



EUROPEAN COMMISSION

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# **e-SENS SMP Profile**

## **Test Assertions Description**

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## Approach and purpose of the document

The present document describes the test assertions for the e-SENS SMP profile which has been adopted in CEF eDelivery.

More specifically, e-SENS uses the SMP (Service Metadata Publisher) specification originally developed by PEPPOL and generalized and standardized by OASIS.

The purpose of the test assertions is to focus more on what is expected from the implementation rather than how to test it. In fact, some of the test assertions might not be testable (transformed into test cases).

This document is intended for software providers implementing the specifications of CEF eDelivery and service providers reusing the sample software of CEF eDelivery.

The applicable terms and conditions of CEF eDelivery can be consulted in its Master Service Arrangement, available on the CEF Digital Single Web Portal:

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eDelivery+Resources>

## Glossary

The key terms used in this Test Assertions Description are defined in the CEF Definitions section on the CEF Digital Single Web Portal:

<https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/CEF+Definitions>

The key acronyms used in this Test Assertions Description are defined in the CEF Glossary on the CEF Digital Single Web Portal:

<https://ec.europa.eu/cefdigital/wiki/pages/viewpage.action?spaceKey=CEFDIGITAL&title=CEF+Glossary>

## 1. INTRODUCTION

For cross-border messaging, the details for routing between different infrastructures are needed. The best option is to have a dynamic system to discover the corresponding gateways and whether they are capable of receiving the message including the metadata for document type. The gateways (end entities) discover their partner gateways and their routing addresses via the BDXL (SML)/SMP infrastructure.

### 1.1. System overview

#### 1.1.1. System entities

Entity	Description
<b>Service Metadata Publisher (SMP)</b>	The Metadata Publisher hosts Metadata for each participant ID at a predefined URL. The SMP specification defines an XML-based service metadata data model and a REST binding to retrieve service metadata.
<b>Sender</b>	it is an entity that uses this URL in a HTTP GET operation which returns the metadata relating to that recipient's capabilities
<b>Recipient</b>	it is an entity that receives the Business Document containing the requested metadata

#### 1.1.2. Messaging Model

The sender can retrieve the information necessary for setting up an interoperability process. The Service Metadata Publisher stores the interoperability metadata, which enables routing of documents received from a sender to the correct recipient. SMP service metadata is a combination of information on the end entity recipient (its identifier, supported business documents and processes in which it accepts those documents) and the gateway (metadata which includes technical configuration information on the receiving endpoint, such as the transport protocol and its address).

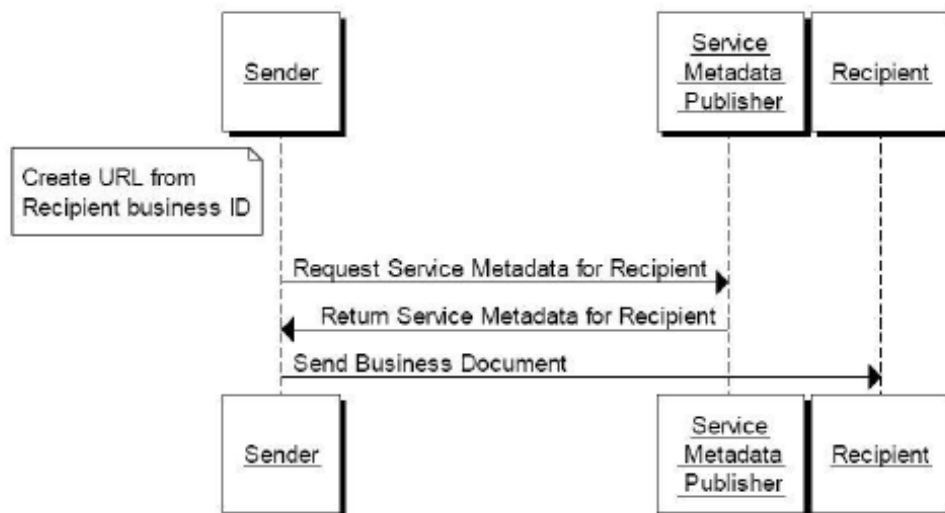


Figure 1: Messaging Model (source: e-SENS SMP input specifications)

### 1.1.3. Definitions

Term	Description
<b>HTTP header fields</b>	Components of the header section of request and response messages in the Hypertext Transfer Protocol (HTTP). They define the operating parameters of an HTTP transaction. Each header field consists of a case-insensitive field name followed by a colon (":"), optional leading whitespace, the field value, and optional trailing whitespace.

