenance: Existing content of a major release (such as test suites or test cases, support for AUTOSAR software releases) is maintained within zero, one or several revisions (e.g. R1.0.1).
4. Issue Notice: No more revisions but zero, one or several issue notices, i.e. updates of the list of known issues until end of life cycle.

7.1.4 Standard Specifications and Auxiliary Material

Standard Specifications are documents, models or formats which comprise the main result of the AUTOSAR Partnership. It includes the standardized results which have to be fulfilled to achieve AUTOSAR conformance.

In Release 1.1, Standard Specifications are stored at the following URL:

https://svn.autosar.org/repos/work/26_Products/20_TC_R1/02_Releases/R1.1.0/01_Standard (currently no standard specifications exist)

Auxiliary Material is a supporting document, model or format meant to further explain and/or improve the usability of standard specifications of the AUTOSAR partnership. Auxiliary material is recommended to read and/or use for a better understanding or harmonized usage of the AUTOSAR standard but is not mandatory to follow for AUTOSAR conformance.

In Release 1.1, Auxiliary Material is stored at the following URL:

https://svn.autosar.org/repos/work/26_Products/20_TC_R1/02_Releases/R1.1.0/02_Auxiliary

Contents of auxiliary documents remain of auxiliary nature even if they are referenced from standard documents.