



BSI Technical Guideline 03125 Preservation of Evidence of Cryptographically Signed Documents

Annex TR-ESOR-C.2:

Conformity Test Specification (Level 2 Technical Conformity)

Designation Technical Conformity Test Specification (Level 2)

Abbreviation BSI TR-ESOR-C.2

Version 1.3 (on base of the eIDAS-Regulation and ETSI Preservation Standards with a new certification scheme)

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Document history

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Table 1: Document history

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Table of Contents

1	Introduction.....	5
2	Overview.....	8
3	Web Service Interfaces.....	11
3.1	Test suite for TR-S.4-interface	11
3.1.1	Test environment.....	11
3.2	Standard Test Configurations.....	12
3.2.1	CONFIG_Common	12
3.2.2	CONFIG_ArchiSafe_C.2.....	12
3.2.3	CONFIG_LXAIP	13
3.3	Standard Test Objects.....	13
3.4	Mandatory Tests	23
3.4.1	Function RetrieveInfo.....	23
3.4.2	Function ArchiveSubmission.....	26
3.4.3	Function ArchiveUpdate.....	43
3.4.4	Function ArchiveRetrieval	53
3.4.5	Function ArchiveEvidence.....	59
3.4.6	Function ArchiveDeletion.....	66
3.4.7	Function Verify	72
3.4.8	Additional Tests	95
4	TR-ESOR-C.2-Testbed how-to	105
4.1	TR-ESOR-C.2-Testbed Prerequisites.....	105
4.2	TR-ESOR-C.2-Testbed introduction	105
4.2.1	Subdirectory DOCKERS	106
4.2.2	Subdirectory ERVT-UPLOADS.....	106
4.2.3	Subdirectory LXAIP-UPLOADS.....	106
4.2.4	Subdirectory PROPERTIES	106
4.2.5	Subdirectory TESTDATA	106
4.2.6	Subdirectory XSVT-UPLOADS.....	106
4.2.7	File TR-ESOR-1.3.0-S4-Testbed-soapui-project.xml.....	107
4.2.8	File BSI TR-03125_C.2_V1.3.pdf.....	107
4.3	TR-ESOR-C.2-Testbed configuration	107
4.4	TR-ESOR-C.2-Testbed: configuration and start of XSVT and ERVT	108
4.5	TR-ESOR-C.2-Testbed usage	110
4.6	TR-ESOR-C.2-Testbed results.....	111

Table of Figures

Figure 1: Schematic Depiction of the IT Reference Architecture with TR-S.4.....	6
Figure 2: Schematic Depiction of the IT Reference Architecture with TR-S.512.....	6
<i>Figure 3: Overview of the BSI TR-S.4-Testbed environment (version 1.3).....</i>	11
Figure 4: TR-ESOR-C.2-Testbed – project directory structure.....	105
Figure 5: Example output of dbuild.cmd/dbuild.sh.....	109
Figure 6: Final statement of initialization of XSVT.....	109
Figure 7: Final statement of initialization of ERVT.....	109
Figure 8: Sample output of dstatus.cmd/dstatus.sh.....	110
Figure 9: Sample output of dstart.cmd/dstart.sh.....	110

Table of Tables

Es konnten keine Einträge für ein Abbildungsverzeichnis gefunden werden.

1 Introduction

The goal of the Technical Guideline “Preservation of Evidence of Cryptographically Signed Documents” is to specify technical security requirements for the long-term preservation of evidence of cryptographically signed electronic documents and data along with associated electronic administrative data (meta data).

A Middleware defined for this purpose (TR-ESOR-Middleware) in the sense of this Guideline includes all of the modules (M) and interfaces (S) [for the German "Schnittstellen"] used for securing and preserving the authenticity and proving the integrity of the stored documents and data.

The Reference Architecture introduced in the Main Document of this Technical Guideline consists of the interfaces, functions and logical units described in the following:

- the TR-S.4 and the TS119512 input interface TR-S.512 according to profile [TR-ESOR-TRANS] of the TR-ESOR-Middleware, which serves to embed the TR-ESOR-Middleware in the existing IT and infrastructure landscape;
- the “ArchiSafe-Module” ([TR-ESOR-M.1]), which regulates the flow of information in the Middleware, implements the security requirements for the interfaces with the IT applications and ensures that the application systems are decoupled from the ECM-/Long-term storage;
- the “Cryptographic”-Module ([TR-ESOR-M.2]) and the associated interfaces S.1 and S.3 that provide the required functions for creating hash values and verifying electronic signatures or seals or time-stamps, verifying electronic certificates, and for obtaining qualified electronic time stamps or (optional) electronic signatures or seals for the Middleware. Furthermore, it can provide the functions for the encryption and decryption of data and documents;
- the “ArchiSig”-Module ([TR-ESOR-M.3]) with the S.6 interface that provides the required functions for the preservation of evidence of the digitally signed documents;
- an ECM-/Long-Term Storage with the S.2 and S.5 interfaces that assumes the physical archiving/storage and also the storage of the meta data that preserve evidence.

This ECM-/Long-Term Storage is no longer directly a part of the Technical Guideline, but requirements will be set for it through the two interfaces that are still part of the TR-ESOR-Middleware.

The application layer that can include an XML-Adapter is not a direct part of this Technical Guideline, either, even though this XML-Adapter can be implemented as part of a Middleware.

The IT Reference Architecture depicted in Figure 1 and Figure 2 is based on the ArchiSafe Reference Architecture and is supposed to enable and support the logical (functional) interoperability of future products with the objectives and requirements of the Technical Guideline. In principle, the upper interface of the TR-ESOR-Middleware is either the S.4-Interface (TR-S.4) pursuant to [TR-ESOR-E], according to Figure 1, or the S.512-Interface (TR-S.512) pursuant to [ETSI TS 119 512] according to the profile [TR-ESOR-TRANS], according to Figure 2.

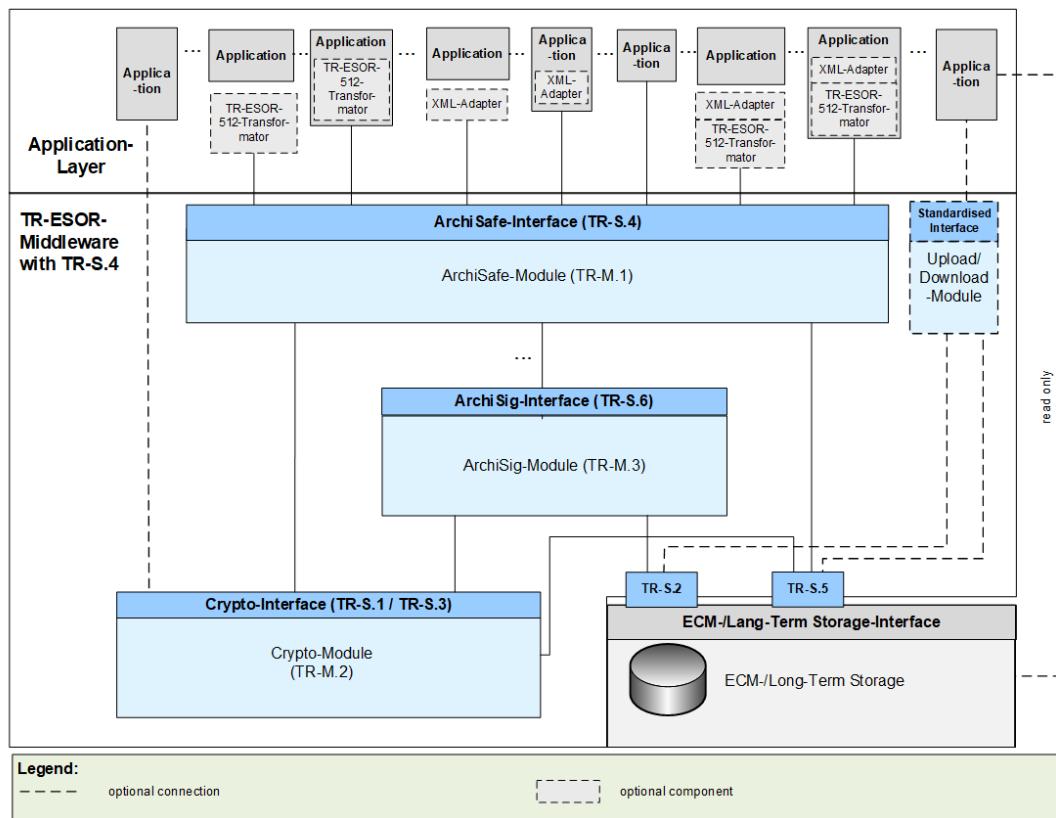


Figure 1: Schematic Depiction of the IT Reference Architecture with TR-S.4

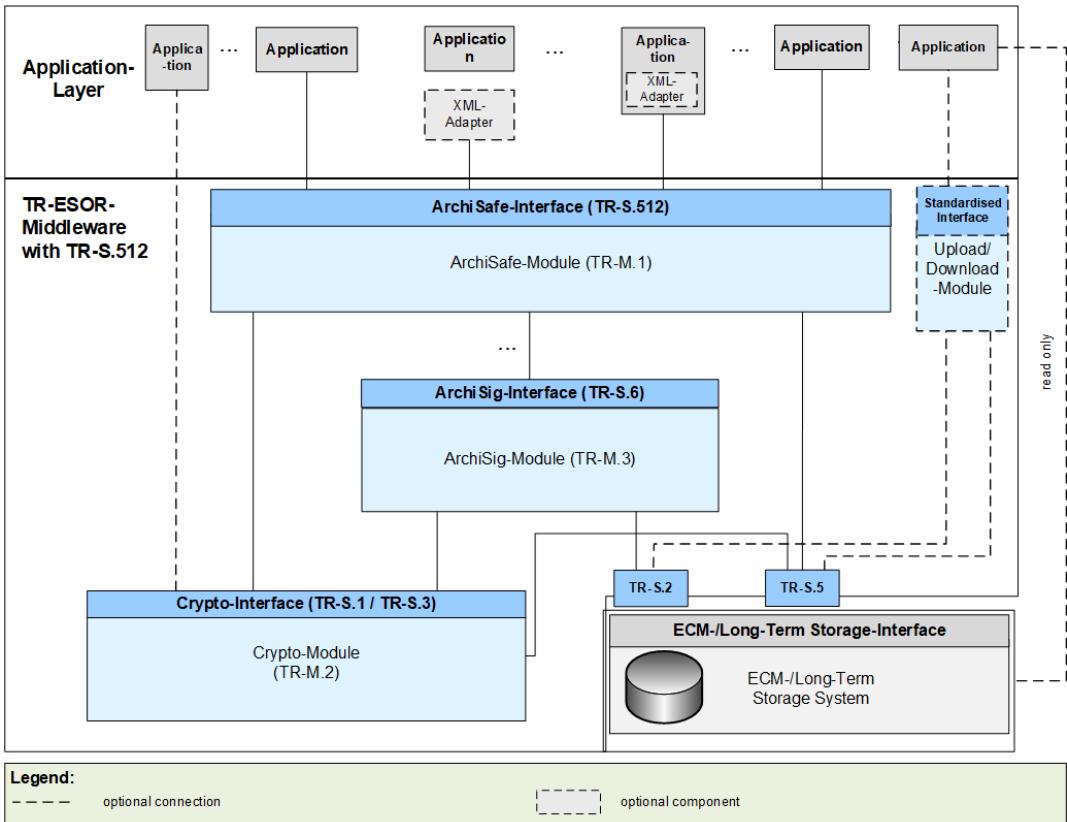


Figure 2: Schematic Depiction of the IT Reference Architecture with TR-S.512

The optional XML-Adapter and/or the optional TR-ESOR-512-Transformator¹ may be integrated under the following circumstances:

- Both as separate components with two interfaces to the IT-application and the ArchiSafe-Module,
- Both as separate components, but as parts of the IT-application with interfaces to the ArchiSafe-Module
- One common component, separate from the IT-application and including the XML-Adapter and TR-ESOR-512-Transformator as parts, with two interfaces to the IT-application and the ArchiSafe-Module,
- One common component including the XML-Adapter and TR-ESOR-512-Transformator as parts, which is part of the IT-application, with an interface to the ArchiSafe-Module.

The “ETSI TS119512 TR-ESOR Transformator” enables preservation services pursuant to [eIDAS-VO] to transform incoming ETSI TS119512 (V1.1.2) messages² into TR-S4 messages. These messages can be sent to an attached <http://www.bsi.bund.de/EN/tr-esor> system without any need for changing the system.

The usage of the “ETSI TS119512 TR-ESOR Transformator” is recommended in case that a TR-ESOR-Product with a TR-S.4-Interface should be used in Europe supporting interoperability with other European (qualified) Preservation Services or Preservation Products.

This Technical Guideline is modularly structured, and the individual annexes to the Main Document specify the functional and technological security requirements for the needed IT components and interfaces of the TR-ESOR-Middleware. The specifications are strictly platform, product and manufacturer independent.

The document at hand bears the designation “Annex TR-ESOR-C.2” and describes and specifies the conformity tests for the Conformity Level 2 (Technical Conformity) for TR-ESOR V1.3 supporting also the archive information package LXAIP, ASiC-AIP (not yet ready for certification), the Upload- and Download-interface and the upper ETSI TS 119 512-interface TR-S.512.

Products that want to be certified pursuant to the Technical Guideline 03125 TR-ESOR shall prove their conformity pursuant to this document [TR-ESOR-C.2] and [TR-ESOR-C.1].

¹ See [ETSI TS 119512 TR-ESOR Transformator under an Open Source Licence](#)

² In the profiling of [TR-ESOR-TRANS]

2 Overview

Products or systems, which want to become certified according to this Technical Guideline, have to demonstrate their conformance to the specifications. There are two defined conformance levels, which mainly differ in the technical detail specifications of interfaces and data formats used:

- Conformity Level 1 – Functional Conformity,
- Conformity Level 2 – Technical Conformity.

The functional test criteria (tests) for reaching “Conformity Level 1 – Functional Conformity” are described in [TR-ESOR-C.1].

This document specifies the technical test criteria (tests) for reaching Conformity Level 1 (Technical Conformity), which are derived from the requirements and web service interfaces specified in Annex [TR-ESOR-E], [TR-ESOR-F], [TR-ESOR-ERS] and [TR-ESOR-VR] and complement the mandatory (red) tests for interface functions specified in section 5.5 of Annex [TR-ESOR-C.1] of the present Technical Guideline.

The tests for Conformity Level 1 (Technical Conformity) aim at verifying technical interoperability between different components within the reference architecture as depicted in Figure 1 and Figure 2. For this purpose the present document specifies test cases for the different web service based interfaces (see section 3) and verification report structures for central data structures (see section [TR-ESOR-VR]).

Each test case is identified by a unique ID and specified in a semi-formal pseudo-code, which provides the basis for the technical implementation of the test cases in an appropriate test environment.

In general, the optional elements of the request – and response structures of the functional calls according Annex E are omitted. The usage or omission of these optional elements has no impact on the fulfilling on the conformance requirements of this specification.

The tests of the web service based interfaces can be performed using the freely available SoapUI³ test tool.

All tests, which are required to be passed are marked with the color red. Tests, which are only applicable in certain situations are marked grey. All tests use the same basic configuration, which is denoted by CONFIG_ArchiSafe_C.2 in the following. In case, the TOT does support some additional features (e.g. LXAIP pursuant to [TR-ESOR-F], chapter 3.2), corresponding additional configuration has to be taken into consideration (e.g. CONFIG_LXAIP).

In order to become certified according to Conformity Level 1 – Functional Conformity and Conformity Level 2 – Technical Conformity, a product or system has to pass

- all mandatory (red) conformity criteria (tests) for this Conformity Level 1 – Functional Conformity pursuant to [TR-ESOR-C.1] and
- all mandatory (red) conformity criteria (tests) for Conformity Level 2 – technical Conformity pursuant to this document, [TR-ESOR-C.2].

If one or more tests, marked with the color red, are not successful, the conformity cannot be certified.

Because [TR-ESOR-C.2] extends [TR-ESOR-C.1], it is necessary for the testing body to assess the assessment criteria of [TR-ESOR-C.1] beforehand.

NOTICE 1:

In TR-ESOR-Version1.3 the three terms „Archive Information Package (AIP)“, ‘Archive Information Container’ and „Archive Data Object“ are used synonymously.

³ See <http://www.soapui.org>.

NOTICE 2:

The TR-ESOR input interface TR-S.4 or the TS119512 input interface TR-S.512 pursuant to the preservation-API of [ETSI TS 119 512] in the profiling of [TR-ESOR-TRANS] shall be used which logically corresponds to the input-interface TR-S.4 of the TR-ESOR-Middleware [TR-ESOR-E], as shown in the table 1 of [TR-ESOR-E], clause 4.1. Another input interface instead of TR-S.4 or TR-S.512 is not allowed. To improve readability, the insertion of the TS119512-function calls, equivalent to TR-S.4, is renounced, at several places in this document and the footnote “Either TR-S.4 or TR-S.512 shall be supported.” is added to each test case concerning “TR-S.4” or “TR-S.512”.

NOTICE 3:

In this TR-ESOR- Version, the word “AIP” means in all TR-ESOR-Annexes :

- a) the XML-based archival information package “XAIP” pursuant to [TR-ESOR-F], clause 3.1 as well as
- b) the logical XAIP “LXAIP” pursuant to [TR-ESOR-F], clause 3.2 as well as
- c) the “ASiC-AIP” pursuant to [TR-ESOR-F], clause 3.3 on base of [ETSI EN 319162-1].

In general, this TR-ESOR Version differentiates in detail between “XAIP”, “LXAIP” and “ASiC-AIP”.

To improve readability, at several places in this document, the insertion of “LXAIP” and “ASiC-AIP” is renounced, and the footnote “”XAIP” shall be supported, “LXAIP” and “ASiC-AIP, if implemented” may be supported” is added to each “XAIP”.

NOTICE 4:

In this TR-ESOR- Version, BIN is restricted to the following preservation object formats:

- ASiC-ERS (in TR-ESOR v1.3 called ASiC-AIP) pursuant to [ETSI TS 119 512], Annex A.3.1 and A.3.1.3 (<http://uri.etsi.org/ades/ASiC/type/ASiC-ERS>) and pursuant to [TR-ESOR-F], Clause 3.3);
- CAdeS pursuant to [ETSI TS 119 512] Annex A.1.1 (<http://uri.etsi.org/ades/CAdeS>). If there is no MIME type filled, then the default application/cms is used;
- XAdES pursuant to [ETSI TS 119 512] Annex A.1.2 (<http://uri.etsi.org/ades/XAdES>). If there is no MIME type filled, then the default application/xml is used;
- PAdES pursuant to [ETSI TS 119 512] Annex A.1.3 (<http://uri.etsi.org/ades/PAdES>). If there is no MIME Type filled, then the default application/pdf is used;
- ASiC-E pursuant to [ETSI TS 119 512] Annex A.1.4 (<http://uri.etsi.org/ades/ASiC/type/ASiC-E>). If there is no MIME type filled, then the default application/vnd.etsi.asic-e+zip is used;
- ASiC-S pursuant to [ETSI EN 319 162] (<http://uri.etsi.org/ades/ASiC/type/ASiC-S>). If there is no MIME type filled, then the default application/vnd.etsi.asic-s+zip is used;
- -DigestList pursuant to [ETSI TS 119 512] Annex A.1.6 (<http://uri.etsi.org/19512/format/DigestList>). If there is no MIME Type filled, then the default application/xml is used.

In case of Upload- and Download-function the following format is allowed additionally:

- Binary Data (BIN) as Octet Stream, which is stored in the ECM-/Long-Term Storage by an “Upload-Request”, – but only,
- if connected with a corresponding LXAIP and referenced there acc. to [TR-ESOR-F], Sec. 3.2,
- if appropriate, retrieved by a “Download-Request” – linked to a corresponding LXAIP or embedded in a XAIP and retrieved by an ArchiveRetrieval-Request – and
- no Upload of XAIP, nor LXAIP, nor ASiC-AIP is possible.

ATTENTION 1:

If implemented, an ASiC-AIP-Container pursuant to clause 3.3 in [TR-ESOR-F] shall be inserted in the TS119152-intefrace as a base64Binary-coded ASiC-AIP-Container with the Type=<http://uri.etsi.org/ades/ASiC/type/ASiC-ERS> Attribute (see <https://www.w3.org/TR/xmlschema-2/#base64Binary>).

In TR-ESOR V1.3, actually, ASiC-AIP is announced but it is still not released and does not lead to a certification.

NOTICE 5: In the following text the term “**digital signature**“ covers “advanced electronic signatures“ pursuant to [eIDAS-VO], Article 3(11), “qualified electronic signatures“ pursuant to [eIDAS-VO], Article 3(12), “advanced electronic seals“ pursuant to [eIDAS-VO], Article 3(26) and “qualified electronic seals“ pursuant to [eIDAS-VO], Article 3(27). Insofar, the term “**digital signed document**“ covers as well documents signed by advanced electronic signatures or seals as documents signed by qualified electronic signatures or seals.

In this TR the term “**cryptographic signed documents**“ covers not only qualified signed documents pursuant to [eIDAS-VO], Article 3(12) or qualified sealed documents pursuant to [eIDAS-VO], Article 3(27) or qualified time-stamped documents pursuant to [eIDAS-VO], Article 3(34) (within the meaning of the eIDAS regulation)) but also documents with advanced electronic signatures pursuant to [eIDAS-VO], Article 3(11) or with advanced electronic seals pursuant to [eIDAS-VO], Article 3(26) or with electronic time-stamps pursuant to [eIDAS-VO], Article 3(33), as they are often used in the internal communication of public authorities. The documents with simple signatures or seals based on other (e.g. non-cryptographic) technologies are not meant here.

3 Web Service Interfaces

As shown in Figure 1 and Figure 2 the reference architecture comprises different interfaces, which can be implemented by a TR-ESOR-compliant middleware product. The present specification defines test suites for the interface TR-S.4 (see section 3.1), which comprise test cases for different functions (see section 3.4) using the different standard test objects as defined in section 3.3.

3.1 Test suite for TR-S.4-interface

The test suite for TR-S.4 contains the test cases for the following functions:

- RetrieveInfo (see section 3.4.1)
- ArchiveSubmissionRequest (see section 3.4.2)
- ArchiveUpdateRequest (see section 3.4.3)
- ArchiveRetrievalRequest (see section 3.4.4)
- ArchiveEvidenceRequest (see section 3.4.5)
- ArchiveDeletionRequest (see section 3.4.6)
- Verify (see section 3.4.7)
- Additional Tests (see section 3.4.8).

3.1.1 Test environment

Following figure describes the structure of the BSI-TR-ESOR-S.4-Testbed Environment (also called TR-S.4-Testbed Environment) in the version 1.3.0 to be used in order to perform the test cases defined in this document.

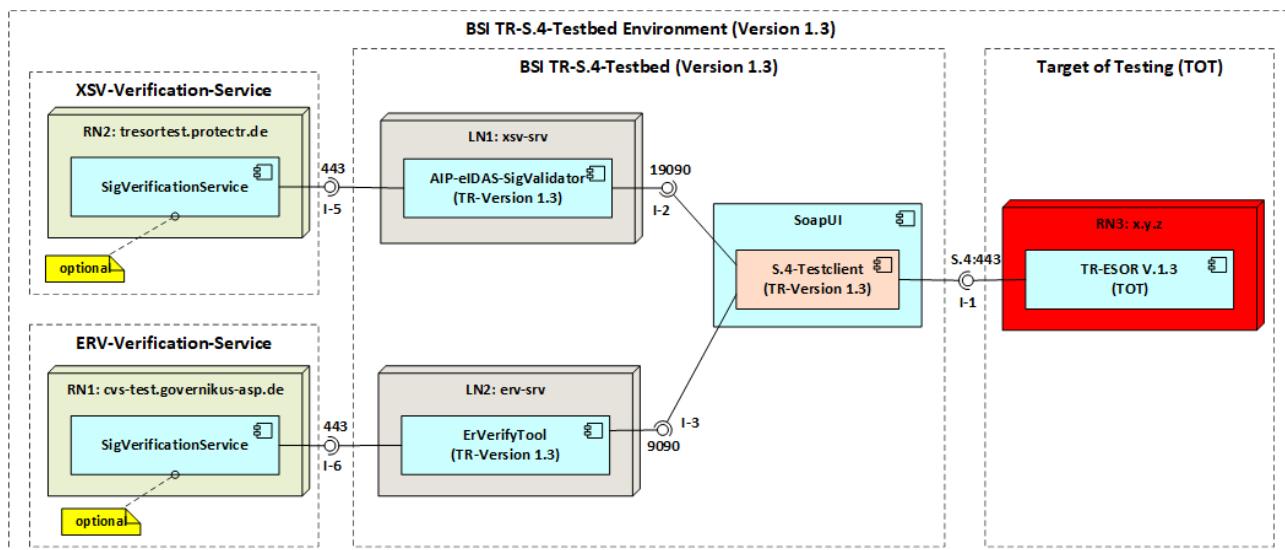


Figure 3: Overview of the BSI TR-S.4-Testbed environment (version 1.3)

The TR-S.4-Testbed environment defines four separated domains:

1. **Target of Testing (ToT)** – it is the TR-ESOR version 1.3 complied product to be tested against this test specification,
2. **BSI-TR-ESOR-S.4-Testbed (TR-S.4-Testbed)** – covers the implementation of the test cases as well as the integration of the BSI-Testtools,

3. **XSV-Verification-Service** – a verification service used by the tr-esor-AIP-eIDAS-SigValidator (AIP-eIDAS-SigValidator or simply XSV) in order to verify the supported signatures, seals and time-stamps (cf. <https://github.com/de-bund-bsi-tr-esor/tr-esor-AIP-eIDAS-SigValidator>),
4. **ERV-Verification-Service** – a verification service used by the BSI-ErVerifyTool (ERVerifyTool or simply ERV) in order to verify the archive time stamps obtained from provided evidence records (cf. <https://github.com/de-bund-bsi-tr-esor/ERVerifyTool>).