### 1.1.4. Abbreviations

Abbreviation	Description
<b>SMP</b>	Service Metadata Publisher
<b>REST</b>	Representational State Transfer
<b>URI</b>	Uniform Resource Identifier
<b>BDXL</b>	Business Document Metadata Service Location protocol

More information can be found in the following sources:

<b>e-SENS SMP input specifications</b>	<a href="http://wiki.ds.unipi.gr/display/ESENS/PR+-+SMP">http://wiki.ds.unipi.gr/display/ESENS/PR+-+SMP</a>
<b>OASIS SMP specifications</b>	<a href="http://docs.oasis-open.org/bdxx/bdx-smp/v1.0/">http://docs.oasis-open.org/bdxx/bdx-smp/v1.0/</a>
<b>PEPPOL SMP test cases</b>	<a href="https://joinup.ec.europa.eu/svn/cipaedelivery/trunk/test/Test%20Cases/e-Delivery%20-%20SMP.xls">https://joinup.ec.europa.eu/svn/cipaedelivery/trunk/test/Test Cases/e-Delivery - SMP.xls</a>
<b>[HTTP 1.1] specification</b>	<a href="http://www.w3.org/Protocols/rfc2616/rfc2616.html">http://www.w3.org/Protocols/rfc2616/rfc2616.html</a>
<b>[XML 1.0] specification:</b>	<a href="http://www.w3.org/TR/xml/">http://www.w3.org/TR/xml/</a>
<b>[Unicode] specification</b>	<a href="http://www.unicode.org/versions/Unicode7.0.0/">http://www.unicode.org/versions/Unicode7.0.0/</a>
<b>[Uniform Resource Identifier (URI)]</b>	<a href="https://tools.ietf.org/html/rfc3986">https://tools.ietf.org/html/rfc3986</a>
<b>[XML-DSIGv1.1]</b>	<a href="https://www.w3.org/TR/xmlsig-core1/">https://www.w3.org/TR/xmlsig-core1/</a>

## 2. TESTABLE TEST ASSERTIONS

eSENS_SMP_TA01	
<b>TA id</b>	eSENS_SMP_TA01
<b>Normative source</b>	[OASIS SMP 2.1.1 – 3.4]  <i>“If the sender client performs a service metadata request, he receives a response containing the URL and other properties of the recipient”</i>
<b>Target</b>	SMP – Service Metadata
<b>Prerequisite</b>	<ul style="list-style-type: none"><li>- the sender client sends a ServiceMetadata request for a recipient to an SMP</li><li>- the expected status code in the response is 200</li><li>- the URI is constructed like: /{identifier scheme}::{id}/services {docType}</li></ul>
<b>Predicate</b>	the sender client receives a response from the SMP which contains a Service Metadata entity that holds all of the metadata about a Service, or a redirection URL to another Service Metadata Publisher holding this information
<b>Prescription Level</b>	mandatory
<b>Tag</b>	SMP, Service Metadata
<b>Variable</b>	



eSENS_SMP_TA02	
<b>TA id</b>	eSENS_SMP_TA02
<b>Normative source</b>	<p>[OASIS SMP 2.1.2 – 3.4]</p> <p><i>“If the sender client performs a service group request, he receives a response containing a ServiceGroup entity, which holds a list of references to the ServiceMetadata resources associated with it”</i></p>
<b>Target</b>	SMP – Service Group
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- the sender client sends a ServiceGroup request for a recipient to an SMP</li> <li>- the expected status code in the response is 200</li> <li>- the URI is constructed like: /{identifierscheme}::{id}</li> </ul>
<b>Predicate</b>	the sender client receives a response from the SMP which contains a Service Group entity that holds the Participant Identifier of the recipient and a list of references to individual Service Metadata resources that are associated with that participant identifier
<b>Prescription Level</b>	mandatory
<b>Tag</b>	SMP, Service Group
<b>Variable</b>	

eSENS_SMP_TA03	
<b>TA id</b>	eSENS_SMP_TA03
<b>Normative source</b>	<p>[OASIS SMP 2.1.3]</p> <p><i>“If the sender client performs a service metadata request and the owner of a Participant Identifier uses different Service Metadata Publishers for different document types or processes, he is redirected by the Service Metadata Publisher to a secondary, remote Service Metadata Publisher where the actual SignedServiceMetadata can be found. As a result, in the response, the SignedServiceMetadata resource contains a redirection URL to another Service Metadata Publisher. The sender client can use the redirection URL to retrieve the SignedServiceMetadata resource of the Recipient in another SMP”</i></p>
<b>Target</b>	Redirection
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- the sender client sends a ServiceMetadata request for a recipient to an SMP</li> <li>- the expected status code in the response is 200</li> <li>- the URI is constructed like: /{identifier scheme}::{id}/services/{docType}</li> <li>- the SMP contains a redirect element</li> </ul>
<b>Predicate</b>	the sender client receives a response from the SMP which contains a Service Metadata entity that holds a redirection URL to another Service Metadata Publisher
<b>Prescription Level</b>	mandatory
<b>Tag</b>	redirection, Signed Service Metadata
<b>Variable</b>	

eSENS_SMP_TA04	
<b>TA id</b>	eSENS_SMP_TA04
<b>Normative source</b>	<p>[OASIS SMP 2.3.4.1]</p> <p><i>“In the case where a client encounters a redirection element, the client MUST follow the first redirect reference to the alternative SMP.”</i></p>
<b>Target</b>	Redirection
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- the client makes a request for a specific doctype</li> <li>- the requested metadata is located in another SMP</li> </ul>
<b>Predicate</b>	the response contains a redirect element with the URL of another SMP
<b>Prescription Level</b>	mandatory
<b>Tag</b>	redirection
<b>Variable</b>	

eSENS_SMP_TA05	
<b>TA id</b>	eSENS_SMP_TA05
<b>Normative source</b>	<p>[OASIS SMP 2.3.3.3]</p> <p><i>“References MUST refer to SignedServiceMetadata records that are signed by the certificate of the SMP. It must not point to SignedServiceMetadata resources published by external SMPs”</i></p>
<b>Target</b>	ServiceMetadataReference
<b>Prerequisite</b>	eSENS_SMP_TA02
<b>Predicate</b>	All referenced records should be using the signing certificate from the SMP.
<b>Prescription Level</b>	mandatory
<b>Tag</b>	service metadata reference, signed service metadata
<b>Variable</b>	

eSENS_SMP_TA06	
<b>TA id</b>	eSENS_SMP_TA06
<b>Normative source</b>	<p>[OASIS SMP 2.3.4.3]</p> <p><i>“The REQUIRED «href» attribute of the Redirect element contains the full address of the destination SMP record that the client is redirected to”</i></p>
<b>Target</b>	Redirection
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- the sender client constructs a URL based on participant identifier and doctype</li> <li>- the SMP returns a Signed Service Metadata resource with a redirect child element</li> </ul>
<b>Predicate</b>	The redirect element contains a “href” attribute with the full address that points to a secondary SMP record. Compare the url of the first SMP with the url that points to the second SMP (http://smp1/part1/part2/part3 vs http://smp2/part1/part2/part3)
<b>Prescription Level</b>	mandatory
<b>Tag</b>	redirection
<b>Variable</b>	

eSENS_SMP_TA07	
<b>TA id</b>	eSENS_SMP_TA07
<b>Normative source</b>	<p>[OASIS SMP 2.3.4.4]</p> <p><i>“The participant identifier comprises the identifier, and an identifier scheme. This identifier MUST have the same value of the {id} part of the URI of the enclosing ServiceMetadata resource”</i></p>
<b>Target</b>	ParticipantIdentifier
<b>Prerequisite</b>	the sender client constructs a URL based on participant identifier and doctype
<b>Predicate</b>	the {id} part represented in the XML of the ServiceMetadata resource is the same as the {id} part in the composed URL
<b>Prescription Level</b>	mandatory
<b>Tag</b>	participant identifier, service metadata
<b>Variable</b>	