The optional parts have been marked by yellow comments boxes containing the text “optional”. The both verification tools XSVT and ERVT are able to work online, with activated optional verification service corresponding for the signatures or timestamps, or offline. The verification services have to be integrated by the user itself, please refer to the corresponding documentation for more information, how to do that.

3.2 Standard Test Configurations

Here, a set of standard configurations of the test setup will be described. These setups are referenced in the test cases and should be used to actually perform the tests.

3.2.1 CONFIG_Common

This is the standard configuration for all tests.

- The test setup shall contain the product to be tested (Target of Testing, TOT).
- The user manual in the test setup shall refer at least to one preservation profile pursuant to [ETSI TS 119 512], clause 5.4.7, to one actual preservation evidence policy pursuant to [ETSI TS 119 511], clause 6.5 and to one actual signature validation policy pursuant to [ETSI TS 119 511], clause 6.6.
- The test setup shall contain all other modules of the reference architecture (including the storage) functionally not covered by the TOT.
- The TOT and all other modules required shall be installed and configured according to the respective guidance including all security recommendations.
- The TOT and all other modules shall be physically and logically interconnected. The connections shall be secured as described in the respective guidance documents (e.g. enabling encryption, explicit physical connection).
- The BSI-ERVerifyTool is installed and running in a proper working mode (see chapter 3.1.1).
- The BSI-AIP-eIDAS-SigValidator testing tool is installed and running in a proper working mode (see chapter 3.1.1).
- The TOT has to provide at least one active Protection Profile and at least one inactive Protection Profile.
- The TOT supports Evidence Record pursued to [RFC4998].

The complete test setup shall be up and running and in an operational and working mode.

3.2.2 CONFIG_ArchiSafe_C.2

This configuration is based on CONFIG_Common and introduces following additional points:

Additionally, the ArchiSafe-Module shall be configured as follows:

- XAIP shall be mandatory.
 - The default value in case of “no-input of the PO-Format” is “XAIP”.
 - The TOT is supporting also the LXAIP container format as stated in [TR ESOR F], chapter 3.2.
 - The TOT is supporting the optional input parameter pres:POFormat while executing the function ArchiveRetrieval

- A XSD defining the XAIPs or LXAIPs pursuant to [TR-ESOR-F] shall be configured.
- The XSD verification of (L)XAIP containers during ArchiveSubmission and ArchiveUpdate shall be enabled.
- The validation of digital signatures and electronic time stamps⁴ during ArchiveSubmission and ArchiveUpdate shall be enabled.

3.2.3 CONFIG_LXAIP

This configuration is based on CONFIG_ArchiSafe_C2.

TOT does fullfill following requirements in addition to level CONFIG_ArchiSafe_C2:

- TOT does support LXAIP-format pursued to [TR-ESOR-F], chapter 3.2.
 - TOT does support the Upload/Download-module
 - TOT does support the delivery of submitted LXAIP as transformed equivalent XAIP.
 - TOT does support at least the following URI <http://www.bsi.bund.de/tr-esor/lxaip/1.3> as value of pres:POFormat as optional input of ArchiveRetrievalRequest input parameter of ArchiveRetrieval function (c.f. [TR-ESOR-E], chapter 3.3.2)

3.3 Standard Test Objects

For most of the tests test data is required. In order to make the tests repeatable, this section defines some standard test objects.

Notice

The used test data will be published by BSI as part of the open source application TR-S.4-Testbed. It is strongly recommended to use the testbed and the corresponding test data while TR-ESOR product development for test purposes.

<i>Container or Object Name</i>	<i>Description</i>
ACTIVE_PROFILE	An active Preservation Profile supported by TOT.
ACTIVE_PROFILE_URI	The Profile Identifier as URI of ACTIVE_PROFILE.
INACTIVE_PROFILE	An inactive Preservation Profile supported by TOT.
INACTIVE_PROFILE_URI	The Profile Identifier as URI of INACTIVE_PROFILE.
UNKNOWN_PROFILE_URI	A Profile Identifier of an unknown profile.
UNKNOWN_OPT_INPUT	An unknown control as optional input.
XAIP_OK	The XAIP is syntactically correct and passes the defined consistency checks. The XAIP contains following objects: <ul style="list-style-type: none"> • TXT_DATA.txt and • PDF_DATA.pdf as well as • one metadata object XML_MDO.xml embedded as binary metadata.
TXT_DATA.txt	A reference text-based test data (CRLF and CP1252).
PDF_DATA.pdf	A reference PDF test data.
XML_MDO.xml	A reference XML-based test data (LF and UTF-8).
XAIP_OK_V1_ER_OK	An evidence record provided by TOT for XAIP_OK.

⁴ The validation of digital signatures or electronic time stamps of documents included in the XAIP or passed over as binary.

<i>Container or Object Name</i>	<i>Description</i>
XAIP_OK_SIG_OK	The XAIP is syntactically correct and passes the defined consistency checks. The XAIP contains following objects: <ul style="list-style-type: none">• data object TXT_DATA.txt and• corresponding detached CADES TXT_DATA.txt.p7s,• data object PDF_DATA.pdf and• corresponding detached CADES PDF_DATA.pdf.p7s and• a metadata object XML_MDO.xml.
TXT_DATA.txt.p7s	A detached CADES of TXT_DATA.txt.
PDF_DATA.pdf.p7s	A detached CADES of PDF_DATA.pdf.
XAIP_OK_SIG_OK_V1_ER_OK	An evidence record provided by TOT for XAIP_OK_SIG_OK.
LXAIP_OK	The LXAIP is syntactically correct and passes the defined consistency checks. The LXAIP references following data: <ul style="list-style-type: none">• TXT_DATA.txt⁵ as data object,• PDF_DATA.pdf as data object,• XML_MDO.xml as metadata object.
ASIC_AIP_OK	The ASIC-AIP is syntactically and passes the defined consistency checks. The ASIC-AIP contains an LXAIP with two data objects and two corresponding digital signatures and one metadata object.
REF_TXT_DATA_50	A reference to TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_50.txt.
REF_PDF_DATA_50	A reference to PDF_DATA.pdf, which has been uploaded in advance as PDF_DATA_50.pdf.
REF_XML_MDO_50	A reference to XML_MDO.xml, which has been uploaded in advance as MDO_XML_50.xml.
LXAIP_OK_V1_ER_OK	An evidence record provided by TOT for LXAIP_OK.
LXAIP_OK_SIG_OK	The LXAIP is syntactically correct and passes the defined consistency checks. The LXAIP references following data: <ul style="list-style-type: none">• TXT_DATA.txt as data object,• TXT_DATA.txt.p7s as credential,• PDF_DATA.pdf as data object,• PDF_DATA.pdf.p7s as credential and• XML_MDO.xml as metadata object.
REF_TXT_DATA_51	A reference to TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_51.txt.
REF_CADES_DET_TXT_DATA_51	A reference to TXT_DATA.txt.p7s, which has been uploaded in advance as TXT_DATA_51.txt.p7s.
REF_PDF_DATA_51	A reference to PDF_DATA.pdf, which has been uploaded in advance as PDF_DATA_51.pdf.
REF_CADES_DET_PDF_DATA_51	A reference to PDF_DATA.pdf.p7s, which has been uploaded in advance as PDF_DATA_51.pdf.p7s.
REF_XML_MDO_51	A reference to XML_MDO.xml, which has been uploaded in advance as MDO_XML_51.xml.
LXAIP_OK_SIG_OK_V1_ER_OK	An evidence record provided by TOT for LXAIP_OK_SIG_OK.
XAIP_NOK	The schema validation of the XAIP fails. (unexpected element xaip:dataObject in element xaip:packageInfoUnit)
XAIP_NOK_VERSION	The fix attribute XAIPVersion in the element xaip:XAIP has wrong value.
LXAIP_NOK	The schema validation of the LXAIP fails. (missing element ds:DigestValue in element asic:DataObjectReference)
XAIP_NOK_EXPIRED	The schema validation for the XAIP succeeds, but the xaip:preservationInfo-element indicates a preservation date, which is already exceeded.

⁵ Every instance of LXAIP or DLXAIP has to contain its own references. There is no possibility to share the references between two or more LXAIP or DLXAIP instances (c.f. M-ADD-03a in Chapter 3.4.8.5.).

<i>Container or Object Name</i>	<i>Description</i>
XAIP_NOK_SUBMTIME	<p>The schema validation for the XAIP succeeds, but the <code>xaip:submissionTime</code>-element deviates from the current time beyond a reasonable tolerance range.</p> <p>The documentation of the middleware or the module, which shall be tested, shall contain some assertions and related conditions or constraints indicating when the <code>xaip:submissionTime</code> contained in the provided XAIP deviates too much from the current time.</p>
XAIP_NOK_SIG	<p>The XAIP is syntactically correct and passes the defined consistency checks, but the XAIP contains an invalid digital signature.</p> <p>Invalid digital signature means that the digital signature is syntactically not correct or at least one of the evidence relevant data, for example a signature, time-stamp, certificate, certificate revocation list or OCSP-response, etc., is wrong.</p>
XAIP_NOK_ER	The XAIP is syntactically correct and passes the defined consistency checks, but the XAIP contains an invalid Evidence Record: ER_NOK_XAIP_OK.
ER_NOK_XAIP_OK	An invalid Evidence Record for XAIP OK means, that the Evidence Record is syntactically not correct or does not fulfil the requirements according to Annex ERS.
XAIP_NOK_ER_VR	A verification report produced by the TOT for XAIP_NOK_ER.
LXAIP_NOK_ER	The LXAIP is based on LXAIP_OK, syntactically correct and passes the defined consistency checks, but the LXAIP contains an invalid Evidence Record: ER_NOK_LXAIP_OK.
REF_TXT_DATA_52	A reference to TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_52.txt.
REF_PDF_DATA_52	A reference to PDF_DATA.pdf, which has been uploaded in advance as PDF_DATA_52.pdf.
REF_XML_MDO_52	A reference to XML_MDO.xml, which has been uploaded in advance as XML_MDO_52.xml.
ER_NOK_LXAIP_OK	An invalid Evidence Record for LXAIP_OK means, that the Evidence Record is syntactically not correct or does not fulfil the requirements according to Annex ERS.
CADES_ATT_OK	Alias for TXT_DATA.txt.p7m.
TXT_DATA.txt.p7m	A valid detached CADES for TXT_DATA.txt.
XADES_ENVELOPED_OK	A valid attached enveloped XAdES.
XADES_ENVELOPING_OK	A valid attached enveloping XAdES.
PADES_OK	A valid visible PAdES.
ASIC_E_CADES_OK	A valid ASiC-E with a valid CAdES.
ASIC_E_XADES_OK	A valid ASiC-E with a valid XAdES.
ASIC_E_TST_OK	A valid ASiC-E with a valid timestamp.
ASIC_E_ER_OK	A valid ASiC-E with a valid evidence record.
DIGEST_LIST	A valid digest list.
ASIC_S_CADES_OK	A valid ASiC-S with a valid CAdES.
ASIC_S_XADES_OK	A valid ASiC-S with a valid XAdES.
ASIC_S_TST_OK	A valid ASiC-S with a valid timestamp.
ASIC_S_ER_OK	A valid ASiC-S with a valid evidence record.
CADES_ATT_NOK	An invalid attached CADES.
CADES_ATT_NOK_VR	A verification report produced by TOT of CADES_ATT_NOK.
XADES_ENVELOPED_NOK	An invalid attached enveloped XAdES.
XADES_ENVELOPING_NOK	An invalid attached enveloping XAdES.
PADES_NOK	An invalid visible PAdES.ASIC_E_CADES_NOK
ASIC_E_CADES_NOK	A valid ASiC-E with invalid CAdES.
ASIC_E_XADES_NOK	A valid ASiC-E with invalid XAdES.
ASIC_E_TST_NOK	A valid ASiC-E with invalid timestamp.
ASIC_E_ER_NOK	A valid ASiC-E with invalid evidence record.
ASIC_S_CADES_NOK	A valid ASiC-S with invalid CAdES.
ASIC_S_XADES_NOK	A valid ASiC-S with invalid XAdES.
ASIC_S_TST_NOK	A valid ASiC-S with invalid timestamp.

<i>Container or Object Name</i>	<i>Description</i>
ASIC_S_ER_NOK	A valid ASiC-S with invalid evidence record.
DXAIP_OK	The DXAIP is syntactically correct and represents a valid update container ("Delta XAIP" – with version 2) for XAIP_OK (version 1), which contains the corresponding AOID. Additional data: TXT_DATA.txt.p7m.
DXAIP_OK_2	The DXAIP is syntactically correct and represents a valid update container ("Delta XAIP" – with version 3) for XAIP_OK (in version 2), which contains the corresponding AOID. Additional data: <ul style="list-style-type: none">• XML_DATA.xml and• XML_DATA.xml.p7s.
XML_DATA.xml	A reference xml-based test data (CRLF and UTF-8).
XML_DATA.xml.p7s	A valid attached CAdES of XML_DATA.xml.
002-test-document.xml	Some other xml reference data for XADES.
XADES_DET_OK	A valid detached XAdES of 002-test-document.xml.
XADES_DET_NOK_VR	A verification report of XADES_DET_OK, created by the TOT.
XADES_DET_NOK	An invalid detached XAdES of 002-test-document.xml.
XADES_DET_NOK_VR	A verification report of XADES_DET_NOK, created by TOT.
DXAIP_OK_SIG_ONLY	The DXAIP is syntactically correct and represents a valid update container ("Delta XAIP" – with version 2) for XAIP_OK (version 1), which contains the corresponding AOID. Additional data: <ul style="list-style-type: none">• TXT_DATA_QESI.txt.p7s.
TXT_DATA_QESI.txt.p7s	A valid detached CAdES of TXT_DATA.txt made with a test digital seal certificate.
DLXAIP_OK	The DXAIP is syntactically correct and represents a valid update container ("Delta LXAIP") for LXAIP_OK (with version 1), which contains the corresponding AOID. DLXAIP references following data additionally: <ul style="list-style-type: none">• TXT_DATA.txt.p7m.
REF_CADES_ATT_TXT_DATA_53	A reference to TXT_DATA.txt.p7m, which has been uploaded in advance as TXT_DATA_53.txt.p7m.
DLXAIP_OK_2	The DXAIP is syntactically correct and represents a valid update container ("Delta LXAIP") for LXAIP_OK (with version 2), which contains the corresponding AOID. DLXAIP references following data additionally: <ul style="list-style-type: none">• XML_DATA.xml and• XML_DATA.xml.p7s.
REF_XML_DATA_54	A reference to XML_DATA.xml, which has been uploaded in advance as XML_DATA_54.xml.
REF_CADES_DET_XML_DATA_54	A reference to XML DATA.xml.p7s, which has been uploaded in advance as XML_DATA_54.xml.p7s.
DXAIP_NOK_AOID	The schema validation for the Delta XAIP succeeds, but the update container ("Delta XAIP") contains a not yet assigned AOID.
DXAIP_NOK	The Delta XAIP is syntactically not correct, the schema validation fails.
DLXAIP_NOK	The Delta LXAIP is syntactically not correct, the schema validation fails.
REF_TXT_DATA_55	A reference to TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_55.txt.
REF_PDF_DATA_55	A reference to PDF_DATA.pdf, which has been uploaded in advance as PDF_DATA_55.pdf.
REF_XML_MDO_55	A reference to XML_MDO.xml, which has been uploaded in advance as XML_MDO_55.xml.
REF_XML_DATA_56	A reference to XML_DATA.xml, which has been uploaded in advance as XML_DATA_56.xml.
REF_CADES_DET_XML_DATA_56	A reference to XML_DATA.xml.p7s, which has been uploaded in advance as XML_DATA_56.xml.p7s.
DXAIP_NOK_EXPIRED	The schema validation for the Delta XAIP succeeds, but the <code>xaip:preservationInfo</code> -element indicates a point in time in the past.

<i>Container or Object Name</i>	<i>Description</i>
DXAIP_NOK_SUBMTIME	<p>The schema validation for the Delta XAIP succeeds, but the <code>xaip:submissionTime</code>-element deviates from the current time beyond a reasonable tolerance range.</p> <p>The documentation of the middleware or the module, which shall be tested, shall contain some assertions and related conditions or constraints indicating when the submission time contained in the provided XAIP deviates too much from the current time</p>
DXAIP_NOK_SIG	The schema validation for the Delta XAIP succeeds, but the XAIP contains an invalid digital signature.
DXAIP_NOK_SIG_VR	A verification report produced by TOT for DXAIP_NOK_SIG.
DXAIP_NOK_ER	The schema validation for the Delta LXAIP succeeds, but the Delta LXAIP contains an invalid Evidence Record (invalid format).
DXAIP_NOK_ER_VR	A verification report produced by TOT for DXAIP_NOK_ER.
DLXAIP_NOK_ER	The schema validation for the Delta LXAIP succeeds, but the Delta LXAIP contains an invalid Evidence Record (invalid format).
DLXAIP_NOK_ER_VR	A verification report produced by TOT of DLXAIP_NOK_ER.
ER_NOK_LXAIP_OK_V2	Incorrect evidence record (invalid format) of DLXAIP_NOK_ER.
REF_CADES_ATT_TXT_DATA_57	A reference to TXT_DATA.txt.p7m, which has been uploaded in advance as TXT_DATA_57.txt.p7m.
DXAIP_NOK_VERSION	The schema validation for the XAIP succeeds, but there is a syntactical collision with the original XAIP such that the schema validation for the compound XAIP fails, for example, the element <code>xaip:prevVersion</code> in the <code>xaip:updateSection</code> of the DXAIP is not the latest version of this XAIP.
REF_TXT_DATA_58	A reference to TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_58.txt.
REF_PDF_DATA_58	A reference to PDF_DATA.pdf, which has been uploaded in advance as PDF_DATA_58.pdf.
REF_XML_MDO_58	A reference to XML_MDO.xml, which has been uploaded in advance as XML_MDO_58.xml.
REF_CADES_ATT_TXT_DATA_59	A reference to TXT_DATA.txt.p7m, which has been uploaded in advance as TXT_DATA_59.txt.p7m.
REF_CADES_ATT_TXT_DATA_60	A reference to TXT_DATA.txt.p7m, which has been uploaded in advance as TXT_DATA_60.txt.p7m.
REF_XML_DATA_60-1	A reference to XML_DATA.xml, which has been uploaded in advance as XML_DATA_60-1.xml.
REF_CADES_DET_XML_DATA_60-1	A reference to XML DATA.xml.p7s, which has been uploaded in advance as XML_DATA_60-1.xml.p7s.
XAIP_OK_V3_ER_OK	An evidence record for DXAIP_OK_2, created by TOT.
XAIP_OK_V2_ER_OK	An evidence record for DXAIP_OK, created by TOT.
LXAIP_OK_V3_ER_OK	An evidence record for DLXAIP_OK_2, created by TOT.
LXAIP_OK_V2_ER_OK	An evidence record for DLXAIP_OK, created by TOT.
XAIP_OK_SIG_OK_VR	A verification report for XAIP_OK_SIG_OK, created by TOT.
XAIP_OK_SIG_OK_ER	An evidence record for XAIP_OK_SIG_OK, created by TOT.
REF_TXT_DATA_61	A reference to TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_61.txt.
REF_CADES_DET_TXT_DATA_61	A reference to TXT_DATA.txt.p7s, which has been uploaded in advance as TXT_DATA_61.txt.p7s.
REF_PDF_DATA_61	A reference to PDF_DATA.pdf, which has been uploaded in advance as PDF_DATA_61.pdf.
REF_CADES_DET_PDF_DATA_61	A reference to PDF_DATA.pdf.p7s, which has been uploaded in advance as PDF_DATA_61.pdf.p7s.
REF_XML_MDO_61	A reference to XML_MDO.xml, which has been uploaded in advance as XML_MDO_61.xml.
LXAIP_OK_SIG_OK_ER	An evidence record of LXAIP_OK_SIG_OK, created by TOT.
DXAIP_OK_SIG_OK	<p>A syntactically correct Delta-XAIP consisting of second version of XAIP_OK_SIG_OK. DXAIP contains following additional data:</p> <ul style="list-style-type: none"> • XML_DATA.xml and • XML_DATA.xml.p7s.

<i>Container or Object Name</i>	<i>Description</i>
DLXAIP_OK_SIG_OK	A syntactically correct Delta-XAIP consisting of second version of LXAIP_OK_SIG_OK. DXAIP references following additionally data: <ul style="list-style-type: none">• XML_DATA.xml and• XML_DATA.xml.p7s.
REF_XML_DATA_62	A reference to XML_DATA.xml, which has been uploaded in advance as XML_DATA_62.xml.
REF_CADES_DET_XML_DATA_62	A reference to XML_DATA.xml.p7s, which has been uploaded in advance as XML_DATA_62.xml.p7s.
REF_XML_DATA_63	A reference to XML_DATA.xml, which has been uploaded in advance as XML_DATA_63.xml.
REF_CADES_DET_XML_DATA_63	A reference to XML_DATA.xml.p7s, which has been uploaded in advance as XML_DATA_63.xml.p7s.
REF_XML_DATA_64	A reference to XML_DATA.xml, which has been uploaded in advance as XML_DATA_64.xml.
REF_CADES_DET_XML_DATA_64	A reference to XML_DATA.xml.p7s, which has been uploaded in advance as XML_DATA_64.xml.p7s.
XAIP_OK_SIG_NOK	An XAIP OK SIG OK containing an invalid digital signature (TXT_DATA_NOK.txt.p7s).
TXT_DATA_NOK.txt.p7s	An invalid digital signatur of TXT_DATA.txt.
XAIP_OK_SIG_NOK_VR	A verification report of XAIP_OK_SIG_NOK created by the TOT.
XAIP_OK_SIG_OK_ER_NOK	An invalid evidence record of XAIP_OK_SIG_OK.
XAIP_OK_SIG_OK_ER_NOK_VR	A verification report of XAIP_OK_SIG_OK_ER_NOK created by the TOT
LXAIP_OK_SIG_NOK	An LXAIP_OK_SIG_OK referencing a single invalid digital signature (TXT_DATA_NOK.txt.p7s).
REF_TXT_DATA_65	A reference to TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_65.txt.
REF_CADES_DET_NOK_TXT_DATA_65	A reference to TXT_DATA_NOK.txt.p7s, which has been uploaded in advance as TXT_DATA_65_NOK.p7s.
REF_PDF_DATA_65	A reference to PDF_DATA.pdf, which has been uploaded in advance as PDF_DATA_65.pdf.
REF_CADES_DET_PDF_DATA_65	A reference to PDF_DATA.pdf.p7s, which has been uploaded in advance as PDF_DATA_65.pdf.p7s.
REF_XML_MDO_65	A reference to XML_MDO.xml, which has been uploaded in advance as XML_MDO_65.xml.
LXAIP_OK_SIG_OK_VR	A verification report of LXAIP_OK_SIG_OK produced by TOT.
LXAIP_OK_SIG_NOK_VR	A verification report of LXAIP_OK_SIG_NOK created by TOT.
LXAIP_OK_SIG_OK_ER_NOK	A LXAIP OK SIG OK containing additionally an invalid evidence record (ER_NOK_XAIP_OK_SIG_OK_00).
LXAIP_OK_SIG_OK_ER_NOK_VR	A verification report of LXAIP_OK_SIG_OK_ER_NOK, created by the TOT.
REF_TXT_DATA_66	A reference to TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_66.txt.
REF_CADES_DET_TXT_DATA_66	A reference to TXT_DATA_NOK.txt.p7s, which has been uploaded in advance as TXT_DATA_66.txt.p7s.
REF_PDF_DATA_66	A reference to PDF_DATA.pdf, which has been uploaded in advance as PDF_DATA_66.pdf.
REF_CADES_DET_PDF_DATA_66	A reference to PDF DATA.pdf.p7s, which has been uploaded in advance as PDF_DATA_66.pdf.p7s.
REF_XML_MDO_66	A reference to XML_MDO.xml, which has been uploaded in advance as XML_MDO_66.xml.
ER_NOK_XAIP_OK_SIG_OK_00	An invalid evidence record of LXAIP_OK_SIG_OK.
REF_TXT_DATA_67	A reference to TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_67.txt.
REF_CADES_DET_NOK_TXT_DATA_67	A reference to TXT DATA NOK.txt.p7s, which has been uploaded in advance as TXT_DATA_NOK_67.txt.p7s.
REF_PDF_DATA_67	A reference to PDF_DATA.pdf, which has been uploaded in advance as PDF_DATA_67.pdf.
REF_CADES_DET_PDF_DATA_67	A reference to PDF DATA.pdf.p7s, which has been uploaded in advance as PDF_DATA_67.pdf.p7s.