eSENS_SMP_TA08	
<b>TA id</b>	eSENS_SMP_TA08
<b>Normative source</b>	<p>[OASIS SMP 2.3.4.3]</p> <p><i>“For the list of endpoints under each &lt;Endpoint&gt; element in the ServiceEndpointList, each endpoint MUST have different values of the transportProfile attribute, i.e. represent bindings to different transports”</i></p>
<b>Target</b>	endpoints
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- eSENS_SMP_TA01</li> <li>- the returned metadata contains a Service Endpoint list with multiple Endpoints</li> </ul>
<b>Predicate</b>	The <Endpoint> elements in the Service Endpoint List contain different values for each transport Profile attribute
<b>Prescription Level</b>	mandatory
<b>Tag</b>	endpoint, transport profile
<b>Variable</b>	

eSENS_SMP_TA9a	
<b>TA id</b>	eSENS_SMP_TA9a
<b>Normative source</b>	<p>[OASIS SMP 2.4.5]</p> <p><i>“Participant identifiers SHOULD consist of a scheme identifier in addition to the participant identifier itself. Here the scheme identifier indicates the specification of the participant identifier format, i.e. its representation and meaning.”</i></p>
<b>Target</b>	participant identifiers
<b>Prerequisite</b>	the sender constructs a URL containing a participant identifier and a scheme identifier in order to interrogate the SMP
<b>Predicate</b>	status code 200 gets returned by the SMP
<b>Prescription Level</b>	preferred
<b>Tag</b>	participant identifier, scheme identifier
<b>Variable</b>	



eSENS_SMP_TA9b	
<b>TA id</b>	eSENS_SMP_TA9b
<b>Normative source</b>	<p>[OASIS SMP 2.4.5]</p> <p><i>“Participant identifiers SHOULD consist of a scheme identifier in addition to the participant identifier itself. Here the scheme identifier indicates the specification of the participant identifier format, i.e. its representation and meaning.”</i></p>
<b>Target</b>	participant identifiers
<b>Prerequisite</b>	the sender constructs a URL containing a participant identifier without a scheme identifier in order to interrogate the SMP
<b>Predicate</b>	status code 200 gets returned by the SMP
<b>Prescription Level</b>	preferred
<b>Tag</b>	participant identifier, scheme identifier
<b>Variable</b>	

eSENS_SMP_TA10	
<b>TA id</b>	eSENS_SMP_TA10
<b>Normative source</b>	<p>[OASIS SMP 2.4.5.2]</p> <p><i>“A participant identifier scheme MAY define its own requirements for case sensitivity handling. Unless defined differently by the participant identifier scheme, a participant identifier in XML format MUST be treated as case insensitive.”</i></p>
<b>Target</b>	participant identifiers
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- the SMP contains a participant identifier in XML format (check: [XML 1.0] specification: <a href="http://www.w3.org/TR/xml/">http://www.w3.org/TR/xml/</a>)</li> <li>- there are no requirements defined for case sensitivity handling by the participant identifier scheme</li> </ul>
<b>Predicate</b>	the processing of the participant identifier is treated as case insensitive
<b>Prescription Level</b>	mandatory
<b>Tag</b>	participant identifier, XML format, case sensitivity handling
<b>Variable</b>	

eSENS_SMP_TA11	
<b>TA id</b>	eSENS_SMP_TA11
<b>Normative source</b>	[OASIS SMP 2.4.5.3] <i>“In a URL, the string represented by «{identifier scheme}::{id}» MUST be percent encoded following and the guidelines given above.”</i>
<b>Target</b>	participant identifier scheme
<b>Prerequisite</b>	the sender constructs a URL containing a string: {identifier scheme}::{id} that is percent encoded (replace “:” separator by “%3a” and “#” by “%23”)
<b>Predicate</b>	the SMP returns the requested information
<b>Prescription Level</b>	mandatory
<b>Tag</b>	participant identifier scheme, encoding
<b>Variable</b>	