<i>Container or Object Name</i>	<i>Description</i>
REF_XML_MDO_67	A reference to XML_MDO.xml, which has been uploaded in advance as XML_MDO_67.xml.
REF_TXT_DATA_68	A reference to TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_68.txt.
REF_CADES_DET_TXT_DATA_68	A reference to TXT DATA_NOK.txt.p7s, which has been uploaded in advance as TXT_DATA_68.txt.p7s.
REF_PDF_DATA_68	A reference to PDF_DATA.pdf, which has been uploaded in advance as PDF_DATA_68.pdf.
REF_CADES_DET_PDF_DATA_68	A reference to PDF_DATA.pdf.p7s, which has been uploaded in advance as PDF_DATA_68.pdf.p7s.
REF_XML_MDO_68	A reference to XML_MDO.xml, which has been uploaded in advance as XML_MDO_68.xml.
DXAIP_OK_SIG_NOK	A DXAIP_OK_SIG_OK containing an invalid digital signature (XML_DATA_NOK.xml.p7s).
XML_DATA_NOK.xml.p7s	An invalid detached electronic signature of XML_DATA.xml.
DXAIP_OK_SIG_NOK_VR	A verification report of DXAIP_OK_SIG_NOK created by the TOT.
DLXAIP_OK_SIG_NOK	A DLXAIP_OK_SIG_OK referencing an invalid digital signature (XML_DATA_NOK.xml.p7s).
DXAIP_OK_SIG_NOK_VR	A verification report of DLXAIP_OK_SIG_NOK, created by the TOT.
REF_XML_DATA_69	A reference to XML_DATA.xml, which has been uploaded in advance as XML_DATA_69.xml.
REF_CADES_DET_NOK_XML_DATA_69	A reference to XML_DATA.xml.p7s, which has been uploaded in advance as XML_DATA_NOK_69.xml.p7s.
REF_XML_DATA_70	A reference to XML_DATA.xml, which has been uploaded in advance as XML_DATA_70.xml.
REF_CADES_DET_NOK_XML_DATA_70	A reference to XML_DATA.xml.p7s, which has been uploaded in advance as XML_DATA_NOK_70.xml.p7s.
CADES_DET_OK	A valid digital signature of TXT_DATA.txt.
CADES_DET_NOK	An invalid digital signature of TXT_DATA.txt.
CADES_DET_NOK_VR	A verification report of CADES_DET_NOK created by the TOT.
XADES_ENVELOPED_NOK_VR	A verification report of XADES_ENVELOPED_NOK created by the TOT.
XADES_ENVELOPING_NOK_VR	A verification report of XADES_ENVELOPING_NOK created by the TOT.
PADES_NOK_VR	A verification report of PADES_NOK created by the TOT.
ASIC_E_CADES_NOK_VR	A verification report of ASIC_E_CADES_NOK created by the TOT.
ASIC_E_XADES_NOK_VR	A verification report of ASIC_E_XADES_NOK created by the TOT.
ASIC_E_TST_NOK_VR	A verification report of ASIC_E_TST_NOK created by the TOT.
ASIC_E_ER_NOK_VR	A verification report of ASIC_E_ER_NOK created by the TOT.
ASIC_S_CADES_NOK_VR	A verification report of ASIC_S_CADES_NOK created by the TOT.
ASIC_S_XADES_NOK_VR	A verification report of ASIC_S_XADES_NOK created by the TOT.
ASIC_S_TST_NOK_VR	A verification report of ASIC_S_TST_NOK created by the TOT.
ASIC_S_ER_NOK_VR	A verification report of ASIC_S_ER_NOK created by the TOT.
ER_OK_SHA-1_XAIP_OK_SIG_OK	A valid evidence record of XAIP_OK_SIG_OK using a SHA-1 for building the hash tree.
ER_OK_SHA-1_XAIP_OK_SIG_OK_VR	A verification report of ER_OK_SHA-1_XAIP_OK_SIG_OK created by the TOT.
ER_NOK_SHA-1_XAIP_OK_SIG_OK	A invalid evidence record of XAIP_OK_SIG_OK using a SHA-1 for building the hash tree.
ER_NOK_SHA-1_XAIP_OK_SIG_OK_VR	A verification report of ER_NOK_SHA-1_XAIP_OK_SIG_OK created by the TOT.
ER_OK_SHA-224_XAIP_OK_SIG_OK	A valid evidence record of XAIP_OK_SIG_OK using a SHA-224 for building the hash tree.
ER_OK_SHA-224_XAIP_OK_SIG_OK_VR	A verification report of ER_OK_SHA-224_XAIP_OK_SIG_OK created by the TOT.
ER_NOK_SHA-224_XAIP_OK_SIG_OK	A invalid evidence record of XAIP_OK_SIG_OK using a SHA-224 for building the hash tree.
ER_NOK_SHA-224_XAIP_OK_SIG_OK_VR	A verification report of ER_NOK_SHA-224_XAIP_OK_SIG_OK created by the TOT.

<i>Container or Object Name</i>	<i>Description</i>
ER_OK_SHA-256_XAIP_OK_SIG_OK	A valid evidence record of XAIP_OK_SIG_OK using a SHA-256 for building the hash tree.
ER_OK_SHA-256_XAIP_OK_SIG_OK_VR	A verification report of ER_OK_SHA-256_XAIP_OK_SIG_OK created by the TOT.
ER_NOK_SHA-256_XAIP_OK_SIG_OK	A invalid evidence record of XAIP_OK_SIG_OK using a SHA-256 for building the hash tree.
ER_NOK_SHA-256_XAIP_OK_SIG_OK_VR	A verification report of ER_NOK_SHA-256_XAIP_OK_SIG_OK created by the TOT.
ER_OK_SHA-384_XAIP_OK_SIG_OK	A valid evidence record of XAIP_OK_SIG_OK using a SHA-384 for building the hash tree.
ER_OK_SHA-384_XAIP_OK_SIG_OK_VR	A verification report of ER_OK_SHA-384_XAIP_OK_SIG_OK created by the TOT.
ER_NOK_SHA-384_XAIP_OK_SIG_OK	A invalid evidence record of XAIP_OK_SIG_OK using a SHA-384 for building the hash tree.
ER_NOK_SHA-384_XAIP_OK_SIG_OK_VR	A verification report of ER_NOK_SHA-384_XAIP_OK_SIG_OK created by the TOT.
ER_OK_SHA-512_XAIP_OK_SIG_OK	A valid evidence record of XAIP_OK_SIG_OK using a SHA-512 for building the hash tree.
ER_OK_SHA-512_XAIP_OK_SIG_OK_VR	A verification report of ER_OK_SHA-512_XAIP_OK_SIG_OK created by the TOT.
ER_NOK_SHA-512_XAIP_OK_SIG_OK	A invalid evidence record of XAIP_OK_SIG_OK using a SHA-512 for building the hash tree.
ER_NOK_SHA-512_XAIP_OK_SIG_OK_VR	A verification report of ER_NOK_SHA-512_XAIP_OK_SIG_OK created by the TOT.
ER_OK_SHA3-224_XAIP_OK_SIG_OK	A valid evidence record of XAIP_OK_SIG_OK using a SHA3-224 for building the hash tree.
ER_OK_SHA3-224_XAIP_OK_SIG_OK_VR	A verification report of ER_OK_SHA3-224_XAIP_OK_SIG_OK created by the TOT.
ER_NOK_SHA3-224_XAIP_OK_SIG_OK	A invalid evidence record of XAIP_OK_SIG_OK using a SHA3-224 for building the hash tree.
ER_NOK_SHA3-224_XAIP_OK_SIG_OK_VR	A verification report of ER_NOK_SHA3-224_XAIP_OK_SIG_OK created by the TOT.
ER_OK_SHA3-256_XAIP_OK_SIG_OK	A valid evidence record of XAIP_OK_SIG_OK using a SHA3-256 for building the hash tree.
ER_OK_SHA3-256_XAIP_OK_SIG_OK_VR	A verification report of ER_OK_SHA3-256_XAIP_OK_SIG_OK created by the TOT.
ER_NOK_SHA3-256_XAIP_OK_SIG_OK	A invalid evidence record of XAIP_OK_SIG_OK using a SHA3-256 for building the hash tree.
ER_NOK_SHA3-256_XAIP_OK_SIG_OK_VR	A verification report of ER_NOK_SHA3-256_XAIP_OK_SIG_OK created by the TOT.
ER_OK_SHA3-384_XAIP_OK_SIG_OK	A valid evidence record of XAIP_OK_SIG_OK using a SHA3-384 for building the hash tree.
ER_OK_SHA3-384_XAIP_OK_SIG_OK_VR	A verification report of ER_OK_SHA3-384_XAIP_OK_SIG_OK created by the TOT.
ER_NOK_SHA3-384_XAIP_OK_SIG_OK	A invalid evidence record of XAIP_OK_SIG_OK using a SHA3-384 for building the hash tree.
ER_NOK_SHA3-384_XAIP_OK_SIG_OK_VR	A verification report of ER_NOK_SHA3-384_XAIP_OK_SIG_OK created by the TOT.
ER_OK_SHA3-512_XAIP_OK_SIG_OK	A valid evidence record of XAIP_OK_SIG_OK using a SHA3-512 for building the hash tree.
ER_OK_SHA3-512_XAIP_OK_SIG_OK_VR	A verification report of ER_OK_SHA3-512_XAIP_OK_SIG_OK created by the TOT.
ER_NOK_SHA3-512_XAIP_OK_SIG_OK	A invalid evidence record of XAIP_OK_SIG_OK using a SHA3-512 for building the hash tree.
ER_NOK_SHA3-512_XAIP_OK_SIG_OK_VR	A verification report of ER_NOK_SHA3-512_XAIP_OK_SIG_OK created by the TOT.
XAIP_OK_V1_ER_OK_RESP	A valid evidence record of the first version of XAIP_OK, after successful resigning operation on the hash tree has been finished.
XAIP_OK_V2_ER_OK_RESP	A valid evidence record of the second version of XAIP_OK and DXAIP_OK, after successful resigning operation on the hash tree has been finished.

<i>Container or Object Name</i>	<i>Description</i>
XAIP_OK_V3_ER_OK_RESP	A valid evidence record of the third version of XAIP_OK and DXAIP_OK and DXAIP_OK_2, after successful resigning operation on the hash tree has been finished.
LXAIP_OK_V1_ER_OK_RESP	A valid evidence record of the first version of LXAIP_OK, after successful resigning operation on the hash tree has been finished.
LXAIP_OK_V2_ER_OK_RESP	A valid evidence record of the second version of LXAIP_OK and DLXAIP_OK, after successful resigning operation on the hash tree has been finished.
LXAIP_OK_V3_ER_OK_RESP	A valid evidence record of the third version of LXAIP_OK and DLXAIP_OK and DLXAIP_OK_2, after successful resigning operation on the hash tree has been finished.
XAIP_OK_V1_ER_OK_RESP_REH	The XAIP_OK_V1_ER_OK_RESP, after successful rehashing operation on the hash tree has been finished.
XAIP_OK_V2_ER_OK_RESP_REH	The XAIP_OK_V2_ER_OK_RESP, after successful rehashing operation on the hash tree has been finished.
XAIP_OK_V3_ER_OK_RESP_REH	The XAIP_OK_V3_ER_OK_RESP, after successful rehashing operation on the hash tree has been finished.
LXAIP_OK_V1_ER_OK_RESP_REH	The LXAIP_OK_V1_ER_OK_RESP, after successful rehashing operation on the hash tree has been finished.
LXAIP_OK_V2_ER_OK_RESP_REH	The LXAIP_OK_V2_ER_OK_RESP, after successful rehashing operation on the hash tree has been finished.
LXAIP_OK_V3_ER_OK_RESP_REH	The LXAIP_OK_V3_ER_OK_RESP, after successful rehashing operation on the hash tree has been finished.
REF_TXT_DATA_71	A reference to TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_71.txt.
REF_PDF_DATA_71	A reference to PDF_DATA.pdf, which has been uploaded in advance as PDF_DATA_71.pdf
REF_XML_MDO_71	A reference to XML_MDO.xml, which has been uploaded in advance as XML_MDO_71.xml.
REF_TXT_DATA_72	A reference to TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_72.txt.
REF_PDF_DATA_72	A reference to PDF_DATA.pdf, which has been uploaded in advance as PDF_DATA_72.pdf.
REF_XML_MDO_72	A reference to XML_MDO.xml, which has been uploaded in advance as XML_MDO_72.xml.
ER_NOK_LXAIP_OK_72	An invalid evidence record of LXAIP_OK.
REF_CADES_ATT_TXT_DATA_73	A reference to valid attached digital signature of TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_73.txt.p7m.
REF_TXT_DATA_74	A reference to TXT_DATA.txt, which has been uploaded in advance as TXT_DATA_74.txt.
REF_PDF_DATA_74	A reference to PDF_DATA.pdf, which has been uploaded in advance as PDF_DATA_74.pdf.
REF_XML_MDO_74	A reference to XML_MDO.xml, which has been uploaded in advance as XML_MDO_74.xml.
XAIP_OK_SO	A valid XAIP containing only single data object: <ul style="list-style-type: none">• TXT_DATA.txt.
ER_SO-1_OK_XAIP_OK_SO	A valid evidence record of XAIP_OK_SO, the hash value of the data object is directly included in the message imprint of the timestamp: <ul style="list-style-type: none">• ER(TSP(H(DO-01))).
ER_SO-2_OK_XAIP_OK_SO	A valid evidence record of XAIP_OK_SO, the hash value of the data object is placed in the single reduced hash tree and the same hash value is included in the message imprint of the timestamp: <ul style="list-style-type: none">• ER(H(DO-01),TSP(H(DO-01))).
ER_SO-3_OK_XAIP_OK_SO	A valid evidence record of XAIP_OK_SO, the hash value of the data object is placed in the single reduced hash tree and the hash value of those hash value (computet hash tree root) is included in the message imprint of the timestamp: <ul style="list-style-type: none">• ER(H(DO-01),TSP(H(H(DO-01)))).

Table 2: *Definition of test objects*⁶⁶ The test objects are listed in order of appearance in the particular test cases.

Furthermore, data elements of the type “anyType” are defined in the namespace “urn:oasis:names:tc:dss:1.0:core:schema” which can be found at <http://ws.openecard.org/schema/oasis-dss-core-schema-v1.0-os.xsd>.

3.4 Mandatory Tests

3.4.1 Function RetrieveInfo

All test cases defined in this section are derived from the general requirement A2.0-2 together with the interface specification of the RetrieveInfo function in section 3.8 of [TR-ESOR-E].

At least one active Preservation Profile is available:

<http://www.bsi.bund.de/tr-esor/V1.3/profile/S.4/v1.0>.

with URI= “<http://www.bsi.bund.de/tr-esor/V1.3/profile/S.4/v1.0>

At least one inactive Preservation Profile is available:

<http://www.bsi.bund.de/tr-esor/V1.3/profile/S.4/v0.05>

with URI = <http://www.bsi.bund.de/tr-esor/V1.3/profile/S.4/v0.05>

3.4.1.1 M-RI-01 – Retrieve Preservation Profile

Identifier		M-RI-01
Test Purpose		The test shall retrieve the actual Preservation Profile with <ul style="list-style-type: none"> URI= “http://www.bsi.bund.de/tr-esor/V1.3/profile/S.4/V1.0”
Configuration		<ul style="list-style-type: none"> CONFIG_ArchiSafe_C.2
Pre-test conditions		<ul style="list-style-type: none"> Authenticated connection to middleware exists. At least one active Preservation Profile is available (ACTIVE_PROFILE) and one not-active (INACTIVE_PROFILE).
Step	Test sequence	Expected Results
1	RetrieveInfoRequest (ProfileIdentifier(ACTIVE_PROFILE_URI))	RetrieveInfoResponse (dss:Result(resultmajor#ok), ACTIVE_PROFILE)
2	RetrieveInfoRequest (Status(inactive))	RetrieveInfoResponse (dss:Result(resultmajor#ok), INACTIVE_PROFILE)
3	RetrieveInfoRequest (Status(all))	RetrieveInfoResponse (dss:Result(resultmajor#ok), ACTIVE_PROFILE, INACTIVE_PROFILE)
4	RetrieveInfoRequest (Status(active))	RetrieveInfoResponse (dss:Result(resultmajor#ok), ACTIVE_PROFILE)
5	RetrieveInfoRequest (ProfileIdentifier(ACTIVE_PROFILE_URI), Status(active)	RetrieveInfoResponse (dss:Result(resultmajor#ok), ACTIVE_PROFILE

Identifier	M-RI-01	
6	RetrieveInfoRequest (ProfileIdentifier(ACTIVE_PROFILE_URI), Status(inactive))	RetrieveInfoResponse (dss:Result(resultmajor#ok))
7	RetrieveInfoRequest (ProfileIdentifier(ACTIVE_PROFILE_URI), Status(all))	RetrieveInfoResponse (dss:Result(resultmajor#ok), ACTIVE_PROFILE)
8	RetrieveInfoRequest ())	RetrieveInfoResponse (dss:Result(resultmajor#ok), ACTIVE_PROFILE)
Observations:		
Verdict:		

3.4.1.2 M-RI-02 – RetrieveInfo with unknown URI

Identifier	M-RI-02	
Test Purpose	The test shall verify that it will yield an error, if <code>RetrieveInfoRequest</code> is called without providing a known URI. As the present call also contains the <code>UNKNOWN_PROFILE_URI</code> , the <code>dss:Result</code> needs to indicate “/resultminor/arl/unknownURI”.	
Configuration	<ul style="list-style-type: none"> • <code>CONFIG_ArchiSafe_C.2</code> 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	RetrieveInfoRequest (UNKNOWN_PROFILE_URI)	RetrieveInfoResponse (dss:Result(resultmajor#error, resultminor/arl/unknownURI))
2	RetrieveInfoRequest (ACTIVE_PROFILE_URI)	RetrieveInfoResponse (dss:Result(resultmajor#ok), ACTIVE_PROFILE)
Observations:		
Verdict:		

3.4.1.3 M-RI-03 – RetrieveInfo with unknown control in OptionalInputs

Identifier	M-RI-03	
Test Purpose	The test shall verify that there will be an error, if the request contains unknown controls in the OptionalInputs-element and the RetrieveInfoRequest will not be successful.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • At least one active Preservation Profile is available with URI= “http://www.bsi.bund.de/tr-esor/V1.3/profile/S.4/V1.0” • The OptionalInputs-element and the RetrieveInfoRequest contains an unknown item. 	
Step	Test sequence	Expected Results
1	RetrieveInfoRequest (dss:OptionalInputs(SomethingUnknown), ACTIVE_PROFILE_URI)	ArchiveDeletionResponse (dss:Result(resultmajor#error, resultminor/arl/notSupported))
2	RetrieveInfoRequest (ACTIVE_PROFILE_URI)	RetrieveInfoResponse (dss:Result(resultmajor#ok), ACTIVE_PROFILE)
Observations:		
Verdict:		

3.4.2 Function ArchiveSubmission

All test cases defined in this section are derived from the requirement [TR ESOR M.1], (A4.1 1) and the general requirement [TR-ESOR-E], (A2.0-2) together with the interface specification of the ArchiveSubmission function in section 3.1 of [TR-ESOR-E].

3.4.2.1 M-SU-01 – XAIP_OK without AOID

Identifier	M-SU-01	
Test Purpose	The test shall verify that it is possible to submit XAIP_OK without AOID.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (XAIP_OK)	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-01)
2	ArchiveRetrievalRequest (AOID-01)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-01, VID-01))
3	ArchiveEvidenceRequest ⁷ (AOID-01)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-01, VID-01, XAIP_OK_V1_ER_OK))
4	<p>Test of correctness of the obtained XAIP_OK(AOID-01, VID-01) by using AIP-eIDAS-SigValidator</p> <pre>VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(XAIP_OK(AOID-01, VID-01)))))</pre>	<pre>VerifyResponse(dss:Result(resultmajor#ok), dss:OptionalOutputs(dssvr:VerificationReport(dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(vr:XAIPReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid) [...]))))))</pre>

⁷ Make sure the tested TR-ESOR-system has already obtained the archive time stamp.

Identifier	M-SU-01
5	<p>Test of correctness of the obtained XAIP_OK_V1_ER_OK by using ERVerifyTool.</p> <pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(XAIP_OK(AOID-01, VID-01)))) dss:SignatureObject(dss:Other(XAIP_ERS(AOID-01, VID-01, XAIP_OK_V1_ER_OK)))) </pre>
6	<p>ArchiveSubmissionRequest</p> <pre> (XAIP_OK_SIG_OK) </pre>
7	<p>ArchiveRetrievalRequest</p> <pre> (AOID-02) </pre>
8	<p>ArchiveEvidenceRequest⁷</p> <pre> (AOID-02) </pre>
Observations:	
Verdict:	

3.4.2.2 M-SU-01a – LXAIP_OK without AOID

Identifier	M-SU-01a	
Test Purpose	The test shall verify that it is possible to submit XAIP_OK without AOID.	
Configuration	<ul style="list-style-type: none"> • CONFIG_LXAIP 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results

Identifier	M-SU-01a
1 To be done manually! a) Following files have to be uploaded into middleware via upload/download-module (cf. chapters 4.2 and 4.3): 1) TXT_DATA_50.txt 2) XML_MDO_50.xml 3) PDF_DATA_50.pdf 4) TXT_DATA_51.txt 5) TXT_DATA_51.txt.p7s 6) PDF_DATA_51.pdf 7) PDF_DATA_51.pdf.p7s 8) XML_MDO_51.xml 9) TXT_DATA_52.txt 10) PDF_DATA_52.pdf 11) XML_MDO_52.xml 12) TXT_DATA_53.txt.p7m 13) XML_DATA_54.xml 14) XML_DATA_54.xml.p7s 15) TXT_DATA_55.txt 16) PDF_DATA_55.pdf 17) XML_MDO_55.xml 18) XML_DATA_56.xml 19) XML_DATA_56.xml.p7s 20) TXT_DATA_57.txt.p7m 21) TXT_DATA_58.txt 22) PDF_DATA_58.pdf 23) XML_MDO_58.xml 24) TXT_DATA_59.txt.p7m 25) TXT_DATA_60.txt.p7m 26) XML_DATA_60-1.xml 27) XML_DATA_60-1.xml.p7s 28) TXT_DATA_61.txt 29) TXT_DATA_61.txt.p7s 30) PDF_DATA_61.pdf 31) PDF_DATA_61.pdf.p7s 32) XML_MDO_61.xml 33) XML_DATA_62.xml 34) XML_DATA_62.xml.p7s 35) XML_DATA_63.xml 36) XML_DATA_63.xml.p7s 37) XML_DATA_64.xml 38) XML_DATA_64.xml.p7s 39) TXT_DATA_65.txt 40) TXT_DATA_65_NOK.p7s 41) PDF_DATA_65.pdf 42) PDF_DATA_65.pdf.p7s 43) XML_MDO_65.xml 44) TXT_DATA_66.txt 45) TXT_DATA_66.txt.p7s 46) PDF_DATA_66.pdf 47) PDF_DATA_66.pdf.p7s 48) XML_MDO_66.xml 49) TXT_DATA_67.txt 50) TXT_DATA_NOK_67.txt.p7s 51) PDF_DATA_67.pdf 52) PDF_DATA_67.pdf.p7s 53) XML_MDO_67.xml 54) TXT_DATA_68.txt 55) TXT_DATA_68.txt.p7s 56) PDF_DATA_68.pdf 57) PDF_DATA_68.pdf.p7s 58) XML_MDO_68.xml 59) XML_DATA_69.xml 60) XML_DATA_NOK_69.xml.p7s 61) XML_DATA_70.xml	a) As a result following data structures (proper instances of <code>asic:DataObjectReferences</code>) will be delivered: 1) REF_TXT_DATA_50 2) REF_XML_MDO_50 3) REF_PDF_DATA_50 4) REF_TXT_DATA_51 5) REF_CADES_DET_TXT_DATA_51 6) REF_PDF_DATA_51 7) REF_CADES_DET_PDF_DATA_51 8) REF_XML_MDO_51 9) REF_TXT_DATA_52 10) REF_PDF_DATA_52 11) REF_XML_MDO_52 12) REF_CADES_ATT_TXT_DATA_53 13) REF_XML_DATA_54 14) REF_CADES_DET_XML_DATA_54 15) REF_TXT_DATA_55 16) REF_PDF_DATA_55 17) REF_XML_MDO_55 18) REF_XML_DATA_56 19) REF_CADES_DET_XML_DATA_56 20) REF_CADES_ATT_TXT_DATA_57 21) REF_TXT_DATA_58 22) REF_PDF_DATA_58 23) REF_XML_MDO_58 24) REF_CADES_ATT_TXT_DATA_59 25) REF_CADES_ATT_TXT_DATA_60 26) REF_XML_DATA_60-1 27) REF_CADES_DET_XML_DATA_60-1 28) REF_TXT_DATA_61 29) REF_CADES_DET_TXT_DATA_61 30) REF_PDF_DATA_61 31) REF_CADES_DET_PDF_DATA_61 32) REF_XML_MDO_61 33) REF_XML_DATA_62 34) REF_CADES_DET_XML_DATA_62 35) REF_XML_DATA_63 36) REF_CADES_DET_XML_DATA_63 37) REF_XML_DATA_64 38) REF_CADES_DET_XML_DATA_64 39) REF_TXT_DATA_65 40) REF_CADES_DET_NOK_TXT_DATA_65 41) REF_PDF_DATA_65 42) REF_CADES_DET_PDF_DATA_65 43) REF_XML_MDO_65 44) REF_TXT_DATA_66 45) REF_CADES_DET_TXT_DATA_66 46) REF_PDF_DATA_66 47) REF_CADES_DET_PDF_DATA_66 48) REF_XML_MDO_66 49) REF_TXT_DATA_67 50) REF_CADES_DET_NOK_TXT_DATA_67 51) REF_PDF_DATA_67 52) REF_CADES_DET_PDF_DATA_67 53) REF_XML_MDO_67 54) REF_TXT_DATA_68 55) REF_CADES_DET_TXT_DATA_68 56) REF_PDF_DATA_68 57) REF_CADES_DET_PDF_DATA_68 58) REF_XML_MDO_68 59) REF_XML_DATA_69 60) REF_CADES_DET_NOK_XML_DATA_69 61) REF_XML_DATA_70

Identifier	M-SU-01a
	<p>62) XML_DATA_NOK_70.xml.p7s 63) TXT_DATA_71.txt 64) PDF_DATA_71.pdf 65) XML_MDO_71.xml 66) TXT_DATA_72.txt 67) PDF_DATA_72.pdf 68) XML_MDO_72.xml 69) TXT_DATA_73.txt.p7m 70) TXT_DATA_74.txt 71) PDF_DATA_74.pdf 72) XML_MDO_74.xml</p> <p>b) The references in the particular LXAIP* and DLXAIP* test objects will be adjusted according to the results in step a) automatically, the references have to be inserted into the configuration file of the testbed.</p>
2	<p>To be done manually! Try to upload the XAIP_OK by using the upload/download interface of the middleware.</p> <p>The upload-operation failed. Some kind of the machine-readable error code is delivered back. No data has been stored in the Storage.</p>
3	<p>To be done manually! Try to upload the LXAIP_OK by using the upload/download interface of the middleware.</p> <p>The upload-operation failed. Some kind of the machine-readable error code is delivered back. No data has been stored in the Storage.</p>
4	<p>To be done manually! Try to upload the ASIC_AIP_OK by using the upload/download interface of the middleware.</p> <p>The upload-operation failed. Some kind of the machine-readable error code is delivered back. No data has been stored in the Storage.</p>
5	<pre>ArchiveSubmissionRequest (LXAIP_OK(REF_TXT_DATA_50, REF_PDF_DATA_50, REF_XML_MDO_50))</pre>
6	<pre>ArchiveRetrievalRequest (dss:OptionalInputs(pres:POFormat(http://www.bsi.bund.de/tr-esor/lxaip/1.3)), AOID-01a)</pre>
7	<pre>ArchiveEvidenceRequest⁸ (AOID-01a)</pre>
8	<p>Make sure all in LXAIP_OK(AOID-01a, VID-01) referenced files have been copied into corresponding LXAIP-directory of the AIP-eIDAS-SigValidator adjust the given references in LXAIP_OK(AOID-01a, VID-01) in order to get them resolvable by the AIP-eIDAS-SigValidator.</p>
	<p>62) REF_CADES_DET_NOK_XML_DATA_70 63) REF_TXT_DATA_71 64) REF_PDF_DATA_71 65) REF_XML_MDO_71 66) REF_TXT_DATA_72 67) REF_PDF_DATA_72 68) REF_XML_MDO_72 69) REF_CADES_ATT_TXT_DATA_73 70) REF_TXT_DATA_74 71) REF_PDF_DATA_74 72) REF_XML_MDO_74</p>

⁸ Make sure the tested TR-ESOR-system has already obtained the archive time stamp.

Identifier	M-SU-01a	
9	<p>Test of correctness of the obtained LXAIP_OK(AOID-01, VID-01) by using AIP-eIDAS-SigValidator</p> <pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(LXAIP_OK_XSV(AOID-01, VID-01))))) </pre> <p>VerifyResponse(</p> <pre> dss:Result(resultmajor#ok), dss:OptionalOutputs(dssvr:VerificationReport(dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid)))) </pre> <p>)</p>	
10	<p>Test of correctness of the obtained LXAIP_OK_V1_ER_OK by using ERVerifyTool.</p> <pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(LXAIP_OK_XSV(AOID-01a, VID-01)))) dss:SignatureObject(dss:Other(XAIP_ERS(AOID-01a, VID-01, LXAIP_OK_V1_ER_OK)))) </pre> <p>VerifyResponse(</p> <pre> dss:Result(resultmajor#ok), dss:OptionalOutputs(dssvr:VerificationReport(dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid)))) </pre> <p>)</p>	
11	<p>ArchiveSubmissionRequest</p> <pre> (LXAIP_OK_SIG_OK(REF_TXT_DATA_51, REF_CADES_DET_TXT_DATA_51, REF_PDF_DATA_51, REF_CADES_DET_PDF_DATA_51, REF_XML_MDO_51)) </pre>	<p>ArchiveSubmissionResponse</p> <pre> (dss:Result(resultmajor#ok), AOID-02a) </pre>
12	<p>ArchiveRetrievalRequest</p> <pre> (dss:OptionalInputs(pres:POFormat(http://www.bsi.bund.de/tr-esor/lxaip/1.3)), AOID-02a) </pre>	<p>ArchiveRetrievalResponse</p> <pre> (dss:Result(resultmajor#ok), LXAIP_OK_SIG_OK(AOID-02a, VID-01)) </pre>

Identifier	M-SU-01a	
13	ArchiveEvidenceRequest ⁸ (AOID-02a)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-02a, VID-01, LXAIP_OK_SIG_OK_V1_ER_OK))
Observations:		
Verdict:		

3.4.2.3 M-SU-02 – XAIP_NOK

Identifier	M-SU-02	
Test Purpose	The test shall verify that there will be an error, if a (syntactically incorrect) XAIP_NOK is submitted.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (XAIP_NOK)	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK)) Alternatively response to the one above could be following or similar: <soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"> <soap:Body> <soap:Fault> <faultcode>soap:Client</faultcode> <faultstring>Problems creating SAAJ object model</faultstring> </soap:Fault> </soap:Body> </soap:Envelope>
2	ArchiveSubmissionRequest (XAIP_NOK_VERSION)	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK)) Alternatively response to the one above could be following or similar: <soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"> <soap:Body> <soap:Fault> <faultcode>soap:Client</faultcode>

Identifier	M-SU-02
	<pre><faultstring>Problems creating SAAJ object model</faultstring> </soap:Fault> </soap:Body> </soap:Envelope></pre>
Observations:	
Verdict:	

3.4.2.4 M-SU-02a – LXAIP_NOK

Identifier	M-SU-02a	
Test Purpose	The test shall verify that there will be an error, if a (syntactically incorrect, missing element ds:DigestValue in element asic:DataObjectReference) LXAIP_NOK is submitted.	
Configuration	<ul style="list-style-type: none"> • CONFIG_LXAIP 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (LXAIP_NOK)	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK)) Alternatively response to the one above could be following or similar: <soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"> <soap:Body> <soap:Fault> <faultcode>soap:Client</faultcode> <faultstring>Problems creating SAAJ object model</faultstring> </soap:Fault> </soap:Body> </soap:Envelope>
Observations:		
Verdict:		

3.4.2.5 M-SU-03 – XAIP_NOK_EXPIRED

Identifier		M-SU-03
Test Purpose		The test shall verify that there will be an error, if the semantically incorrect XAIP_NOK_EXPIRED is submitted.
Configuration		<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2
Pre-test conditions		<ul style="list-style-type: none"> • Authenticated connection to middleware exists.
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (XAIP_NOK_EXPIRED)	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_EXPIRED))
Observations:		
Verdict:		

3.4.2.6 M-SU-04 – XAIP_NOK_SUBMTIME

Identifier		M-SU-04
Test Purpose		The test shall verify that there will be an error, if the semantically incorrect XAIP_NOK_SUBMTIME is submitted.
Configuration		<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2
Pre-test conditions		<ul style="list-style-type: none"> • Authenticated connection to middleware exists.
Step	Test sequence	Expected Results
1	Prepare XAIP_NOK_SUBMTIME, set the value of the element xaip:submissionTime in xaip:submissionInfo to the time in the past	XAIP_NOK_SUBMTIME(past)
2	ArchiveSubmissionRequest (XAIP_NOK_SUBMTIME(past))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_SUBMTIME))
3	Prepare XAIP_NOK_SUBMTIME, set the value of the element xaip:submissionTime in xaip:submissionInfo to the time in the future	XAIP_NOK_SUBMTIME(future)
4	ArchiveSubmissionRequest (XAIP_NOK_SUBMTIME(future))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_SUBMTIME))

Identifier	M-SU-04
Observations:	
Verdict:	

3.4.2.7 M-SU-05 – XAIP_NOK_SIG

Identifier	M-SU-05	
Test Purpose	The test shall verify that there will be an error, if the submitted XAIP_NOK_SIG contains digital signatures, which do not verify correctly ⁹ .	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • The TOT is configured only to accept valid signatures. 	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (XAIP_NOK_SIG)	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_SIG) dss:OptionalOutputs(XAIP_NOK_SIG_VR))
Observations:		
Verdict:		

3.4.2.8 M-SU-06 – XAIP_NOK_ER

Identifier	M-SU-06	
Test Purpose	The test shall verify that there will be an error, because the submitted XAIP_NOK_ER contains an incorrect Evidence Record.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (XAIP_NOK_ER)	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER) dss:OptionalOutputs(XAIP_NOK_ER_VR))

⁹ See also Annex E (Version 1.3, Chapter 3.7.1 (VerifyUnderSignaturePolicy)).

Identifier	M-SU-06
Observations:	
Verdict:	

3.4.2.9 M-SU-06a – LXAIP_NOK_ER

Identifier	M-SU-06a	
Test Purpose	The test shall verify that there will be an error, because the submitted LXAIP_NOK_ER contains an incorrect Evidence Record.	
Configuration	<ul style="list-style-type: none"> • CONFIG_LXAIP 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Test case M-SU-01a has been performed successfully. 	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (LXAIP_NOK_ER(REF_TXT_DATA_52, REF_PDF_DATA_52, REF_XML_MDO_52, ER_NOK_LXAIP_OK))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER) dss:OptionalOutputs(LXAIP_NOK_ER_VR))
Observations:		
Verdict:		

3.4.2.10 M-SU-07 – XAIP_OK and unknown control in OptionalInputs

Identifier	M-SU-07	
Test Purpose	The test shall verify that there will be an error, if the request contains unknown controls in the OptionalInputs-element and the archive data object will not be imported.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (dss:OptionalInputs(SomethingUnknown), XAIP_OK)	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/arl/notSupported),)

Identifier	M-SU-07
Observations:	
Verdict:	

3.4.2.11 M-SU-08 – BIN_OK

Identifier	M-SU-08	
Test Purpose	The test shall validate that it is possible to submit as BIN defined data. BIN means here: <ul style="list-style-type: none"> • CADES_ATT_OK, • XADES_ENVELOPED_OK, XADES_ENVELOPING_OK, • PADES_OK, • ASiC_S_CADES_OK, ASiC_S_XADES_OK, ASiC_S_TST_OK, ASiC_S_ER_OK, • ASiC_E_CADES_OK, ASiC_E_XADES_OK, ASiC_E_TST_OK, ASiC_E_ER_OK, • DIGEST_LIST. 	
Configuration	• CONFIG_ArchiSafe_C.2	
Pre-test conditions	• Authenticated connection to middleware exists.	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/XAdES , AD-01, CADES_ATT_OK))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-200)
2	ArchiveRetrievalRequest (AOID-200)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-200, VID-01, credential(AD-01, CADES_ATT_OK)))
3	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/CAdES , AD-01, XADES_ENVELOPED_OK))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-201)
4	ArchiveRetrievalRequest (AOID-201)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-201, VID-01, dataObject(AD-01, xmlData(XADES_ENVELOPED_OK))))

Identifier	M-SU-08	
	<pre> OR¹⁰ ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-201, VID-01, dataObject(AD-01, binaryData(XADES_ENVELOPED_OK)))) </pre>	
5	<pre> ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/CAdES, AD-01, XADES_ENVELOPING_OK)) </pre>	<pre> ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-202) </pre>
6	<pre> ArchiveRetrievalRequest (AOID-202) </pre>	<pre> ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-202, VID-01, credential(AD-01, SignatureObject(XADES_ENVELOPING_OK)))) OR¹¹ ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-202, VID-01, credential(AD-01, Base64Signature(XADES_ENVELOPING_OK)))) </pre>
7	<pre> ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/PAdES, AD-01, PADES_OK)) </pre>	<pre> ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-203) </pre>

¹⁰ An enveloped XAdES could be placed in XAIP as binary data stream in an element <`xaip:binaryData`> (as recommended in [TR-ESOR-F], section 6.2), or as xml data stream in an element <`xaip:xmlData`> in the <`xaip:dataObjectsSection`>-element.

¹¹ An enveloping XAdES could be placed in XAIP as binary credential data stream in an element <`dss:base64Signature`> (as recommended in [TR-ESOR-F], section 6.2), or as xml credential data stream directly aa element <`dss:Signature`> in the <`dss:SignatureObject`>-element of the <`xaip:credential`> parent element.

Identifier	M-SU-08	
8	ArchiveRetrievalRequest (AOID-203)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-203, VID-01, dataObject(AD-01, PADES_OK)))
9	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-E , AD-01, ASiC_E_CADES_OK))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-204)
10	ArchiveRetrievalRequest (AOID-204)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-204, VID-01, credential(AD-01, ASiC_E_CADES_OK)))
11	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-E , AD-01, ASIC_E_XADES_OK))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-205)
12	ArchiveRetrievalRequest (AOID-205)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-205, VID-01, credential(AD-01, ASIC_E_XADES_OK)))
13	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-E , AD-01, ASIC_E_TST_OK))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-206)
14	ArchiveRetrievalRequest (AOID-206)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-206, VID-01, credential(AD-01, ASIC_E_TST_OK)))
15	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-E , AD-01, ASIC_E_ER_OK))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-207)

Identifier	M-SU-08	
16	ArchiveRetrievalRequest (AOID-207)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-207, VID-01, credential(AD-01, ASIC_E_ER_OK)))
17	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/19512/format/DigestList , AD-01, DIGEST_LIST))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-208)
18	ArchiveRetrievalRequest (AOID-208)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-208, VID-01, dataObject(AD-01, xmlData(DIGEST_LIST)))) OR ¹² ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-208, VID-01, dataObject(AD-01, binaryData(DIGEST_LIST))))
19	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-S , AD-01, ASiC_S_CADES_OK))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-209)
20	ArchiveRetrievalRequest (AOID-209)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-209, VID-01, credential(AD-01, ASiC_S_CADES_OK)))
21	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-S , AD-01, ASIC_E_XADES_OK))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-210)

¹² A digest list as XML based data object could be placed in XAIP as binary data stream in an element <xaip:binaryData> or as xml data stream in an element <xaip:xmlData> in the <xaip:dataObjectsSection>-element.

Identifier	M-SU-08	
))	
22	ArchiveRetrievalRequest (AOID-210)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-210, VID-01, credential(AD-01, ASIC_E_XADES_OK)))
23	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-S , AD-01, ASIC_E_TST_OK))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-211)
24	ArchiveRetrievalRequest (AOID-211)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-211, VID-01, credential(AD-01, ASIC_E_TST_OK)))
25	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-S , AD-01, ASIC_E_ER_OK))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-212)
26	ArchiveRetrievalRequest (AOID-212)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP(AOID-212, VID-01, credential(AD-01, ASIC_E_ER_OK)))
Observations:		
Verdict:		

3.4.2.12 M-SU-09 – BIN_NOK

Identifier	M-SU-09
Test Purpose	The test shall validate that there will be an error in case an as BIN defined data containing an invalid signature will be submitted. BIN means here: <ul style="list-style-type: none">• CADES_ATT_NOK• XADES_ENVELOPED_NOK, XADES_ENVELOPING_NOK,• PADES_NOK,

Identifier	M-SU-09	
	<ul style="list-style-type: none"> • ASIC_E_CADES_NOK, ASIC_E_XADES_NOK, ASIC_E_TST_NOK, ASIC_E_ER_NOK, • ASIC_S_CADES_NOK, ASIC_S_XADES_NOK, ASIC_S_TST_NOK, ASIC_S_ER_NOK. 	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • The TOT is configured only to accept valid signatures. 	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/XAdES , AD-01, CADES_ATT_NOK))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature) dss:OptionalOutputs(CADES_ATT_NOK_VR))
2	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/CAdES , AD-01, XADES_ENVELOPED_NOK))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature) dss:OptionalOutputs(XADES_ENVELOPED_NOK_VR))
3	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/CAdES , AD-01, XADES_ENVELOPING_NOK))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature) dss:OptionalOutputs(XADES_ENVELOPING_NOK_VR))
4	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/PAdES , AD-01, PADES_NOK))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature) dss:OptionalOutputs(PADES_NOK_VR))
5	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-E , AD-01, ASIC_E_CADES_NOK))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature) dss:OptionalOutputs(ASIC_E_CADES_NOK_VR))
6	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-E , AD-01, ASIC_E_XADES_NOK))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature) dss:OptionalOutputs(ASIC_E_XADES_NOK_VR))
7	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-E ,)	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature)

Identifier	M-SU-09	
	dss:OptionalOutputs(ASIC_E_TST_NOK_VR))	
8	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-E , AD-01, ASIC_E_ER_NOK))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature) dss:OptionalOutputs(ASIC_E_ER_NOK_VR))
9	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-S , AD-01, ASIC_S_CADES_NOK))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature) dss:OptionalOutputs(ASIC_S_CADES_NOK_VR))
10	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-S , AD-01, ASIC_S_XADES_NOK))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature) dss:OptionalOutputs(ASIC_S_XADES_NOK_VR))
11	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-S , AD-01, ASIC_S_TST_NOK))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature) dss:OptionalOutputs(ASIC_S_TST_NOK_VR))
12	ArchiveSubmissionRequest (ArchiveData(http://uri.etsi.org/ades/ASiC/type/ASiC-S , AD-01, ASIC_S_ER_NOK))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature) dss:OptionalOutputs(ASIC_S_ER_NOK_VR))
Observations:		
Verdict:		

3.4.3 Function ArchiveUpdate

All test cases defined in this section are derived from the requirement A4.2-3 and the general requirement A2.0-2 together with the interface specification of the ArchiveUpdate function in section 3.2 of [TR-ESOR-E]. According to section 2 of [TR-ESOR-E], ArchiveUpdateRequest and ArchiveUpdateResponse should be supported.

If ArchiveUpdate function is not supported, the following test cases are obsolete, otherwise they have to be fulfilled.

3.4.3.1 M-UP-01 – DXAIP_OK

Identifier	M-UP-01	
Test Purpose	The test shall verify that it is possible to submit a correct DXAIP_OK with ArchiveUpdateRequest.	
Step	Test sequence	Expected Results
1	Insert AOID-01 into the prepared DXAIP_OK-template.	DXAIP_OK(AOID-01, VID-01, VID-02)
2	ArchiveUpdateRequest (DXAIP_OK(AOID-01, VID-01, VID-02))	ArchiveUpdateResponse (dss:Result(resultmajor#OK), VersionID(VID-02))
3	Insert AOID-01 into the prepared DXAIP_OK_2-template.	DXAIP_OK_2(AOID-01, VID-02, VID-03)
4	ArchiveUpdateRequest (DXAIP_OK_2(AOID-01, VID-02, VID-03))	ArchiveUpdateResponse (dss:Result(resultmajor#OK), VersionID(VID-03))
5	ArchiveSubmissionRequest (XAIP_OK)	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-01z)
6	Insert AOID-01z into the prepared DXAIP_OK_SIG_ONLY-template.	DXAIP_OK_SIG_ONLY(AOID-01z, VID-01, VID-02)
7	ArchiveUpdateRequest (DXAIP_OK_SIG_ONLY(AOID-01z, VID-01, VID-02))	ArchiveUpdateResponse (dss:Result(resultmajor#OK), VersionID(VID-02))
Observations:		
Verdict:		

3.4.3.2 M-UP-01a – DLXAIP_OK

Identifier	M-UP-01a	
Test Purpose	The test shall verify that it is possible to submit a correct DLXAIP_OK with ArchiveUpdateRequest.	
Configuration	<ul style="list-style-type: none"> • CONFIG_LXAIP 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that test case M-UP-01a was successfully performed with AOID-01a. 	
Step	Test sequence	Expected Results
1	Insert AOID-01a into the prepared DLXAIP_OK-template.	DLXAIP_OK(AOID-01a, VID-01, VID-02)
2	ArchiveUpdateRequest (DLXAIP_OK(AOID-01a, VID-01, VID-02, REF_CADES_ATT_TXT_DATA_53))	ArchiveUpdateResponse (dss:Result(resultmajor#OK), VersionID(VID-02))
3	Insert AOID-01a into the prepared DLXAIP_OK_2-template.	DLXAIP_OK_2(AOID-01a, VID-02, VID-03)
4	ArchiveUpdateRequest (DLXAIP_OK_2(AOID-01a, VID-02, VID-03, REF_XML_DATA_54, REF_CADES_DET_XML_DATA_54))	ArchiveUpdateResponse (dss:Result(resultmajor#OK), VersionID(VID-03))
Observations:		
Verdict:		

3.4.3.3 M-UP-02 – DXAIP_NOK_AOID

Identifier	M-UP-02	
Test Purpose	The test shall verify that there will be an error, if a DXAIP_NOK_AOID with a not yet assigned AOID is submitted.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	Choice an AOID-03 within the possible range and make sure, that it has not been assigned yet. This is realised by the following call: ArchiveRetrievalRequest (AOID-03)	ArchiveRetrievalResponse (dss:Result(resultmajor#error, resultminor/arl/unknownAOID))
2	Insert AOID-03 into DXAIP_NOK_AOID.	DXAIP_NOK_AOID(AOID-03)

Identifier	M-UP-02	
3	ArchiveUpdateRequest (DXAIP_NOK_AOID(AOID-03))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_AOID))
Observations:		
Verdict:		