eSENS_SMP_TA12	
<b>TA id</b>	eSENS_SMP_TA12
<b>Normative source</b>	<p>[OASIS SMP 2.4.5.3]</p> <p><i>“A participant identifier scheme MAY define its own requirements for case sensitivity handling. Unless defined differently by the participant identifier scheme, a participant identifier in a URL MUST be treated as case insensitive.”</i></p>
<b>Target</b>	participant identifiers
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- there are no requirements defined for case sensitivity handling by the participant identifier scheme</li> <li>- the sender constructs a URL containing a participant identifier and scheme</li> </ul>
<b>Predicate</b>	the processing of the participant identifier is treated as case insensitive
<b>Prescription Level</b>	mandatory
<b>Tag</b>	participant identifier, case sensitivity
<b>Variable</b>	

eSENS_SMP_TA13	
<b>TA id</b>	eSENS_SMP_TA13
<b>Normative source</b>	[OASIS SMP 2.4.6] <i>“The scheme of the document identifier MUST be in the form of a URI.”</i>
<b>Target</b>	document identifier scheme
<b>Prerequisite</b>	the sender constructs a URL containing a document identifier and scheme
<b>Predicate</b>	the scheme of the document identifier is identified by the URI: bdx-docid-qns
<b>Prescription Level</b>	mandatory
<b>Tag</b>	document identifier scheme, URI
<b>Variable</b>	

eSENS_SMP_TA14	
<b>TA id</b>	eSENS_SMP_TA14
<b>Normative source</b>	<p>[OASIS SMP 2.4.6.2]</p> <p><i>“A document identifier scheme MAY define its own requirements for case sensitivity handling. Unless defined differently by the document identifier scheme, a document identifier in XML format MUST be treated as case insensitive.”</i></p>
<b>Target</b>	document identifiers
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- there are no requirements defined for case sensitivity handling by the document identifier scheme</li> <li>- the sender constructs a URL containing a document identifier in XML format</li> </ul>
<b>Predicate</b>	the server processes the request regardless of the case formatting of the doc id
<b>Prescription Level</b>	mandatory
<b>Tag</b>	document identifier, XML format
<b>Variable</b>	

eSENS_SMP_TA15	
<b>TA id</b>	eSENS_SMP_TA15
<b>Normative source</b>	[OASIS SMP section 3.2]  <i>"A service implementing the REST binding MUST support [HTTP 1.1], and MUST set the HTTP "content-type" header and give it a value of "text/xml"."</i>
<b>Target</b>	HTTP 1.1 support
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- SMP uses REST as a binding</li> <li>- the client executes a request for info available in the SMP using HTTP 1.1</li> </ul>
<b>Predicate</b>	<ul style="list-style-type: none"> <li>- the client receives the requested data (check [HTTP 1.1] specification: <a href="http://www.w3.org/Protocols/rfc2616/rfc2616.html">http://www.w3.org/Protocols/rfc2616/rfc2616.html</a>)</li> <li>- the HTTP content-type header is set to "text/xml" in the requested Metadata</li> </ul>
<b>Prescription Level</b>	mandatory
<b>Tag</b>	REST binding, HTTP1.1, HTTP header
<b>Variable</b>	

eSENS_SMP_TA16	
<b>TA id</b>	eSENS_SMP_TA16
<b>Normative source</b>	[OASIS SMP section 3]  <i>"HTTP GET operations MUST return the status code 200 if the resource is retrieved correctly."</i>
<b>Target</b>	Service Group resource retrieval
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- SMP uses REST as a binding</li> <li>- the ServiceGroup exists on the SMP</li> <li>- the URI is constructed like: //{hostname}/{identifier scheme}::{id}</li> <li>- the sender requests the ServiceGroup from the SMP and the resource is retrieved correctly</li> </ul>
<b>Predicate</b>	<ul style="list-style-type: none"> <li>- HTTP GET returns status code 200</li> <li>- The returned content holds the Participant Identifier of the recipient, and a list of references to individual ServiceMetadata resources that are associated with that participant identifier</li> </ul>
<b>Prescription Level</b>	mandatory
<b>Tag</b>	HTTP GET, Service Group, resource retrieval
<b>Variable</b>	