3.4.3.4 M-UP-03 – DXAIP_NOK

Identifier	M-UP-03	
Test Purpose	The test shall verify that there will be an error, if a (syntactically incorrect) DXAIP_NOK is submitted.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (XAIP_OK)	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-04)
2	Insert AOID-04 into the prepared DXAIP_NOK-template.	DXAIP_NOK(AOID-04, VID-01, VID-02)
3	ArchiveUpdateRequest (DXAIP_NOK(AOID-04, VID-01, VID-02))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK) Alternatively response to the one above could be following or similar: <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"> <soapenv:Body> <soapenv:Fault> <faultcode>Server</faultcode> <faultstring>Failed to dispatch using script; java.lang.Exception: VALIDATION ERRORS: [line 1: Expected element 'protectedObjectPointer@http://www.bsi.bund.de/tr- esor/xaip' instead of 'AOID@http://www.bsi.bund.de/tr- esor/xaip' here in element packageInfoUnit@http://www.bsi.bund.de/tr- esor/xaip]</faultstring> </soapenv:Fault> </soapenv:Body> </soapenv:Envelope>

Identifier	M-UP-03
Observations:	
Verdict:	

3.4.3.5 M-UP-03a – DLXAIP_NOK

Identifier	M-UP-03a	
Test Purpose	The test shall verify that there will be an error, if a (syntactically incorrect) DLXAIP_NOK is submitted.	
Configuration	• CONFIG_LXAIP	
Pre-test conditions	• Authenticated connection to middleware exists.	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (LXAIP_OK(REF_TXT_DATA_55, REF_PDF_DATA_55, REF_XML_MDO_55))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-04a)
2	Insert AOID-04a into the prepared DLXAIP_NOK-template.	DLXAIP_NOK(AOID-04a, VID-01, VID-02)
3	ArchiveUpdateRequest (DLXAIP_NOK(AOID-04a, VID-01, VID-02 REF_XML_DATA_56, REF_CADES_DET_XML_DATA_56))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK)) Alternatively response to the one above could be following or similar: <soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope"/> <soapenv:Body> <soapenv:Fault> <faultcode>Server</faultcode> <faultstring>Failed to dispatch using script; java.lang.Exception: VALIDATION ERRORS: [line 1: Expected element 'protectedObjectPointer@http://www.bsi.bund.de/tr- esor/xaip' instead of 'AOID@http://www.bsi.bund.de/tr- esor/xaip' here in element packageInfoUnit@http://www.bsi.bund.de/tr- esor/xaip]</faultstring> </soapenv:Fault> </soapenv:Body> </soapenv:Envelope>
Observations:		

Identifier	M-UP-03a
Verdict:	

3.4.3.6 M-UP-04 – DXAIP_NOK_EXPIRED

Identifier	M-UP-04	
Test Purpose	The test shall verify that there will be an error, if the invalid DXAIP_NOK_EXPIRED is submitted.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that test case M-UP-03 was successfully performed with AOID-04. 	
Step	Test sequence	Expected Results
1	Insert AOID-04 into the prepared DXAIP_NOK_EXPIRED-template.	DXAIP_NOK_EXPIRED(AOID-04, VID-01, VID-02)
2	ArchiveUpdateRequest (DXAIP_NOK_EXPIRED(AOID-04, VID-01, VID-02))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_EXPIRED))
Observations:		
Verdict:		

3.4.3.7 M-UP-05 – DXAIP_NOK_SUBMTIME

Identifier	M-UP-05	
Test Purpose	The test shall verify that there will be an error, if the invalid DXAIP_NOK_SUBMTIME is submitted.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that test case M-UP-03 was successfully performed with AOID-04 	
Step	Test sequence	Expected Results
1	Insert AOID-04 into the prepared DXAIP_NOK_SUBMTIME-template Prepare DXAIP_NOK_SUBMTIME, set the value of the element xaip:submissionTime in xaip:submissionInfo to the time in the past.	DXAIP_NOK_SUBMTIME(AOID-04, VID-01, VID-02, SubmissionTime(in the past))
2	ArchiveUpdateRequest (DXAIP_NOK_SUBMTIME(AOID-04, VID-01, VID-02, SubmissionTime(in the past)))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_SUBMTIME))

Identifier	M-UP-05	
3	Insert AOID-04 into the prepared DXAIP_NOK_SUBMTIME-template Prepare DXAIP_NOK_SUBMTIME, set the value of the element xaip:submissionTime in xaip:submissionInfo to the time in the future	DXAIP_NOK_SUBMTIME(AOID-04, VID-01, VID-02, SubmissionTime(in the future))
4	ArchiveUpdateRequest (DXAIP_NOK_SUBMTIME(AOID-04, VID-01, VID-02, SubmissionTime(in the future)))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_SUBMTIME))
Observations:		
Verdict:		

3.4.3.8 M-UP-06 – DXAIP_NOK_SIG

Identifier	M-UP-06	
Test Purpose		The test shall verify that there will be an error, if the submitted DXAIP_NOK_SIG contains digital signatures, which do not verify correctly ¹³ .
Configuration		<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2
Pre-test conditions		<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that test case M-UP-03 was successfully performed with AOID-04 • The TOT is configured only to accept valid signatures.
Step	Test sequence	Expected Results
1	Insert AOID-04 into the prepared DXAIP_NOK_SIG-template.	DXAIP_NOK_SIG(AOID-04, VID-01, VID-02)
2	ArchiveUpdateRequest (DXAIP_NOK_SIG(AOID-04, VID-01, VID-02))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_SIG), dss:OptionalOutputs(DXAIP_NOK_SIG_VR(AOID-04, VID-01, VID-02)))
Observations:		
Verdict:		

¹³ See Annex E (Version 1.2, Chapter 3.7.1, (VerifyUnderSignaturePolicy)

3.4.3.9 M-UP-07 – DXAIP_NOK_ER

Identifier	M-UP-07	
Test Purpose	The test shall verify that there will be an error, because the submitted DXAIP_NOK_ER contains an invalid Evidence Record.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that test case M-UP-03 was successfully performed with AOID-04. 	
Step	Test sequence	Expected Results
1	Insert AOID-04 into the prepared DXAIP_NOK_ER-template.	DXAIP_NOK_ER(AOID-04, VID-01, VID-02)
2	ArchiveUpdateRequest (DXAIP_NOK_ER(AOID-04, VID-01, VID-02))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_ER), dss:OptionalOutputs(DXAIP_NOK_ER_VR(AOID-04, VID-01, VID-02)))
Observations:		
Verdict:		

3.4.3.10 M-UP-07a – DLXAIP_NOK_ER

Identifier	M-UP-07a	
Test Purpose	The test shall verify that there will be an error, because the submitted DLXAIP_NOK_ER contains an invalid Evidence Record.	
Configuration	<ul style="list-style-type: none"> • CONFIG_LXAIP 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that test case M-UP-03a was successfully performed with AOID-04a. 	
Step	Test sequence	Expected Results
1	Insert AOID-04a into the prepared DLXAIP_NOK_ER-template.	DLXAIP_NOK_ER(AOID-04a, VID-01, VID-02)
2	ArchiveUpdateRequest (DLXAIP_NOK_ER(AOID-04a, VID-01, VID-02,, REF_CADES_ATT_TXT_DATA_57, ER_NOK_LXAIP_OK_V2))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_ER), dss:OptionalOutputs(DLXAIP_NOK_ER_VR(AOID-04a, VID-01, VID-02)))
Observations:		

Identifier	M-UP-07a
Verdict:	

3.4.3.11 M-UP-08 – DXAIP_NOK_VERSION

Identifier	M-UP-08	
Test Purpose	The test shall verify that there will be an error, if a DXAIP_NOK_VERSION is submitted with ArchiveUpdateRequest, which produces a collision ¹⁴ with the already existing XAIP.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that test case M-UP-03 was successfully performed with AOID-04. 	
Step	Test sequence	Expected Results
1	Insert AOID-04 into the prepared DXAIP_NOK_VERSION-template. Set the previous version to VID-10.	DXAIP_NOK_VERSION(AOID-04, VID-10, VID-02)
2	ArchiveUpdateRequest (DXAIP_NOK_VERSION(AOID-04, VID-10, VID-02))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_VERSION))
3	Insert AOID-04 into the prepared DXAIP_OK-template.	DXAIP_OK(AOID-04, VID-01, VID-02)
4	ArchiveUpdateRequest (DXAIP_OK(AOID-04, VID-01, VID-02))	ArchiveUpdateResponse (dss:Result(resultmajor#OK), VersionID(VID-02))
5	Insert AOID-04 into the prepared DXAIP_NOK_VERSION-template. Set the previous version to VID-01.	DXAIP_NOK_VERSION(AOID-04, VID-01, VID-03)
6	ArchiveUpdateRequest (DXAIP_NOK_VERSION(AOID-04, VID-01, VID-03))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_VERSION))
Observations:		
Verdict:		

¹⁴ A wrong „version“ (DXAIP_NOK_VERSION) may be caused by inserting a DXAIP where the value in the element prevVersion in the updateSection of the DXAIP is not the latest version of this XAIP.

3.4.3.12 M-UP-09 – DXAIP_OK with unknown control in OptionalInputs

Identifier	M-UP-09	
Test Purpose	The test shall verify that there will be an error, if the request contains unknown controls in the OptionalInputs-element.	
Configuration	CONFIG_ArchiSafe_C.2	
Pre-test conditions	<ul style="list-style-type: none"> Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (XAIP_OK)	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-05)
2	Insert AOID-05 into the prepared DXAIP_OK-template.	DXAIP_OK(AOID-05, VID-01, VID-02)
3	ArchiveUpdateRequest (dss:OptionalInputs(SomethingUnknown), DXAIP_OK(AOID-05, VID-01, VID-02))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/arl/notSupported))
4	ArchiveUpdateRequest (DXAIP_OK(AOID-05, VID-01, VID-02))	ArchiveUpdateResponse (dss:Result(resultmajor#ok), VersionID(VID-02))
5	Insert AOID-05 and VID-02 as previous and VID-03 as new versions into the prepared DXAIP_OK_2-template.	DXAIP_OK_2(AOID-05, VID-02, VID-03)
6	ArchiveUpdateRequest (DXAIP_OK_2(AOID-05, VID-02, VID-03))	ArchiveUpdateResponse (dss:Result(resultmajor#ok), VersionID(VID-03))
Observations:		
Verdict:		

3.4.3.13 M-UP-09a – DLXAIP_OK with unknown control in OptionalInputs

Identifier	M-UP-09a	
Test Purpose	The test shall verify that there will be an error, if the request contains unknown controls in the OptionalInputs-element.	
Configuration	CONFIG_LXAIP	
Pre-test conditions	<ul style="list-style-type: none"> Authenticated connection to middleware exists. 	

Identifier	M-UP-09a	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (LXAIP_OK(REF_TXT_DATA_58, REF_PDF_DATA_58, REF_XML_MDO_58))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-05a)
2	Insert AOID-05a into the prepared DLXAIP_OK-template.	DLXAIP_OK(AOID-05a, VID-01, VID-02)
3	ArchiveUpdateRequest (dss:OptionalInputs(SomethingUnknown), DLXAIP_OK(AOID-05a, VID-01, VID-02, REF_CADES_ATT_TXT_DATA_59))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/arl/notSupported))
4	ArchiveUpdateRequest (DLXAIP_OK(AOID-05a, VID-01, VID-02, REF_CADES_ATT_TXT_DATA_60))	ArchiveUpdateResponse (dss:Result(resultmajor#ok), VersionID(VID-02))
5	Insert AOID-05a into the prepared DLXAIP_OK_2-template.	DLXAIP_OK_2(AOID-05a, VID-02, VID-03)
6	ArchiveUpdateRequest (DLXAIP_OK_2(AOID-05a, VID-02, VID-03, REF_XML_DATA_60-1, REF_CADES_DET_XML_DATA_60-1)	ArchiveUpdateResponse (dss:Result(resultmajor#OK), VersionID(VID-03))
Observations:		
Verdict:		

3.4.4 Function ArchiveRetrieval

All test cases defined in this section are derived from the general requirement A2.0-2 together with the interface specification of the ArchiveRetrieval function in section 3.3 of [TR-ESOR-E].

3.4.4.1 M-RE-01 – Retrieval of previously archived XAIPs

Identifier	M-RE-01	
Test Purpose	The test shall verify that it is possible to retrieve previously archived XAIPs.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that the test cases M-SU-01, M-UP-01 and M-UP-09 were successfully performed. • Requirements (A3.3.1-1) and (A3.3.1-2) of [TR-ESOR-E]; 	
Step	Test sequence	Expected Results
1	ArchiveRetrievalRequest (AOID-01)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-01, VID-03))
2	ArchiveRetrievalRequest (AOID-02)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK_SIG_OK(AOID-02, VID-01))
3	The fulfilment of the requirement A3.3.1-2 ¹⁵ is checked.	
4	ArchiveRetrievalRequest (AOID-05, VID-02)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-05, VID-02))
5	ArchiveRetrievalRequest (AOID-05, VID-01)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-05, VID-01))
6	ArchiveRetrievalRequest (AOID-05, VID-01, VID-02)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-05, VID-01, VID-02))
7	ArchiveRetrievalRequest (AOID-05, ALL)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-05, VID-01, VID-02, VID-03))
8	Test of correctness of the obtained XAIP_OK(AOID-05, VID-01, VID-02, VID-03) by using AIP-eIDAS-SigValidator VerifyRequest (dss:InputDocuments(dss:Document(VerifyResponse(dss:Result(resultmajor#ok), dss:OptionalOutputs(dssvr:VerificationReport(

¹⁵ See Annex E (Section 3.3.1).

3.4.4.2 M-RE-01a – Retrieval of previously archived LXAIPs

Identifier	M-RE-01a	
Test Purpose	The test shall verify that it is possible to retrieve previously archived LXAIPs.	
Configuration	<ul style="list-style-type: none"> • CONFIG_LXAIP 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that the test cases M-SU-01a, M-UP-01a and M-UP-09a were successfully performed. • Requirements (A3.3.1-1) and (A3.3.1-2) of [TR-ESOR-E];; 	
Step	Test sequence	Expected Results
1	ArchiveRetrievalRequest (dss:OptionalInputs(pres:POFormat(http://www.bsi.bund.de/tr-esor/lxaip/1.3)), AOID-01a)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), LXAIP_OK(AOID-01a, VID-03))
2	ArchiveRetrievalRequest (dss:OptionalInputs(pres:POFormat(http://www.bsi.bund.de/tr-esor/lxaip/1.3)), AOID-02a)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), LXAIP_OK_SIG_OK(AOID-02a, VID-01))
3	The fulfilment of the requirement A3.3.1-2 ¹⁶ is checked.	
4	ArchiveRetrievalRequest (dss:OptionalInputs(pres:POFormat(http://www.bsi.bund.de/tr-esor/lxaip/1.3)),	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), LXAIP_OK(AOID-05a, VID-02))

¹⁶ See Annex E (Section 3.3.1).

Identifier	M-RE-01a	
	AOID-05a, VID-02)	
5	ArchiveRetrievalRequest (dss:OptionalInputs(pres:POFormat(http://www.bsi.bund.de/tr-esor/lxaip/1.3)), AOID-05a, VID-01)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), LXAIP_OK(AOID-05a, VID-01))
6	ArchiveRetrievalRequest (dss:OptionalInputs(pres:POFormat(http://www.bsi.bund.de/tr-esor/lxaip/1.3)), AOID-05a, VID-01, VID-02)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), LXAIP_OK(AOID-05a, VID-01, VID-02))
7	ArchiveRetrievalRequest (dss:OptionalInputs(pres:POFormat(http://www.bsi.bund.de/tr-esor/lxaip/1.3)), AOID-05a, ALL)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), LXAIP_OK(AOID-05a, VID-01, VID-02, VID-03))
8	The all in LXAIP_OK(AOID-05a, VID-01, VID-02, VID-03) referenced files has been copied into corresponding LXAIP-directory of the AIP-eIDAS-SigValidator during test preparation (cf. chapter 4.3) and the given references in LXAIP_OK(AOID-05a, VID-01, VID-02, VID-03) will be adjusted automatically in order to get them resolveable by the AIP-eIDAS-SigValidator.	LXAIP_OK_XSV(AOID-05a, VID-01, VID-02, VID-03)
9	Test of correctness of the obtained and prepared LXAIP_OK_XSV(AOID-05a, VID-01, VID-02, VID-03) by using AIP-eIDAS-SigValidator VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(LXAIP_OK_XSV(AOID-05a, VID-01, VID-02, VID-03)))))	VerifyResponse(dss:Result(resultmajor#ok), dss:OptionalOutputs(dssvr:VerificationReport(dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(vr:XAIReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid) [...])))))
10	ArchiveRetrievalRequest (ArchiveRetrievalResponse (

Identifier		M-RE-01a
	dss:OptionalInputs(pres:POFormat(http://www.bsi.bund.de/tr-esor/xaip/1.3) , AOID-01a)	dss:Result(resultmajor#ok), XAIP_OK(AOID-01a, VID-03))
11	ArchiveRetrievalRequest (AOID-01a)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-01a, VID-03))
Observations:		
Verdict:		

3.4.4.3 M-RE-02 – Retrieval of XAIPs for known and unknown AOIDs

Identifier		M-RE-02
Test Purpose		The test shall verify that it is possible to retrieve XAIPs for known AOIDs and there will be an error in case of unknown AOIDs.
Configuration		<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2
Pre-test conditions		<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that the test cases M-SU-01 was successfully performed.
Step	Test sequence	Expected Results
1	Choice an AOID-06 within the possible range and make sure, that it has not been assigned yet. This is realised by the following call: ArchiveRetrievalRequest (AOID-06)	ArchiveRetrievalResponse (dss:Result(resultmajor#error, resultminor/arl/unknownAOID))
2	ArchiveRetrievalRequest (AOID-01)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-01, VID-03))
3	ArchiveRetrievalRequest (AOID-02)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK_SIG_OK(AOID-02, VID-01))
4	ArchiveRetrievalRequest (AOID-06)	ArchiveRetrievalResponse (dss:Result(resultmajor#error, resultminor/arl/unknownAOID))
Observations:		

Identifier	M-RE-02
Verdict:	

3.4.4.4 M-RE-03 – Retrieval of XAIPs for known and unknown VersionIDs

Identifier	M-RE-03	
Test Purpose	The test shall verify that there will be a requestOnlyPartlySuccessfulWarning, if it is not possible to retrieve XAIPs for all indicated VersionIDs.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that the test case M-SU-01 was successful performed. 	
Step	Test sequence	Expected Results
1	<p>Choice a VID-10 within the possible range and make sure, that it has not been assigned yet. This is realised by the following call:</p> <pre>ArchiveRetrievalRequest (AOID-01, VID-10)</pre>	<pre>ArchiveRetrievalResponse (dss:Result(resultmajor#error, resultminor/arl/unknownVersionID))</pre>
2	<pre>ArchiveRetrievalRequest (AOID-01, VID-02)</pre>	<pre>ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-01, VID-02))</pre>
3	<pre>ArchiveRetrievalRequest (AOID-01, VID-10)</pre>	<pre>ArchiveRetrievalResponse (dss:Result(resultmajor#error, resultminor/arl/unknownVersionID))</pre>
4	<pre>ArchiveRetrievalRequest (AOID-01, VID-02, VID-10)</pre>	<pre>ArchiveRetrievalResponse (dss:Result(resultmajor#warning resultminor/arl/requestOnlyPartlySuccessfulWarning), XAIP_OK(AOID-01, VID-02))</pre>
Observations:		
Verdict:		

3.4.4.5 M-RE-04 – Unknown control in OptionalInputs

Identifier	M-RE-04	
Test Purpose	The test shall verify that there will be an error, if the request contains unknown controls in the OptionalInputs-element.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that test case M-SU-01 was successfully performed. 	
Step	Test sequence	Expected Results
1	ArchiveRetrievalRequest (dss:OptionalInputs(SomethingUnknown), AOID-01)	ArchiveRetrievalResponse (dss:Result(resultmajor#error, resultminor/arl/notSupported))
Observations:		
Verdict:		

3.4.5 Function ArchiveEvidence

All test cases defined in this section are derived from the general requirement A2.0-2 together with the interface specification of the ArchiveEvidence function in section 3.4 of [TR ESOR E].

3.4.5.1 M-EV-01 – Retrieval of Evidence Records of previously archived XAIPs without specifying the desired ERS Format

Identifier	M-EV-01	
Test Purpose	The test shall verify that it is possible to retrieve Evidence Records for previously archived XAIPs.	
Configuration	<ul style="list-style-type: none"> CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> Authenticated connection to middleware exists. Make sure that test cases M-SU-01 M-UP-01, M-UP-09 and M-RE-01 were successfully performed. 	
Step	Test sequence	Expected Results
1	ArchiveEvidenceRequest (AOID-01)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS ¹⁷ (AOID-01, VID-03, XAIP_OK_V3_ER_OK))
2	ArchiveEvidenceRequest (AOID-02)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-02, VID-01, XAIP_OK_SIG_OK_V1_ER_OK))
3	ArchiveEvidenceRequest (AOID-01, VID-02)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-01, VID-02, XAIP_OK_V2_ER_OK))
4	ArchiveEvidenceRequest (AOID-01, VID-01)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-01, VID-01, XAIP_OK_V1_ER_OK))
5	ArchiveEvidenceRequest (AOID-01, VID-01, VID-03)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-01, VID-01, XAIP_OK_V1_ER_OK), XAIP_ERS(AOID-01, VID-03, XAIP_OK_V3_ER_OK))

¹⁷ XAIP-ERS does mean a RFC4998-ER embedded in the element `xaip:asn1EvidenceRecord`, which in turn is embedded in the element `xaip:evidenceRecord` and can contain the both attributes `AOID` and `VersionID`.

Identifier	M-EV-01	
6	<pre> ArchiveEvidenceRequest (AOID-01, ALL) </pre>	<pre> ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-01, VID-01, XAIP_OK_V1_ER_OK), XAIP_ERS(AOID-01, VID-02, XAIP_OK_V2_ER_OK), XAIP_ERS(AOID-01, VID-03, XAIP_OK_V3_ER_OK)) </pre>
7	<pre> ArchiveRetrievalRequest (AOID-01, ALL) </pre>	<pre> ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-01, VID-01, VID-02, VID-03)) </pre>
8	<p>Test of correctness of the obtained XAIP_OK_V1_ER_OK, XAIP_OK_V2_ER_OK and XAIP_OK_V3_ER_OK by using ERVerifyTool.</p> <pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(XAIP_OK(AOID-01, VID-01, VID-02, VID-03)))) dss:SignatureObject(dss:Other(XAIP_ERS(AOID-01, VID-01, XAIP_OK_V1_ER_OK), XAIP_ERS(AOID-01, VID-02, XAIP_OK_V2_ER_OK), XAIP_ERS(AOID-01, VID-03, XAIP_OK_V3_ER_OK)))) </pre>	<pre> VerifyResponse(dss:Result(resultmajor#ok), dss:OptionalOutputs(dssvr:VerificationReport(dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(vr:EvidenceRecordReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid)) [...])), dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(vr:EvidenceRecordReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid)) [...])), dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(vr:EvidenceRecordReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid)) [...]))))) </pre>

Identifier	M-EV-01
Observations:	
Verdict:	

3.4.5.2 M-EV-01a – Retrieval of Evidence Records of previously archived LXAIPs without specifying the desired ERS Format

Identifier	M-EV-01a	
Test Purpose	The test shall verify that it is possible to retrieve Evidence Records for previously archived LXAIPs.	
Configuration	<ul style="list-style-type: none"> • CONFIG_LXAIP 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that test cases M-SU-01a, M-UP-01a and M-UP-09a were successfully performed. 	
Step	Test sequence	Expected Results
1	ArchiveEvidenceRequest (AOID-01a)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS ¹⁸ (AOID-01a, VID-03, LXAIP_OK_V3_ER_OK))
2	ArchiveEvidenceRequest (AOID-02a)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-02a, VID-01, LXAIP_OK_SIG_OK_V1_ER_OK))
3	ArchiveEvidenceRequest (AOID-01a, VID-02)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-01a, VID-02, LXAIP_OK_V2_ER_OK))
4	ArchiveEvidenceRequest (AOID-01a, VID-01)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-01a, VID-01, LXAIP_OK_V1_ER_OK))
5	ArchiveEvidenceRequest (AOID-01a, VID-01, VID-03)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-01a, VID-01, LXAIP_OK_V1_ER_OK))

¹⁸ XAIP-ERS does mean a RFC4998-ER embedded in the element `xaip:asn1EvidenceRecord`, which in turn is embedded in the element `xaip:evidenceRecord` and can contain the both attributes `AOID` and `VersionID`.

Identifier	M-EV-01a
	vr:EvidenceRecordReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid) [...]))))
Observations:	
Verdict:	

3.4.5.3 M-EV-02 – Retrieval of Evidence Records for known and unknown AOIDs

Identifier	M-EV-02	
Step	Test sequence	Expected Results
1	Make sure, that the previous chosen AOID-06 is within the possible range and it is still not assigned yet. This is realised by the following call: ArchiveRetrievalRequest (AOID-06)	ArchiveRetrievalResponse (dss:Result(resultmajor#error, resultminor/arl/unknownAOID))
2	ArchiveEvidenceRequest (AOID-01)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-01, VID-03, XAIP_OK_V3_ER_OK))
3	ArchiveEvidenceRequest (AOID-02)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-02, VID-01, XAIP_OK_SIG_OK_V1_ER_OK))
4	ArchiveEvidenceRequest (AOID-06)	ArchiveEvidenceResponse (dss:Result(resultmajor#error, resultminor/arl/unknownAOID))

Identifier	M-EV-02
)	dss:Result(resultmajor#error, resultminor/arl/unknownAOID))
Observations:	
Verdict:	

3.4.5.4 M-EV-03 – Retrieval of Evidence Records for partly known VersionIDs

Identifier	M-EV-03	
Test Purpose	The test case verifies that there is a requestOnlyPartlySuccessfulWarning, if an Evidence Record for an unknown VersionID is requested.	
Configuration	• CONFIG_ArchiSafe_C.2	
Pre-test conditions	• Authenticated connection to middleware exists. • Make sure that the test cases M-SU-01 and M-RE-03 were successfully performed.	
Step	Test sequence	Expected Results
1	Make sure, that concerning AOID-01, the chosen version VID-10 is within the possible range but is an unknown VersionID. This is realised by the following call: ArchiveRetrievalRequest (AOID-01, VID-10)	ArchiveRetrievalResponse (dss:Result(resultmajor#error, resultminor/arl/unknownVersionID))
2	ArchiveEvidenceRequest (AOID-01)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-01, VID-03, XAIP_OK_V3_ER_OK))
3	ArchiveEvidenceRequest (AOID-01, VID-10)	ArchiveEvidenceResponse (dss:Result(resultmajor#error, resultminor/arl/unknownVersionID))
4	ArchiveEvidenceRequest (AOID-01, VID-02, VID-10)	ArchiveEvidenceResponse (dss:Result(resultmajor#warning, resultminor/arl/requestOnlyPartlySucessfulWarning), XAIP_ERS(AOID-01, VID-02, XAIP_OK_V2_ER_OK))
Observations:		

Identifier	M-EV-03
Verdict:	

3.4.5.5 M-EV-04 – Unknown control in OptionalInputs

Identifier	M-EV-04	
Test Purpose	The test shall verify that there will be an error, if the request contains unknown controls in the OptionalInputs-element.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Make sure that the test case M-SU-01 was successfully performed. 	
Step	Test sequence	Expected Results
1	ArchiveEvidenceRequest (dss:OptionalInputs(SomethingUnknown), AOID-01)	ArchiveEvidenceResponse (dss:Result(resultmajor#error, resultminor/arl/notSupported))
Observations:		
Verdict:		

3.4.6 Function ArchiveDeletion

All test cases defined in this section are derived from the general requirement A2.0-2 together with the interface specification of the ArchiveDeletion function in section 3.5 of [TR ESOR E].

3.4.6.1 M-DE-01 – Deletion of XAIP without ReasonOfDeletion

Identifier	M-DE-01	
Test Purpose	The test shall verify that it will yield an error, if <code>ArchiveDeletionRequest</code> is called without providing a <code>ReasonOfDeletion</code> if the element <code>retentionPeriod</code> in the XAIP contains a predetermined future date.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • In one test case the element “<code>retentionPeriod</code>” in the XAIP to be deleted contains a predetermined future date. In the other test case the element “<code>retentionPeriod</code>” contains a date in the past. • Authenticated connection to middleware exists. • Requirement (A3.5.1-1) of [TR-ESOR-E]: • The <code>ArchiveDeletionRequest</code> of XAIP with AOID-02 with the end of the “<code>retentionPeriod</code>” in the future must not be successful without a reason for the deletion. • Make sure that the test case M-SU-01 was successfully performed. 	
Step	Test sequence	Expected Results
1	<code>ArchiveDeletionRequest</code> (AOID-02)	<code>ArchiveDeletionResponse</code> (dss:Result(resultmajor#error, resultminor/arl/missingReasonOfDeletion))
2	<code>ArchiveRetrievalRequest</code> (AOID-02)	<code>ArchiveRetrievalResponse</code> (dss:Result(resultmajor#ok), XAIP_OK_SIG_OK(AOID-02, VID-01))
3	<code>ArchiveRetrievalRequest</code> (AOID-00 ¹⁹)	<code>ArchiveRetrievalResponse</code> (dss:Result(resultmajor#ok), XAIP_OK(AOID-00, VID-01))
4	<code>ArchiveDeletionRequest</code> (AOID-00)	<code>ArchiveDeletionResponse</code> (dss:Result(resultmajor#ok))
5	<code>ArchiveRetrievalRequest</code> (AOID-00)	<code>ArchiveRetrievalResponse</code> (dss:Result(resultmajor#error, resultminor/arl/unknownAOID))
Observations:		
Verdict:		

¹⁹ The XAIP with AOID-00 and LXAIP with AOID-00a were imported some days ago. The retention period is expired.

3.4.6.2 M-DE-01a – Deletion of LXAIP without ReasonOfDeletion

Identifier	M-DE-01a	
Test Purpose	The test shall verify that it will yield an error, if <code>ArchiveDeletionRequest</code> is called without providing a <code>ReasonOfDeletion</code> if the element <code>retentionPeriod</code> in the LXAIP contains a predetermined future date.	
Configuration	<ul style="list-style-type: none"> • CONFIG_LXAIP 	
Pre-test conditions	<ul style="list-style-type: none"> • In one test case the element “<code>retentionPeriod</code>” in the LXAIP to be deleted contains a predetermined future date. In the other test case the element “<code>retentionPeriod</code>” contains a date in the past. • Authenticated connection to middleware exists. • Requirement (A3.5.1-1) of [TR-ESOR-E]: • The <code>ArchiveDeletionRequest</code> of LXAIP with AOID-02a with the end of the “<code>retentionPeriod</code>” in the future must not be successful without a reason for the deletion. • Make sure that the test case M-SU-01a was successfully performed. 	
Step	Test sequence	Expected Results
1	<pre>ArchiveDeletionRequest (AOID-02a)</pre>	<pre>ArchiveDeletionResponse (dss:Result(resultmajor#error, resultminor/arl/missingReasonOfDeletion))</pre>
2	<pre>ArchiveRetrievalRequest (dss:OptionalInputs(pres:POFormat(http://www.bsi.bund.de/tr-esor/lxaip/1.3)), AOID-02a)</pre>	<pre>ArchiveRetrievalResponse (dss:Result(resultmajor#ok), LXAIP_OK_SIG_OK(AOID-02a, VID-01))</pre>
3	<pre>ArchiveRetrievalRequest (dss:OptionalInputs(pres:POFormat(http://www.bsi.bund.de/tr-esor/lxaip/1.3)), AOID-00a¹⁹)</pre>	<pre>ArchiveRetrievalResponse (dss:Result(resultmajor#ok), LXAIP_OK(AOID-00a, VID-01))</pre>
4	<pre>ArchiveDeletionRequest (AOID-00a)</pre>	<pre>ArchiveDeletionResponse (dss:Result(resultmajor#ok))</pre>
5	<pre>ArchiveRetrievalRequest (dss:OptionalInputs(pres:POFormat(http://www.bsi.bund.de/tr-esor/lxaip/1.3)), AOID-00a)</pre>	<pre>ArchiveRetrievalResponse (dss:Result(resultmajor#error, resultminor/arl/unknownAOID))</pre>
Observations:		
Verdict:		

3.4.6.3 M-DE-02 – Deletion of XAIP with ReasonOfDeletion

Identifier	M-DE-02	
Test Purpose	The test shall verify that it is possible to delete an XAIP by calling <code>ArchiveDeletionRequest</code> with <code>ReasonOfDeletion</code> among the <code>dss:OptionalInputs</code> .	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • The element “<code>retentionPeriod</code>” in the XAIP to be deleted contains a predetermined future date. • Make sure that the test case M-SU-01 was successfully performed. • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	<code>ArchiveDeletionRequest</code> <code>(</code> <code> dss:OptionalInputs(ReasonOfDeletion(</code> <code> RequestorName(SomeName),</code> <code> RequestInfo(SomeInfo)</code> <code>),</code> <code> AOID-02</code> <code>)</code>	<code>ArchiveDeletionResponse</code> <code>(</code> <code> dss:Result(resultmajor#ok)</code> <code>)</code>
2	<code>ArchiveRetrievalRequest</code> <code>(</code> <code> AOID-02</code> <code>)</code>	<code>ArchiveRetrievalResponse</code> <code>(</code> <code> dss:Result(resultmajor#error,</code> <code> resultminor/arl/unknownAOID)</code> <code>)</code>
3	Check requirement A3.5.1-2 ²⁰ .	
Observations:		
Verdict:		

3.4.6.4 M-DE-02a – Deletion of LXAIP with ReasonOfDeletion

Identifier	M-DE-02a	
Test Purpose	The test shall verify that it is possible to delete an LXAIP by calling <code>ArchiveDeletionRequest</code> with <code>ReasonOfDeletion</code> among the <code>dss:OptionalInputs</code> .	
Configuration	<ul style="list-style-type: none"> • CONFIG_LXAIP 	
Pre-test conditions	<ul style="list-style-type: none"> • The element “<code>retentionPeriod</code>” in the LXAIP to be deleted contains a predetermined future date. • Make sure that the test case M-SU-01a was successfully performed. • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	<code>ArchiveDeletionRequest</code> <code>(</code> <code> dss:OptionalInputs(ReasonOfDeletion(</code> <code> RequestorName(SomeName),</code> <code> RequestInfo(SomeInfo)</code> <code>),</code>	<code>ArchiveDeletionResponse</code> <code>(</code> <code> dss:Result(resultmajor#ok)</code> <code>)</code>

²⁰ See Annex E (Section 3.5.1).

Identifier		M-DE-02a
	AOID-02a)	
2	ArchiveRetrievalRequest (dss:OptionalInputs(pres:POFormat(http://www.bsi.bund.de/tr-esor/lxap/1.3)), AOID-02a)	ArchiveRetrievalResponse (dss:Result(resultmajor#error, resultminor/arl/unknownAOID))
3	Check requirement A3.5.1-2 ²¹ .	
Observations:		
Verdict:		

3.4.6.5 M-DE-03 – Deletion of unknown XAIPs without ReasonOfDeletion

Identifier		M-DE-03
Test Purpose		The test shall verify that it will yield an error, if <code>ArchiveDeletionRequest</code> is called without providing a <code>ReasonOfDeletion</code> . As the present call also contains the unknown AOID-06, the AOID-specific <code>dss:Result</code> needs to indicate that the AOID is unknown.
Configuration		<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2
Pre-test conditions		<ul style="list-style-type: none"> • The element <code>retentionPeriod</code> in the XAIP to be deleted contains a predetermined future date. • Make sure that the test cases M-UP-09 and M-RE-02 were successfully performed. • Make sure, that the randomly generated AOID-06 is within the possible range but has not been assigned yet. • Authenticated connection to middleware exists.
Step	Test sequence	Expected Results
1	ArchiveDeletionRequest (AOID-05)	ArchiveDeletionResponse (dss:Result(resultmajor#error, resultminor/arl/missingReasonOfDeletion))
2	ArchiveDeletionRequest (AOID-06)	ArchiveDeletionResponse (dss:Result(resultmajor#error, resultminor/arl/unknownAOID))
3	ArchiveRetrievalRequest (AOID-05)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-05, VID-03))

²¹ See Annex E (Section 3.5.1).

Identifier	M-DE-03
Observations:	
Verdict:	

3.4.6.6 M-DE-04 – Deletion of unknown XAIPs with ReasonOfDeletion

Identifier	M-DE-04	
Test Purpose	The test shall verify that it will yield an error, if ArchiveDeletionRequest is called with unknown AOIDs with providing a ReasonOfDeletion.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • The element <code>retentionPeriod</code> in the XAIP to be deleted contains a predetermined future date. • Make sure that the test case M-RE-02 was successfully performed • Make sure, that the randomly generated AOID-06 is within the possible range but has not been assigned yet. • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	<pre>ArchiveDeletionRequest (dss:OptionalInputs(ReasonOfDeletion(RequestorName(SomeName), RequestInfo(SomeInfo))), AOID-06)</pre>	<pre>ArchiveDeletionResponse (dss:Result(resultmajor#error, resultminor/arl/unknownAOID))</pre>
Observations:		
Verdict:		

3.4.6.7 M-DE-05 – Unknown control in OptionalInputs

Identifier	M-DE-05	
Test Purpose	The test shall verify that there will be an error, if the request contains unknown controls in the <code>OptionalInputs</code> -element and the <code>ArchiveDeletionRequest</code> will not be successful.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • The element “<code>retentionPeriod</code>” in the XAIP to be deleted contains a predetermined future date. • Make sure that the test case M-UP-09 was successfully performed. 	
Step	Test sequence	Expected Results
1	<pre>ArchiveDeletionRequest (dss:OptionalInputs(SomethingUnknown), AOID-05)</pre>	<pre>ArchiveDeletionResponse (dss:Result(resultmajor#error, resultminor/arl/notSupported))</pre>

Identifier	M-DE-05	
2	ArchiveRetrievalRequest (AOID-05)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-05, VID-03))
Observations:		
Verdict:		

3.4.7 Function Verify

All test cases defined in this section are derived from the general requirement A2.0-2 together with the interface specification of the Verify function in section 3.7 of [TR ESOR E].

3.4.7.1 M-VE-01 –XAIP_OK_SIG_OK and XAIP_OK_SIG_OK_ER

Identifier	M-VE-01	
Test Purpose	The test shall verify that it is possible to verify XAIP_OK_SIG_OK and XAIP_OK_SIG_OK_V1_ER_OK with the TR-ESOR-specific signature policy http://www.bsi.bund.de/tr-esor/sigpolicy/verify-xaip .	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (XAIP_OK_SIG_OK)	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-100)
2	ArchiveRetrievalRequest (AOID-100)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK_SIG_OK(AOID-100, VID-01))
3	ArchiveEvidenceRequest ⁷ (AOID-100)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-100, VID-01, XAIP_OK_SIG_OK_V1_ER_OK))
4	VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(XAIP_OK_SIG_OK(AOID-100, VID-01)))))	VerifyResponse (dss:Result(resultmajor#ok))
5	VerifyRequest (dss:OptionalInputs(vr:ReturnVerificationReport), dss:InputDocuments(dss:Document(dss:InlineXML(XAIP_OK_SIG_OK(AOID-100, VID-01)))))	VerifyResponse (dss:Result(resultmajor#ok), dss:OptionalOutputs(XAIP_OK_SIG_OK_VR))

Identifier	M-VE-01	
6	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-100, VID-01)))))	VerifyResponse (dss:Result(resultmajor#ok))
7	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64Data(XAIP_OK_SIG_OK(AOID-100, VID-01)))))	VerifyResponse (dss:Result(resultmajor#ok))
8	Prepare XAIP_OK_SIG_OK_ER(AOID-100, VID-01) by inserting the XAIP_ERS(AOID-100,VID-01, XAIP_OK_SIG_OK_V1_ER_OK) obtained in step 3 into credentialsSection element of XAIP_OK_SIG_OK(AOID-100, VID-01) from step 2.	XAIP_OK_SIG_OK_ER(AOID-100, VID-01)
9	VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(XAIP_OK_SIG_OK_ER(AOID-100,VID-01)))))	VerifyResponse (dss:Result(resultmajor#ok))
10	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK_ER(AOID-100,VID-01)))))	VerifyResponse (dss:Result(resultmajor#ok))
11	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64Data(XAIP_OK_SIG_OK_ER(AOID-100,VID-01)))))	VerifyResponse (dss:Result(resultmajor#ok))
12	VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(XAIP_OK_SIG_OK(AOID-100, VID-01)))))	VerifyResponse (dss:Result(resultmajor#ok))

Identifier	M-VE-01	
	<pre>))) dss:SignatureObject(dss:Other(XAIP_ESR(AOID-100,VID-01, XAIP_OK_SIG_OK_V1_ER_OK)))) </pre>	
13	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-100, VID-01)))) dss:SignatureObject(dss:Other(XAIP_ESR(AOID-100,VID-01, XAIP_OK_SIG_OK_V1_ER_OK))))</pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>
14	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64Data(XAIP_OK_SIG_OK(AOID-100, VID-01)))) dss:SignatureObject(dss:Other(XAIP_ESR(AOID-100,VID-01, XAIP_OK_SIG_OK_V1_ER_OK))))</pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>
Observations:		
Verdict:		

3.4.7.2 M-VE-01a - LXAIP_OK_SIG_OK and LXAIP_OK_SIG_OK_ER

Identifier	M-VE-01a
Test Purpose	The test shall verify that it is possible to verify LXAIP_OK_SIG_OK and LXAIP_OK_SIG_OK_ER with the TR-ESOR-specific signature policy http://www.bsi.bund.de/tr-esor/sigpolicy/verify-xaip .
Configuration	• CONFIG_LXAIP

Identifier	M-VE-01a	
Pre-test conditions	<ul style="list-style-type: none"> Authenticated connection to middleware exists. Test M-SU-01a has been performed successfully and the references has been set properly in LXAIP_OK_SIG_OK 	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (LXAIP_OK_SIG_OK(REF_TXT_DATA_61, REF_CADES_DET_TXT_DATA_61, REF_PDF_DATA_61, REF_CADES_DET_PDF_DATA_61, REF_XML_MDO_61)	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-101)
2	ArchiveRetrievalRequest (AOID-101)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), LXAIP_OK_SIG_OK(AOID-101, VID-01))
3	ArchiveEvidenceRequest ⁷ (AOID-101)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS(AOID-101, VID-01, LXAIP_OK_SIG_OK_V1_ER_OK))
4	VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(LXAIP_OK_SIG_OK(AOID-101, VID-01)))))	VerifyResponse (dss:Result(resultmajor#ok))
5	VerifyRequest (dss:InputDocuments(dss:OptionalInputs(vr:ReturnVerificationReport), dss:Document(dss:InlineXML(LXAIP_OK_SIG_OK(AOID-101, VID-01)))))	VerifyResponse (dss:Result(resultmajor#ok), dss:OptionalOutputs(LXAIP_OK_SIG_OK_VR))
6	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(LXAIP_OK_SIG_OK(AOID-101, VID-01)))))	VerifyResponse (dss:Result(resultmajor#ok))
7	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(LXAIP_OK_SIG_OK(AOID-101, VID-01)))))	VerifyResponse (dss:Result(resultmajor#ok))

Identifier	M-VE-01a	
	dss:Document(dss:Base64Data(LXAIP_OK_SIG_OK(AOID-101, VID-01)))))	
8	Prepare LXAIP_OK_SIG_OK_ER(AOID-101, VID-01) by inserting the XAIP_ERS(AOID-101, VID-01, LXAIP_OK_SIG_OK_V1_ER_OK) obtained in step 3 into credentialsSection element of LXAIP_OK_SIG_OK(AOID-101, VID-01) from step 2.	LXAIP_OK_SIG_OK_ER(AOID-101, VID-01)
9	VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(LXAIP_OK_SIG_OK_ER(AOID-101, VID-01))))))	VerifyResponse (dss:Result(resultmajor#ok))
10	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(LXAIP_OK_SIG_OK_ER(AOID-101, VID-01))))))	VerifyResponse (dss:Result(resultmajor#ok))
11	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64Data(LXAIP_OK_SIG_OK_ER(AOID-101, VID-01))))))	VerifyResponse (dss:Result(resultmajor#ok))
12	VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(LXAIP_OK_SIG_OK(AOID-101, VID-01)))) dss:SignatureObject(dss:Other(XAIP_ERS(AOID-101, VID-01, LXAIP_OK_SIG_OK_V1_ER_OK)))))	VerifyResponse (dss:Result(resultmajor#ok))

Identifier	M-VE-01a	
13	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(LXAIP_OK_SIG_OK(AOID-101, VID-01)))) dss:SignatureObject(dss:Other(XAIP_ERS(AOID-101, VID-01, LXAIP_OK_SIG_OK_V1_ER_OK)))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>
14	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64Data(LXAIP_OK_SIG_OK(AOID-101, VID-01)))) dss:SignatureObject(dss:Other(XAIP_ERS(AOID-101, VID-01, LXAIP_OK_SIG_OK_V1_ER_OK)))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>
Observations:		
Verdict:		

3.4.7.3 M-VE-02 - DXAIP_OK_SIG_OK

Identifier	M-VE-02	
Test Purpose	The test shall verify that it is possible to verify DXAIP_OK_SIG_OK with the TR-ESOR-specific signature policy http://www.bsi.bund.de/tr-esor/sigpolicy/verify-xaip .	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • The test M-VE-01 has been performed successfully 	
Step	Test sequence	Expected Results
1	Prepare DXAIP_OK_SIG_OK by inserting the AOID-100	DXAIP_OK_SIG_OK(AOID-100, VID-01, VID-02)
2	<pre> VerifyRequest (dss:InputDocuments(</pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>

Identifier	M-VE-02	
	dss:Document(dss:InlineXML(DXAIP_OK_SIG_OK(AOID-100, VID-01, VID-02)))))
3	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(DXAIP_OK_SIG_OK(AOID-100, VID-01, VID-02))))))	VerifyResponse (dss:Result(resultmajor#ok))
4	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64Data(DXAIP_OK_SIG_OK(AOID-100, VID-01, VID-02))))))	VerifyResponse (dss:Result(resultmajor#ok))
Observations:		
Verdict:		

3.4.7.4 M-VE-02a - DLXAIP_OK_SIG_OK

Identifier	M-VE-02a	
Test Purpose	The test shall verify that it is possible to verify DLXAIP_OK_SIG_OK with the TR-ESOR-specific signature policy http://www.bsi.bund.de/tr-esor/sigpolicy/verify-xaip .	
Configuration	<ul style="list-style-type: none"> • CONFIG_LXAIP 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • The test M-VE-01a has been performed successfully. 	
Step	Test sequence	Expected Results
1	Prepare DLXAIP_OK_SIG_OK by inserting the AOID-101.	DLXAIP_OK_SIG_OK(AOID-101, VID-01, VID-02)
2	VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML())))	VerifyResponse (dss:Result(resultmajor#ok))

3.4.7.5 M-VE-03 – BIN OK

Identifier	M-VE-03
Test Purpose	<p>The test shall validate that it is possible to verify as BIN defined data. BIN means here:</p> <ul style="list-style-type: none"> • CADES_DET_OK, CADES_ATT_OK, • XADES_DET_OK, XADES_ENVELOPED_OK, XADES_ENVELOPING_OK, • PADES_OK, • ASIC_S_CADES_OK, ASIC_S_XADES_OK, ASIC_S_TST_OK, ASIC_S_ER_OK, • ASIC_E_CADES_OK, ASIC_E_XADES_OK, ASIC_E_TST_OK, ASIC_E_ER_OK.
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists.
Step	Test sequence
	Expected Results

Identifier	M-VE-03	
1	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64Data(TXT_DATA.txt))) dss:SignatureObject(dss:Base64Signature(CADES_DET_OK))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>
2	<pre> VerifyRequest (dss:SignatureObject(dss:Base64Signature(CADES_ATT_OK))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>
3	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64Data(PADES_OK)))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>
4	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(002-test-document.xml))) dss:SignatureObject(ds:Signature(XADES_DET_OK))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>
5	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(002-test-document.xml))) dss:SignatureObject(ds:Signature(XADES_DET_OK))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>
6	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(002-test-document.xml))) dss:SignatureObject(dss:Base64Signature(XADES_DET_OK))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>
7	<pre> VerifyRequest (dss:InputDocuments(dss:Document(</pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>

Identifier	M-VE-03	
	dss:InlineXML(XADES_ENVELOPED_OK))))	
8	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XADES_ENVELOPED_OK))))	VerifyResponse (dss:Result(resultmajor#ok))
9	VerifyRequest (dss:SignatureObject(ds:Signature(XADES_ENVELOPING_OK)))	VerifyResponse (dss:Result(resultmajor#ok))
10	VerifyRequest (dss:SignatureObject(dss:Base64Signature(XADES_ENVELOPING_OK)))	VerifyResponse (dss:Result(resultmajor#ok))
11	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASiC_S_CADES_OK)))	VerifyResponse (dss:Result(resultmajor#ok))
12	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_S_XADES_OK)))	VerifyResponse (dss:Result(resultmajor#ok))
13	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_S_TST_OK)))	VerifyResponse (dss:Result(resultmajor#ok))
14	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_S_ER_OK)))	VerifyResponse (dss:Result(resultmajor#ok))

Identifier	M-VE-03	
15	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_E_CADES_OK)))	VerifyResponse (dss:Result(resultmajor#ok))
16	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_E_XADES_OK)))	VerifyResponse (dss:Result(resultmajor#ok))
17	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_E_TST_OK)))	VerifyResponse (dss:Result(resultmajor#ok))
18	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_E_ER_OK)))	VerifyResponse (dss:Result(resultmajor#ok))
Observations:		
Verdict:		

3.4.7.6 M-VE-04 - XAIP_OK_SIG_NOK & XAIP_OK_SIG_OK_ER_NOK

Identifier	M-VE-04	
Test Purpose	The test shall verify that there will be a verification error, in case XAIP_OK_SIG_NOK or XAIP_OK_SIG_OK_ER_NOK is submitted.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(XAIP_OK_SIG_NOK))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_SIG) dss:OptionalOutputs(XAIP_OK_SIG_NOK_VR))

Identifier	M-VE-04
Verdict:	

3.4.7.7 M-VE-04a - LXAIP_OK_SIG_NOK & LXAIP_OK_SIG_OK_ER_NOK

Identifier	M-VE-04a	
Test Purpose	The test shall verify that there will be a verification error, in case of LXAIP_OK_SIG_NOK or LXAIP_OK_SIG_OK_ER_NOK is submitted. The response will include either the VerificationReport-Element only or the LXAIP including the VerificationReport-Element.	
Step	Test sequence	Expected Results
1	<pre>VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(LXAIP_OK_SIG_NOK(TXT_DATA_65.txt, REF_CADES_DET_NOK_TXT_DATA_65, REF_PDF_DATA_65, REF_CADES_DET_PDF_DATA_65, REF_XML_MDO_65)))))</pre>	<pre>VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_SIG) dss:OptionalOutputs(LXAIP_OK_SIG_NOK_VR)) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_SIG) dss:OptionalOutputs(LXAIP_OK_SIG_NOK(LXAIP_OK_SIG_NOK_VR)))</pre>
2	<pre>VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(LXAIP_OK_SIG_OK_ER_NOK(TXT_DATA_66.txt, REF_CADES_DET_TXT_DATA_66, REF_PDF_DATA_66, REF_CADES_DET_PDF_DATA_66, REF_XML_MDO_66, ER_NOK_XAIP_OK_SIG_OK_00)))))</pre>	<pre>VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER) dss:OptionalOutputs(LXAIP_OK_SIG_OK_ER_NOK_VR)) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_SIG) dss:OptionalOutputs(LXAIP_OK_SIG_OK_ER_NOK(LXAIP_OK_SIG_OK_ER_NOK_VR)))</pre>
3	<pre>VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(LXAIP_OK_SIG_NOK(TXT_DATA_67.txt, REF_CADES_DET_NOK_TXT_DATA_67, REF_PDF_DATA_67,)))))</pre>	<pre>VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_SIG) dss:OptionalOutputs(LXAIP_OK_SIG_NOK_VR)) OR VerifyResponse (</pre>

Identifier		M-VE-04a
	<pre> REF_CADES_DET_PDF_DATA_67, REF_XML_MDO_67))))</pre>	<pre> dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_SIG) dss:OptionalOutputs(LXAIP_OK_SIG_NOK(LXAIP_OK_SIG_NOK_VR)))</pre>
4	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(LXAIP_OK_SIG_OK_ER_NOK(TXT_DATA_68.txt, REF_CADES_DET_TXT_DATA_68, REF_PDF_DATA_68, REF_CADES_DET_PDF_DATA_68, REF_XML_MDO_68, ER_NOK_XAIP_OK_SIG_OK_00)))))</pre>	<pre> VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER) dss:OptionalOutputs(LXAIP_OK_SIG_OK_ER_NOK_VR)) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_SIG) dss:OptionalOutputs(LXAIP_OK_SIG_OK_ER_NOK(LXAIP_OK_SIG_OK_ER_NOK_VR)))</pre>
Observations:		
Verdict:		

3.4.7.8 M-VE-05 - DXAIP_OK_SIG_NOK

Identifier		M-VE-05
Test Purpose		The test shall verify that there will be a verification error, in case DXAIP_OK_SIG_NOK is submitted.
Configuration		<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2
Pre-test conditions		<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Test M-VE-01 has been performed successfully.
Step	Test sequence	Expected Results
1	Prepare DXAIP_OK_SIG_NOK by inserting AOID-100.	DXAIP_OK_SIG_NOK (AOID-100, VID-01, VID-02)
2	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(DXAIP_OK_SIG_NOK(AOID-100, VID-01, VID-02)))))</pre>	<pre> VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_SIG) dss:OptionalOutputs(DXAIP_OK_SIG_NOK_VR)) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_SIG) dss:OptionalOutputs(DXAIP_OK_SIG_NOK(DXAIP_OK_SIG_NOK_VR)))</pre>

Identifier		M-VE-05
)
3	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(DXAIP_OK_SIG_NOK(AOID-100, VID-01, VID-02)))))</pre>	<pre> VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_SIG) dss:OptionalOutputs(DXAIP_OK_SIG_NOK_VR)) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_SIG) dss:OptionalOutputs(DXAIP_OK_SIG_NOK(DXAIP_OK_SIG_NOK_VR)))</pre>
Observations:		
Verdict:		

3.4.7.9 M-VE-05a - DLXAIP_OK_SIG_NOK

Identifier		M-VE-05a
Test Purpose		The test case shall verify that there will be a verification error, in case DLXAIP_OK_SIG_NOK is submitted.
Configuration		<ul style="list-style-type: none"> • CONFIG_LXAIP
Pre-test conditions		<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Test M-VE-01a has been performed successfully.
Step	Test sequence	Expected Results
1	Prepare DLXAIP_OK_SIG_NOK by inserting AOID-101.	DLXAIP_OK_SIG_NOK(AOID-100, VID-01, VID-02)
2	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(DLXAIP_OK_SIG_NOK(AOID-101, VID-01, VID-02, REF_XML_DATA_69, REF_CADES_DET_NOK_XML_DATA_69)))))</pre>	<pre> VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_SIG) dss:OptionalOutputs(DXAIP_OK_SIG_NOK_VR)) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/DXAIP_NOK_SIG) dss:OptionalOutputs(DLXAIP_OK_SIG_NOK(AOID-101, VID-01, VID-02, DXAIP_OK_SIG_NOK_VR)))</pre>
3	<pre> VerifyRequest (dss:InputDocuments(</pre>	<pre> VerifyResponse (</pre>

Identifier	M-VE-05a
	<pre> dss:Document(dss:Base64XML(DLXAIP_OK_SIG_NOK(AOID-101, VID-01, VID-02, REF_XML_DATA_70, REF_CADES_DET_NOK_XML_DATA_70)))) </pre>
Observations:	
Verdict:	

3.4.7.10 M-VE-06 – BIN_NOK

Identifier	M-VE-06	
Test Purpose	The test case shall validate that there will be an error in case an as BIN defined data object containing an invalid signature will be submitted to verification. BIN means here: <ul style="list-style-type: none"> • CADES_DET_NOK, CADES_ATT_NOK • XADES_DET_NOK, XADES_ENVELOPED_NOK, XADES_ENVELOPING_NOK, • PADES_NOK, • ASIC_E_CADES_NOK, ASIC_E_XADES_NOK, ASIC_E_TST_NOK, ASIC_E_ER_NOK, • ASIC_S_CADES_NOK, ASIC_S_XADES_NOK, ASIC_S_TST_NOK, ASIC_S_ER_NOK. 	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64Data(TXT_DATA.txt))), dss:SignatureObject(dss:Base64Signature(CADES_DET_NOK))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(CADES_DET_NOK_VR)) </pre>
2	<pre> VerifyRequest (dss:SignatureObject(dss:Base64Signature(CADES_ATT_NOK))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(CADES_ATT_NOK_VR)) </pre>

Identifier	M-VE-06	
3	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64Data(PADES_NOK))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(PADES_NOK_VR))
4	VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(002-test-document.xml))), dss:SignatureObject(ds:Signature(XADES_DET_NOK)))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(XADES_DET_NOK_VR))
5	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(002-test-document.xml))), dss:SignatureObject(ds:Signature(XADES_DET_NOK)))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(XADES_DET_NOK_VR))
6	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(002-test-document.xml))), dss:SignatureObject(dss:Base64Signature(XADES_DET_NOK)))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(XADES_DET_NOK_VR))
7	VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(XADES_ENVELOPED_NOK))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(XADES_ENVELOPED_NOK_VR))
8	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XADES_ENVELOPED_NOK))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(XADES_ENVELOPED_NOK_VR))
9	VerifyRequest (dss:SignatureObject(ds:Signature(XADES_ENVELOPING_NOK)))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(XADES_ENVELOPING_NOK_VR))

Identifier	M-VE-06	
))))	
10	VerifyRequest (dss:SignatureObject(dss:Base64Signature(XADES_ENVELOPING_NOK))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(XADES_ENVELOPING_NOK_VR)))
11	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_S_CADES_NOK))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(ASIC_S_CADES_NOK_VR)))
12	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_S_XADES_NOK))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(ASIC_S_XADES_NOK_VR)))
13	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_S_TST_NOK))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(ASIC_S_TST_NOK_VR)))
14	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_S_ER_NOK))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(ASIC_S_ER_NOK_VR)))
15	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_E_CADES_NOK))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(ASIC_E_CADES_NOK_VR)))
16	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_E_XADES_NOK))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(ASIC_E_XADES_NOK_VR)))

Identifier	M-VE-06	
17	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_E_TST_NOK)))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(ASIC_E_TST_NOK_VR))
18	VerifyRequest (dss:SignatureObject(dss:Base64Signature(ASIC_E_ER_NOK)))	VerifyResponse (dss:Result(resultmajor#error, resultminor/sal#invalidSignature), dss:OptionalOutputs(ASIC_E_ER_NOK_VR))
Observations:		
Verdict:		

3.4.7.11 M-VE-07 – Hash algorithms

Identifier	M-VE-07	
Test Purpose	The test shall verify that it is possible to verify XAIP_OK and corresponding evidence record with the TR-ESOR-specific signature policy http://www.bsi.bund.de/tr-esor/sigpolicy/verify-xaip by using different hash algorithms for underlaying hash tree. The hash algorithms to be tested are following SHA-1, SHA-224, SHA-256, SHA-384, SHA-512, SHA3-224, SHA3-256, SHA3-384, SHA3-512.	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	Expected Results
1	Prepare XAIP_OK_SIG_OK by inserting of AOID-999	XAIP_OK_SIG_OK(AOID-999, VID-01)
2	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01)))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999, VID-01, ER_OK_SHA-1_XAIP_OK_SIG_OK))))	VerifyResponse (dss:Result(resultmajor#ok)) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/il/algorithm#hashAlgorithmNotSuitable), dss:OptionalOutputs(XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_OK_SHA-1_XAIP_OK_SIG_OK_VR)))

Identifier	M-VE-07	
3	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999, VID-01, ER_NOK_SHA-1_XAIP_OK_SIG_OK))))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA-1_XAIP_OK_SIG_OK_VR))) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK(AOID-999, VID-01, XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA-1_XAIP_OK_SIG_OK_VR)))) </pre>
4	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999, VID-01, ER_OK_SHA-224_XAIP_OK_SIG_OK))))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/il/algorithm#hashAlgorithmNotSuitable), dss:OptionalOutputs(XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_OK_SHA-224_XAIP_OK_SIG_OK_VR))) </pre>
5	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999, VID-01, ER_NOK_SHA-224_XAIP_OK_SIG_OK))))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA-224_XAIP_OK_SIG_OK_VR))) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK(AOID-999, VID-01, XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA-224_XAIP_OK_SIG_OK_VR)))) </pre>
6	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999, VID-01, </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>

Identifier	M-VE-07	
	ER_OK_SHA-256_XAIP_OK_SIG_OK))))	
7	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01)))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999, VID-01, ER_NOK_SHA-256_XAIP_OK_SIG_OK))))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA-256_XAIP_OK_SIG_OK_VR))) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK(AOID-999, VID-01, XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA-256_XAIP_OK_SIG_OK_VR))))
8	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01)))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999, VID-01, ER_OK_SHA-384_XAIP_OK_SIG_OK))))))	VerifyResponse (dss:Result(resultmajor#ok))
9	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01)))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999, VID-01, ER_NOK_SHA-384_XAIP_OK_SIG_OK))))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA-384_XAIP_OK_SIG_OK_VR))) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK(AOID-999, VID-01, XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA-384_XAIP_OK_SIG_OK_VR))))
10	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01)))),))	VerifyResponse (dss:Result(resultmajor#ok))

Identifier	M-VE-07	
	dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999,VID-01, ER_NOK_SHA-512_XAIP_OK_SIG_OK))))	
11	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01)))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999,VID-01, ER_OK_SHA-512_XAIP_OK_SIG_OK)))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_OK_SHA-512_XAIP_OK_SIG_OK_VR))) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK(AOID-999, VID-01, XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_OK_SHA-512_XAIP_OK_SIG_OK_VR))))
12	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01)))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999,VID-01, ER_OK_SHA3-224_XAIP_OK_SIG_OK)))))	VerifyResponse (dss:Result(resultmajor#ok)) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/il/algorithm#hashAlgorithmNotSuitable), dss:OptionalOutputs(XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_OK_SHA3-224_XAIP_OK_SIG_OK_VR)))
13	VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01)))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999,VID-01, ER_NOK_SHA3-224_XAIP_OK_SIG_OK)))))	VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA3-224_XAIP_OK_SIG_OK_VR))) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK(AOID-999, VID-01, XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA3-224_XAIP_OK_SIG_OK_VR))))
14	VerifyRequest (dss:InputDocuments(dss:Document(dss:	VerifyResponse (dss:Result(resultmajor#ok))

Identifier	M-VE-07	
	<pre> dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999,VID-01, ER_OK_SHA3-256_XAIP_OK_SIG_OK))) </pre>	
15	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999,VID-01, ER_NOK_SHA3-256_XAIP_OK_SIG_OK))))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA3-256_XAIP_OK_SIG_OK_VR))) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK(AOID-999, VID-01, XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA3-256_XAIP_OK_SIG_OK_VR)))) </pre>
16	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999,VID-01, ER_OK_SHA3-384_XAIP_OK_SIG_OK))))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>
17	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999,VID-01, ER_NOK_SHA3-384_XAIP_OK_SIG_OK))))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA3-384_XAIP_OK_SIG_OK_VR))) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK(AOID-999, VID-01, XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_NOK_SHA3-384_XAIP_OK_SIG_OK_VR)))) </pre>

Identifier	M-VE-07	
18	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999, VID-01, ER_NOK_SHA-512_XAIP_OK_SIG_OK)))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>
19	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64XML(XAIP_OK_SIG_OK(AOID-999, VID-01))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-999, VID-01, ER_OK_SHA3-512_XAIP_OK_SIG_OK)))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_OK_SHA3-512_XAIP_OK_SIG_OK_VR))) OR VerifyResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER), dss:OptionalOutputs(XAIP_OK_SIG_OK(AOID-999, VID-01, XAIP_OK_SIG_OK_VR(AOID-999, VID-01, ER_OK_SHA3-512_XAIP_OK_SIG_OK_VR)))) </pre>
Observations:		
Verdict:		

3.4.8 Additional Tests

3.4.8.1 M-ADD-01 – XAIP_OK and Resigning

Identifier	M-ADD-01
Test Purpose	The test shall verify that it is possible to retrieve previously submitted and updated XAIP_OK after the time-stamp resigning procedure has been successfully applied.
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2

Identifier	M-ADD-01	
Pre-test conditions	<ul style="list-style-type: none"> Authenticated connection to middleware exists. The time-stamp resigning procedure has been successfully performed Make sure that the test case M-SU-01 was successfully performed. 	
Step	Test sequence	Expected Results
1	ArchiveRetrievalRequest (AOID-01, ALL)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-01, VID-01, VID-02, VID-03))
2	ArchiveEvidenceRequest (AOID-01, ALL)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS ²² (AOID-01, VID-01, XAIP_OK_V1_ER_OK_RESP), XAIP_ERS(AOID-01, VID-02, XAIP_OK_V2_ER_OK_RESP), XAIP_ERS(AOID-01, VID-03, XAIP_OK_V3_ER_OK_RESP))
3	<p>Test of correctness of the obtained:</p> <ul style="list-style-type: none"> • XAIP_OK_V1_ER_OK_RESP, • XAIP_OK_V2_ER_OK_RESP and • XAIP_OK_V3_ER_OK_RESP <p>by using ERVerifyTool.</p> <pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(XAIP_OK(AOID-01, VID-01, VID-02, VID-03))))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-01, VID-01, XAIP_OK_V1_ER_OK_RESP), XAIP_ERS(AOID-01, VID-02, XAIP_OK_V2_ER_OK_RESP), XAIP_ERS(AOID-01, VID-03, XAIP_OK_V3_ER_OK_RESP))))</pre>	<pre> VerifyResponse(dss:Result(resultmajor#ok), dss:OptionalOutputs(dssvr:VerificationReport(dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(vr:EvidenceRecordReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid) [...])), dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(vr:EvidenceRecordReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid) [...])), dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(</pre>

²² XAIP-ERS does mean a RFC4998-ER embedded in the element `xaip:asn1EvidenceRecord`, which in turn is embedded in the element `xaip:evidenceRecord` and can contain the both attributes `AOID` and `VersionID`.

Identifier	M-ADD-01
	vr:EvidenceRecordReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid) [...])))))
Observations:	
Verdict:	

3.4.8.2 M-ADD-01a – LXAIP_OK and Resigning

Identifier	M-ADD-01a	
Step	Test sequence	Expected Results
1	ArchiveRetrievalRequest (AOID-01a, ALL)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), LXAIP_OK(AOID-01a, VID-01, VID-02, VID-03))
2	ArchiveEvidenceRequest (AOID-01a, ALL)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS ²³ (AOID-01a, VID-01, LXAIP_OK_V1_ER_OK_RESP), XAIP_ERS(AOID-01a, VID-02, LXAIP_OK_V2_ER_OK_RESP), XAIP_ERS(AOID-01a, VID-03, LXAIP_OK_V3_ER_OK_RESP))
3	Test of correctness of the obtained: • LXAIP_OK_V1_ER_OK_RESP, • LXAIP_OK_V2_ER_OK_RESP and • LXAIP_OK_V3_ER_OK_RESP	

²³ XAIP-ERS does mean a RFC4998-ER embedded in the element `xaip:asn1EvidenceRecord`, which in turn is embedded in the element `xaip:evidenceRecord` and can contain the both attributes `AOID` and `VersionID`.

Identifier	M-ADD-01a
	<p>by using ERVerifyTool. The particular object references in the obtained LXAIP_OK will be replaced by the references compatible with the ERVerifyTool in advance.</p> <pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(LXAIP_OK(AOID-01a, VID-01, VID-02, VID-03)))) dss:SignatureObject(dss:Other(XAIP_ERS(AOID-01a, VID-01, LXAIP_OK_V1_ER_OK_RESP), XAIP_ERS(AOID-01a, VID-02, LXAIP_OK_V2_ER_OK_RESP), XAIP_ERS(AOID-01a, VID-03, LXAIP_OK_V3_ER_OK_RESP)))) </pre>
Observations:	
Verdict:	

3.4.8.3 M-ADD-02 – XAIP_OK and Rehashing

Identifier	M-ADD-02
Test Purpose	The test shall verify that it is possible to retrieve previously submitted and updated XAIP_OK after the hash tree renewal procedure (rehashing) has been successfully applied.
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2

Identifier	M-ADD-02	
Pre-test conditions	<ul style="list-style-type: none"> Authenticated connection to middleware exists. The rehashing procedure has been successfully performed Make sure that the test case M-ADD-01 was successfully performed. 	
Step	Test sequence	Expected Results
1	ArchiveRetrievalRequest (AOID-01, ALL)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), XAIP_OK(AOID-01, VID-01, VID-02, VID-03))
2	ArchiveEvidenceRequest (AOID-01, ALL)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS ²⁴ (AOID-01, VID-01, XAIP_OK_V1_ER_OK_RESPG_REH), XAIP_ERS(AOID-01, VID-02, XAIP_OK_V2_ER_OK_RESPG_REH), XAIP_ERS(AOID-01, VID-03, XAIP_OK_V3_ER_OK_RESPG_REH))
3	<p>Test of correctness of the obtained:</p> <ul style="list-style-type: none"> XAIP_OK_V1_ER_OK_RESPG_REH, XAIP_OK_V2_ER_OK_RESPG_REH and XAIP_OK_V3_ER_OK_RESPG_REH <p>by using ERVerifyTool.</p> <pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:inlineXML(XAIP_OK(AOID-01, VID-01, VID-02, VID-03))))), dss:SignatureObject(dss:Other(XAIP_ERS(AOID-01, VID-01, XAIP_OK_V1_ER_OK_RESPG_REH), XAIP_ERS(AOID-01, VID-02, XAIP_OK_V2_ER_OK_RESPG_REH), XAIP_ERS(AOID-01, VID-03, XAIP_OK_V3_ER_OK_RESPG_REH))))</pre>	<pre> VerifyResponse(dss:Result(resultmajor#ok), dss:OptionalOutputs(dssvr:VerificationReport(dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(vr:EvidenceRecordReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid) [...])), dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(vr:EvidenceRecordReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid) [...])), dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(</pre>

²⁴ XAIP-ERS does mean a RFC4998-ER embedded in the element `xaip:asn1EvidenceRecord`, which in turn is embedded in the element `xaip:evidenceRecord` and can contain the both attributes `AOID` and `VersionID`.

Identifier	M-ADD-02
	vr:EvidenceRecordReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid) [...]))))
Observations:	
Verdict:	

3.4.8.4 M-ADD-02a – LXAIP_OK and Resigning

Identifier	M-ADD-02a	
Test Purpose	The test shall verify that it is possible to retrieve previously submitted and updated LXAIP_OK after the hash tree renewal procedure (rehashing) has been successfully applied.	
Configuration	<ul style="list-style-type: none"> CONFIG_LXAIP 	
Pre-test conditions	<ul style="list-style-type: none"> Authenticated connection to middleware exists. The rehashing procedure has been successfully performed Make sure that the test case M-ADD-01a was successfully performed. 	
Step	Test sequence	Expected Results
1	ArchiveRetrievalRequest (AOID-01a, ALL)	ArchiveRetrievalResponse (dss:Result(resultmajor#ok), LXAIP_OK(AOID-01a, VID-01, VID-02, VID-03))
2	ArchiveEvidenceRequest (AOID-01a, ALL)	ArchiveEvidenceResponse (dss:Result(resultmajor#ok), XAIP_ERS ²⁵ (AOID-01a, VID-01, LXAIP_OK_V1_ER_OK_RESPONSE, XAIP_ERS(AOID-01a, VID-02, LXAIP_OK_V2_ER_OK_RESPONSE, XAIP_ERS(AOID-01a, VID-03, LXAIP_OK_V3_ER_OK_RESPONSE))
3	Test of correctness of the obtained: <ul style="list-style-type: none"> LXAIP_OK_V1_ER_OK_RESPONSE, LXAIP_OK_V2_ER_OK_RESPONSE and LXAIP_OK_V3_ER_OK_RESPONSE 	

²⁵ XAIP-ERS does mean a RFC4998-ER embedded in the element `xaip:asn1EvidenceRecord`, which in turn is embedded in the element `xaip:evidenceRecord` and can contain the both attributes `AOID` and `VersionID`.

Identifier	M-ADD-02a
	<p>by using ERVerifyTool. The particular object references in the obtained LXAIP_OK will be replaced by the references compatible with the ERVerifyTool in advance.</p> <pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:InlineXML(LXAIP_OK(AOID-01a, VID-01, VID-02, VID-03)))) dss:SignatureObject(dss:Other(XAIP_ERS(AOID-01a, VID-01, LXAIP_OK_V1_ER_OK_RESPONSE, XAIP_ERS(AOID-01a, VID-02, LXAIP_OK_V2_ER_OK_RESPONSE, XAIP_ERS(AOID-01a, VID-03, LXAIP_OK_V3_ER_OK_RESPONSE)))))) </pre>
	<pre> VerifyResponse(dss:Result(resultmajor#ok), dss:OptionalOutputs(dssvr:VerificationReport(dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(vr:EvidenceRecordReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid) [...])), dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(vr:EvidenceRecordReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid) [...])), dssvr:IndividualReport(dss:Result(urn:oasis:names:tc:dss:1.0:detail:valid) dssvr:Details(vr:EvidenceRecordReport(vr:FormatOK(urn:oasis:names:tc:dss:1.0:detail:valid) [...])))))))) </pre>
Observations:	
Verdict:	

3.4.8.5 M-ADD-03a – Relation between upload data and LXAIP/DLXAIP

Identifier	M-ADD-03a	
Test Purpose	The test shall verify that 1:1-relation between the uploaded data and corresponding LXAIP/DLXAIP is adhered to. It is not possible to use a single reference in two different LXAIP/DLXAIP instances and in such case, an error will be returned.	
Configuration	<ul style="list-style-type: none"> • CONFIG_LXAIP 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. • Test case M-SU-01a has been performed successfully. 	
Step	Test sequence	Expected Results
1	ArchiveSubmissionRequest (LXAIP_OK(REF_TXT_DATA_71, REF_PDF_DATA_71, REF_XML_MDO_71))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-300a)
2	ArchiveSubmissionRequest (LXAIP_OK(REF_TXT_DATA_71, REF_PDF_DATA_71, REF_XML_MDO_71))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/al/common#parameterError))
3	ArchiveSubmissionRequest (LXAIP_NOK_ER(REF_TXT_DATA_72, REF_PDF_DATA_72, REF_XML_MDO_72, ER_NOK_LXAIP_OK_72))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/arl/XAIP_NOK_ER))
4	ArchiveSubmissionRequest (LXAIP_OK(REF_TXT_DATA_72, REF_PDF_DATA_72, REF_XML_MDO_72))	ArchiveSubmissionResponse (dss:Result(resultmajor#error, resultminor/al/common#parameterError))
5	ArchiveUpdateRequest (DLXAIP_OK(AOID-300a, VID-01, VID-02, REF_CADES_ATT_TXT_DATA_73))	ArchiveUpdateResponse (dss:Result(resultmajor#OK), VersionID(VID-02))
6	ArchiveSubmissionRequest (LXAIP_OK(REF_TXT_DATA_74, REF_PDF_DATA_74, REF_XML_MDO_74))	ArchiveSubmissionResponse (dss:Result(resultmajor#ok), AOID-301a)
7	ArchiveUpdateRequest (DLXAIP_OK(AOID-301a, VID-01, VID-02, REF_CADES_ATT_TXT_DATA_73))	ArchiveUpdateResponse (dss:Result(resultmajor#error, resultminor/al/common#parameterError))

Identifier	M-ADD-03a
Observations:	
Verdict:	

3.4.8.6 M-ADD-04 – Evidence Record with single hash value

Identifier	M-ADD-04	
Test Purpose	The test shall verify that it is possible to verify every variant of the evidence record computed on a single data object: <ul style="list-style-type: none"> • ER(TSP(H(DO-01))) – hash value of the data object is directly included in the message imprint of the timestamp (ER_SO-1_OK_XAIP_OK_SO), • ER(H(DO-01),TSP(H(DO-01))) – the hash value of the data object is placed in the single reduced hash tree and the same hash value is included in the message imprint of the timestamp (ER_SO-2_OK_XAIP_OK_SO), • ER(H(DO-01),TSP(H(H(DO-01)))) - the hash value of the data object is placed in the single reduced hash tree and the hash value of those hash value (computet hash tree root) is included in the message imprint of the timestamp (ER_SO-3_OK_XAIP_OK_SO). 	
Configuration	<ul style="list-style-type: none"> • CONFIG_ArchiSafe_C.2 	
Pre-test conditions	<ul style="list-style-type: none"> • Authenticated connection to middleware exists. 	
Step	Test sequence	
1	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64Data(XAIP_OK_SO(AOID-100, VID-01)))) dss:SignatureObject(dss:Other(XAIP_ERS(AOID-100, VID-01, ER_SO-1_OK_XAIP_OK_SO)))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>
2	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64Data(XAIP_OK_SO(AOID-100, VID-01)))) dss:SignatureObject(dss:Other(XAIP_ERS(AOID-100, VID-01, ER_SO-2_OK_XAIP_OK_SO)))) </pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok)) </pre>

Identifier		M-ADD-04
)	
3	<pre> VerifyRequest (dss:InputDocuments(dss:Document(dss:Base64Data(XAIP_OK_SO(AOID-100, VID-01)))) dss:SignatureObject(dss:Other(XAIP_ERS(AOID-100, VID-01, ER_SO-3_OK_XAIP_OK_SO))))</pre>	<pre> VerifyResponse (dss:Result(resultmajor#ok))</pre>
Observations:		
Verdict:		

4 TR-ESOR-C.2-Testbed how-to

The following chapter will give a short description, how the TR-ESOR-C.2-Testbed (C.2-Testbed) can be set up and used.

4.1 TR-ESOR-C.2-Testbed Prerequisites

In order to use the C.2-Testbed following tools have to be provided:

- Soap-UI - <https://www.soapui.org/downloads/soapui/>

The setup and generation of Soap-UI-configuration can be done either by using directly Microsoft Excel Product (optional requirement), or by editing the provided initial configuration file (cf. chapter 4.2.4).

In order to run the XSVT and ERVT a docker environment is required, e.g.:

- Desktop Docker - <https://www.docker.com/products/docker-desktop/> (please check de license conditions), or
- Rancher Desktop - <https://rancherdesktop.io/>, or
- any other compatible docker installation.

4.2 TR-ESOR-C.2-Testbed introduction

The last version of C.2-Testbed can be obtained from the corresponding GIT repository:

- <https://github.com/de-bund-bsi-tr-esor/TR-ESOR-C.2-Testbed>.

The C.2-Testbed can be cloned by using the GIT functionality:

- `git clone https://github.com/de-bund-bsi-tr-esor/TR-ESOR-C.2-Testbed.git`, or

can be downloaded as a ZIP-archive and unzip locally.

Notice: The used test material is dealing with cryptographic functions such electronic signatures timestamps etc. Therefore, this is important, that the checked out/cloned sources **must not** be altered in any way. This refer also to the CR and CRLF issue. Before clone the repository, please make sure the original alignment of the end lines, especially of xml- and txt-based files will not be altered. You can do that e.g. by switching off this transformation global in your git environment: `git config --global core.autocrlf false`.

The obtained project directory will have the structured depicted in the Figure 4 below.

Name	Änderungsdatum	Typ	Größe
DOCKERS	21.03.2023 09:56	Dateiordner	
ERVT-UPLOADS	21.03.2023 09:56	Dateiordner	
LXAIP-UPLOADS	21.03.2023 09:56	Dateiordner	
PROPERTIES	21.03.2023 10:03	Dateiordner	
TESTDATA	21.03.2023 09:56	Dateiordner	
XSVT-UPLOADS	21.03.2023 09:56	Dateiordner	
BSI TR-03125_C.2_V1.3.pdf	21.03.2023 10:08	Adobe Acrobat-D...	25.165 KB
LICENSE	21.03.2023 09:56	Datei	12 KB
README.md	21.03.2023 09:56	MD-Datei	11 KB
TR-ESOR-1.3.0-S4-Testbed-soapui-project.xml	21.03.2023 10:10	XML-Datei	22.738 KB

Figure 4: TR-ESOR-C.2-Testbed – project directory structure.

Following chapters describe the content of the directories and the important files as well as their role in the C.2-Testbed. For short version please refer to <https://github.com/de-bund-bsi-tr-esor/TR-ESOR-C.2-Testbed/blob/main/README.md>.

4.2.1 Subdirectory DOCKERS

This directory does contain the Docker definitions in order to setup and start the both BSI test tools:

- xsv-srv – BSI AIP signature validator (cf. chapter 3.1.1)
- erv-srv – BSI Evidence Record validator (cf. chapter 3.1.1).

4.2.2 Subdirectory ERVT-UPLOADS

Notice: Only relevant in case the TOT is supporting LXAIP.

This directory does contain all the files, which are necessary to execute the corresponding test cases linked to Evidence Record Verify Tool (ERVT). The references to those files are placed in the corresponding section of a given LXAIP and will be adjusted automatically by the C.2-Testbed during the execution of the test cases. All the files from this directory have to be copied to the dedicated LXAIP-directory of the ERVT.

4.2.3 Subdirectory LXAIP-UPLOADS

Notice: Only relevant in case the TOT is supporting LXAIP.

This directory does contain all files required to perform the LXAIP test cases, which have to be uploaded to the TOT by using the Upload/Download module. The returned references have to be noted in the configuration file in order to instrument the C.2-Testbed for test execution (cf. chapter 4.2.4). The C.2-Testbed will automatically adjust the configured references in the test data during the test execution.

Please refer to step 1 in M-SU-01a test case in the chapter 3.4.2.2 for further information

4.2.4 Subdirectory PROPERTIES

This Subdirectory does contain only two files:

- *TR-S4-Soap-Ul-List-of-Project-Properties.xlsxm* – which defines all the configuration properties have to be set in advance of the test execution. After the necessary properties has been set, a configuration file can be exported an after that imported into the C.2-Testbed test suite; please refer to the “introduction” tab of the excel-file for further information on that.
- *Initial-Soap-Ul-configuration.props* – which does contain the initial version of SoapUI-Project configuration; the file can be directly edited an after that imported into the SoapUI-Project as an alternative solution.

4.2.5 Subdirectory TESTDATA

This Subdirectory does contain the test data which is directly used by the C.2-Testbed in order to execute the test cases, e.g. XAIP-, LXAIP- ER-objects etc. (cf. chapter 3.3).

4.2.6 Subdirectory XSVT-UPLOADS

Notice: Only relevant in case the TOT is supporting LXAIP.

This directory does contain all the files, which are necessary to execute the corresponding test cases linked to XAIP Signature Validation Tool (XSVT). The references to those files are placed in the corresponding section of a given LXAIP and will be adjusted automatically by the C.2-Testbed during the execution of the test cases. All the files from this directory have to be copied to the dedicated LXAIP-directory of the XSVT.

4.2.7 File TR-ESOR-1.3.0-S4-Testbed-soapui-project.xml

This file does contain all the test cases implemented by C.2.Testbed – SoapUI-Project file.

4.2.8 File BSI TR-03125_C.2_V1.3.pdf

This file does contain the current version of the [TR-ESOR-C.2].

4.3 TR-ESOR-C.2-Testbed configuration

Notice: XAIP shall be supported, LXAIP may be supported.

Notice: The terms target of test (TOT) and target of evaluation/examination (TOE) are used as synonyms.

Following Table 3 gives overview of steps have to be done in order to configure the C.2-Testbed. The column “Container” says, corresponding action should be performed in every case “All”, or only if LXAIP is supported by the TOT. The column “Action” describes the activity to be done.

#	Container	Action
1	All	Do create a test tenant in the TOT with client-id "Bsi" (cf. <xaip:submissionInfoType> in [TR-ESOR-F], page 17).
2	All	<p>Do insert the TOT endpoint address of the S.4 interface into the corresponding property TOE_S4_ENDPOINT in the props-file.</p> <p>Please notice the C.2-Testbed does support the http communication as default one. Anything more has to be configured according to the SoapUI documentation.</p>
3	All	Do check and adjust the value of the ERVT_ENDPOINT property in the props-file, as needed (cf. chapter 4.4).
4	All	Do check and adjust the value of the XSVD_ENDPOINT property in the props-file, as needed (cf. chapter 4.4).
5	All	<p>Do configure the behaviour of TOT in case of signature verification errors by enabling one (the other one has to be disabled - set to NO) of the following properties:</p> <ul style="list-style-type: none"> • set value of OPT_VERIFY_VR_STANDALONE property to YES, if only verification report used to be returned, • set value of OPT_VERIFY_VR_EMB_IN_CONTAINER property to YES, if the verification report embedded into a given XAIP or LXAIP used to be returned.
6	All	<p>Do configure the behaviour of the TOT in case an invalid XML structure is used at S.4 by enabling one of the following properties (the other one has to be set to NO):</p> <ul style="list-style-type: none"> • set value of OPT_INVALID_XML_AS_SOAPFAULT to YES in case a soap fault used to be returned, • set value of OPT_INVALID_XML_AS_S4_ERROR to YES in case an application level status code used to be returned.
7	All	Do check and adjust as needed the value of SUBMISSION_TIME_RANGE_IN_DAYS property (in days), which does describe the maximal deviation of the given <xaip:submissionTime> and the current time.
8	All	Do configure the supported hash algorithms by checking and adjusting (as needed) the properties {SHA1, SHA224, SHA256, SHA384, SHA512, SHA3-224, SHA3-256, SHA3-384, SHA3-512}_SUPPORTED (enabled = YES, disabled - NO).

#	Container	Action
9	All	Do configure the acceptable hash algorithms for hash tree verification in the evidence records by checking and adjusting (as needed) the properties {SHA1, SHA224, SHA256, SHA384, SHA512, SHA3-224, SHA3-256, SHA3-384, SHA3-512}_TREE_ACCEPTABLE (enabled = YES, disabled = NO).
10	All	Do configure an inactive profile in the TOT and set the value of the URI_PROFILE_V1.3_S.4_V1.0-inactive property as the corresponding profile id.
11	All	Do define the support of LXAIP by proper setting the value of property CONFIG_LXAIP (possible values are ENABLED or DISABLED).
12	All	Do define the not existed AOIDs for the XAIP test cases by setting a value of AOID-03 and AOID-06 properties.
13	All	Do submit an XAIP in order to have the belonging retention period expired at the time of test execution and document the corresponding AOID in the property AOID-00, as well as used version id in the property AOID-00.V01.
14	LXAIP	Do check and adjust (as needed) the location for the referenced data objects for XSVT, property XSV_LXAIP_DIR_URI (a valid directory path).
15	LXAIP	Do check and adjust (as needed) the location for the referenced data objects for ERVT, property ERVT_LXAIP_DIR_URI (a valid directory path).
16	LXAIP	Do copy all the files from directory XSVT-UPLOADS into the location specified in step 14.
17	LXAIP	Do copy all the files from directory ERVT-UPLOADS into the location specified in step 15.
18	LXAIP	Do submit an LXAIP in order to have the belonging retention period expired at the time of test execution and document the corresponding AOID in the property AOID-00a, as well as used version id in the property AOID-00a.V01.
19	LXAIP	Do upload all the files from LXAIP-UPLOADS directory into TOE by using the Upload/Download-Interface and document the given references in the corresponding property in the props-file. <ul style="list-style-type: none"> • Example: Uploading of PDF_DATA_50.pdf file did produce uuid:1122-2343-5634-4545 as reference. Set the test value of REF_PDF_DATA_50 property to uuid:1122-2343-5634-4545.
20	All	Do generate the property file used by the SoapUI-Project by pressing the “Generate SoapUI props” button placed in the “Introduction” tab of the file TR-S4-Soap-UI-List-of-Project-Properties.xlsx (cf. chapter 4.2.4). <ul style="list-style-type: none"> • Do provide the path and name of the SoapUI-Project property file and confirm the export.

Table 3: TR-ESOR-C.2-Testbed list of steps to be done during configuration.

4.4 TR-ESOR-C.2-Testbed: configuration and start of XSVT and ERVT

Following steps have to be performed in order to create the necessary docker images and containers:

S.1 Change into DOCKERS directory

Notice: The following usage of scripts means, the scripts with postfix “.cmd” can be used on the Windows and the script with postfix “.sh” can be used on Linux/Apple.

S.2 Call the script dbuild.cmd/dbuild.sh – the necessary docker images will be built:

- alpine-j11:1.0.0 – foundation for further images,
- xsv-srv:1.0.0 – the image for XSVT
- erv-srv:1.0.0 – the image for ERVT

and following or similar output will be displayed:

[i] list of known containers:					
REPOSITORY	TAG	IMAGE ID	CREATED	SIZE	
xsv-srv	1.0.0	827cb319b72b	About an hour ago	335MB	
erv-srv	1.0.0	137205968755	6 hours ago	345MB	
alpine-j11	1.0.0	ee1705519e0b	22 hours ago	335MB	

Figure 5: Example output of dbuild.cmd/dbuild.sh.

S.3 Call the script drun.cmd/drun.sh – the both necessary containers will be created and started:

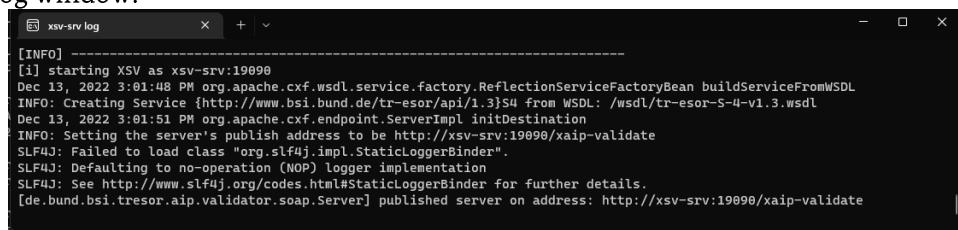
- xsv-srv – container built on base of xsv-srv:1.0.0 docker image, will host the running XSVT,
- erv-srv – container built on base of erv-srv:1.0.0 docker image, will host the running ERVT.

Please notice, that this task will take some time, because the both tools will be built from the sources obtained from the official BSI repository on the GitHub (cf. <https://github.com/de-bund-bsi-tr-esor>).

Only Windows: In order to monitor the progress, two extra shell windows will start up automatically, which have assigned following titles:

- xsv-srv log – progress of XSVT in xsv-srv container,
- erv-srv log – progress of ERVT in erv-srv container.

The creation and initialization of the xsv-srv is finished as soon as following statement will be displayed in xsv-srv log window:



```
[INFO]
[i] starting XSV as xsv-srv:19090
Dec 13, 2022 3:01:48 PM org.apache.cxf.wsdl.service.factory.ReflectionServiceFactoryBean buildServiceFromWSDL
INFO: Creating Service [http://www.bsi.bund.de/tr-esor/api/1.3]S4 from WSDL: /wsdl/tr-esor-S-4-v1.3.wsdl
Dec 13, 2022 3:01:51 PM org.apache.cxf.endpoint.ServerImpl initDestination
INFO: Setting the server's publish address to be http://xsv-srv:19090/xainfo-validate
SLF4J: Failed to load class "org.slf4j.impl.StaticLoggerBinder".
SLF4J: Defaulting to no-operation (NOP) logger implementation
SLF4J: See http://www.slf4j.org/codes.html#StaticLoggerBinder for further details.
[de.bund.bsi.tresor.aip.validator.soap.Server] published server on address: http://xsv-srv:19090/xainfo-validate
```

Figure 6: Final statement of initialization of XSVT.

The creation and initialization of the erv-srv is finished as soon as following statement will be displayed in erv-srv log window:



```
BUILD SUCCESSFUL in 3m 25s
69 actionable tasks: 66 executed, 3 up-to-date
[i] starting ERV on port 9090 und with config /opt/config-rfc4998-online.xml, /opt/erverifytool-1.3.3
Running S4 webservice on address http://erv-srv:9090/ErVerifyTool/esori3/exec
```

Figure 7: Final statement of initialization of ERVT.

The both Tools are up and running.

Notice: The both log windows can be closed at any time.

Linux/Apple: A log output of the erv-srv docker container will be displayed in the terminal. As soon as the statement depicted in the Figure 7 will appear, the erv-srv ist up and running. In order to check the status of the xsv-srv docker container please use following command: “docker logs xsv-srv”. If the statement depicted in the Figure 6 does appear, the xsv-srv docker container is up and running.

S.4 In order to access the both test tools by using the hostnames xsv-srv and erv-srv the following files have to be adjusted:

- Windows: c:\Windows\System32\drivers\etc\hosts
- Linux/Apple: /etc/hosts.

Please edit the above-named file as administrator/root and insert following line:

- “127.0.0.1 xsv-srv erv-srv”.

The availability of the both test tools could be tested by inserting following URLs in your browser:

- XSV-SRV:
 - <http://xsv-srv:19090/xaip-validate?wsdl> or
 - <http://localhost:19090/xaip-validate?wsdl>,
- ERV-SRV:
 - <http://erv-srv:9090/ErVerifyTool/esor13/exec?wsdl>, or
 - <http://localhost:9090/ErVerifyTool/esor13/exec?wsdl>.

the output should be the underlying WSDL.

There are some more scripts, which could be used to control the both test tools:

- dstop.cmd/dstop.sh – by using this script the both running containers of test tools XSVT and ERVT can be stopped, below a sample output of the script,
- dstatus.cmd/dstatus.sh – execution of this script will display current status of known docker containers and images, below a sample output of the script,

```
[i] current status of the testbed
current status of images:

REPOSITORY TAG IMAGE ID CREATED SIZE
xsv-srv 1.0.0 827cb319b72b About an hour ago 335MB
erv-srv 1.0.0 137205968755 7 hours ago 345MB
alpine-j11 1.0.0 ee1705519e0b 23 hours ago 335MB

[i] current status of container:

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
9f644d340492 erv-srv:1.0.0 "/opt/run-srv.sh" 7 minutes ago Exited (137) 59 seconds ago
7c591b8fa190 xsv-srv:1.0.0 "/opt/run-srv.sh" 7 minutes ago Exited (137) About a minute ago
xsv-srv
```

Figure 8: Sample output of dstatus.cmd/dstatus.sh

- dstart.cmd/dstart.sh – (re)starts the both docker containers.

Notice: This script can only be used after the containers have been successfully created with the script drun.cmd/drunk.sh.

Below a sample of output of the script:

```
[i] starting all needed container: xsv-srv and erv-srv
xsv-srv
erv-srv
[i] status of the container:

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
9f644d340492 erv-srv:1.0.0 "/opt/run-srv.sh" 11 minutes ago Up Less than a second 0.0.0.0:9090->9090/tcp
7c591b8fa190 xsv-srv:1.0.0 "/opt/run-srv.sh" 11 minutes ago Up 1 second 0.0.0.0:19090->19090/tcp
xsv-srv
```

Figure 9: Sample output of dstart.cmd/dstart.sh

- dclean-container.cmd/dclean-container.sh – removes the both docker containers (the containers have to be stopped in advance). The containers can be recreated by using the script drun.cmd/drunk.sh.
- dclean-all.cmd/dclean-all.sh – removes the both docker containers (the containers have to be stopped in advance) and the three docker images (only if the containers have been removed successfully). The images can be recreated by using the script dbuild.cmd/dbuild.sh.

4.5 TR-ESOR-C.2-Testbed usage

Following Table 4 describes the action steps to be done in order to perform the test cases.

#	Action
1	<p>Do start SoapUI application (cf. chapter 4.1)</p> <ul style="list-style-type: none"> • Notice: The provided C.2-Testbed project (cf. chapter 4.2.7) has been created with the open source version of the SoapUI tool and hasn't been tested with the commercial version "ReadyAPI" of the software.
2	<p>Do load the SoapUI project into the started SoapUI tool:</p> <ol style="list-style-type: none"> a) Do chose "File->Import Project" or use the shortcut "STRG+I" b) Do chose the file TR-ESOR-1.3.0-S4-Testbed-soapui-project.xml (cf. chapter 4.2.7) from the root directory of this project and press the "Open" button. The Project with name "TR-S4-1.3.0" will appear in the "Navigator" panel of SoapUI. The project consists of 8 test suites with 62 test cases, 656 test steps and 2118 assertions in total.
3	<p>Do load the generated SoapUI project property file:</p> <ol style="list-style-type: none"> a) Do double click on the "TR-S4-1.3.0" project in the "Navigator" panel. b) Do make sure, the "Overview" tab at the top and the "Properties" tab at the bottom of the project configuration dialog are activated. c) Do click the next-to-last icon in the icon bar of the "Properties" tab -> the "Load Properties"-Dialog will appear. d) Do browse to the generated SoapUI project property file, as result of step 20 in the Table 3 and do activate both checkboxes "Creates Missing Properties" as well as "Deletes properties not in file". e) Do press "OK" button
4	<p>Do execute the test suites.</p> <ul style="list-style-type: none"> • Notice: depending of your test strategy you can try to perform all the tests at once, doing it suite by suite, execute them test case by test case or even execute the single steps in the particular test cases manually. It is important to keep the execution, which is top-down, beginning by chapter 3.4.1 and ending by chapter 3.4.8, to preserve the interdependencies of the particular test cases.

Table 4: TR-ESOR-C.2-Testbed list of steps to be performed during the test execution.

4.6 TR-ESOR-C.2-Testbed results

In order to get the [TR-ESOR-C.2] passed, following tests have to be performed successfully:

1. All tests specified in the chapters 3.4.1 - 3.4.8 which id doesn't end with an "a", e.g. M-SU-01 or M-DE-02 etc.
2. In case the TOT does support LXAIP container, all tests specified in chapters 3.4.1 - 3.4.8 which id does end with an "a", e.g. M-DE-01a or M-SU-06a.