eSENS_SMP_TA17	
<b>TA id</b>	eSENS_SMP_TA17
<b>Normative source</b>	[OASIS SMP section 3]  <i>“HTTP GET operations MUST return the status code 200 if the resource is retrieved correctly.”</i>
<b>Target</b>	Service Metadata resource retrieval
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- the SignedServiceMetadata exists on the SMP</li> <li>- the URI is constructed like:://{hostname}/{identifier scheme}::{id}/services/{doctype}</li> <li>- the sender requests metadata from the SMP and the resource is retrieved correctly</li> </ul>
<b>Predicate</b>	<ul style="list-style-type: none"> <li>- HTTP GET returns status code 200</li> <li>- The returned content holds all of the metadata about a Service, or a redirection URL to another Service Metadata Publisher holding this information</li> </ul>
<b>Prescription Level</b>	mandatory
<b>Tag</b>	HTTP GET, Signed Service Metadata, resource retrieval
<b>Variable</b>	

eSENS_SMP_TA18	
<b>TA id</b>	eSENS_SMP_TA18
<b>Normative source</b>	<p>[OASIS SMP section 3.2]</p> <p><i>“HTTP GET operations MUST return the status code 404 if a specific resource could not be found. This could for example be the result of a request containing a Participant Identifier that does not exist.”</i></p>
<b>Target</b>	resource retrieval
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- the URI is constructed like:://{hostname}/{identifier scheme}::{id}</li> <li>- the sender requests metadata from the SMP but the resource does not exist or is unknown</li> </ul>
<b>Predicate</b>	HTTP GET returns status code 404
<b>Prescription Level</b>	mandatory
<b>Tag</b>	HTTP GET, Servicegroup
<b>Variable</b>	

eSENS_SMP_TA19	
<b>TA id</b>	eSENS_SMP_TA19
<b>Normative source</b>	[OASIS SMP section 3.2] <i>“The service SHOULD NOT use redirection in the manner indicated by the HTTP 3xx codes. Clients are not required to support active redirection.”</i>
<b>Target</b>	redirection
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- The SMP contains a redirect element for the participant identifier for which the request has been made</li> <li>- the sender requests metadata from the SMP</li> </ul>
<b>Predicate</b>	HTTP GET returns status code 200
<b>Prescription Level</b>	preferred
<b>Tag</b>	redirection, HTTP GET
<b>Variable</b>	

eSENS_SMP_TA20	
<b>TA id</b>	eSENS_SMP_TA20
<b>Normative source</b>	<p>[OASIS SMP section 3.3]</p> <p><i>"XML documents returned by HTTP GET MUST be well-formed according to [XML 1.0]. They MUST contain an XML declaration starting with "&lt;?xml"."</i></p>
<b>Target</b>	XML formatting of documents
<b>Prerequisite</b>	- the recipient receives a business document returned by HTTP GET containing the requested Metadata in XML format
<b>Predicate</b>	<ul style="list-style-type: none"> <li>- the XML declaration starts with "&lt;?xml"</li> <li>- version 1.0 is of XML is used in the document</li> <li>- the XML is well-formed according to the [XML 1.0] specification: <a href="http://www.w3.org/TR/xml/">http://www.w3.org/TR/xml/</a></li> </ul>
<b>Prescription Level</b>	mandatory
<b>Tag</b>	HTTP GET, XML format
<b>Variable</b>	

eSENS_SMP_TA21	
<b>TA id</b>	eSENS_SMP_TA21
<b>Normative source</b>	<p>[OASIS SMP section 3.3]</p> <p><i>“XML documents returned by HTTP GET MUST be well-formed according to [XML 1.0] and MUST be UTF-8 encoded ([Unicode]). They MUST contain an XML declaration which includes the «encoding» attribute set to “UTF-8”.”</i></p>
<b>Target</b>	XML documents UTF-8 encoding
<b>Prerequisite</b>	- the recipient receives a business document returned by HTTP GET containing the requested Metadata in XML format
<b>Predicate</b>	<p>The XML document is UTF-8 encoded  check for [Unicode] specification:  <a href="http://www.unicode.org/versions/Unicode7.0.0/">http://www.unicode.org/versions/Unicode7.0.0/</a></p>
<b>Prescription Level</b>	mandatory
<b>Tag</b>	HTTP GET, UTF-8 encoding
<b>Variable</b>	

eSENS_SMP_TA22	
<b>TA id</b>	eSENS_SMP_TA22
<b>Normative source</b>	<p>[OASIS SMP section 3.6]</p> <p><i>“The message returned by the service is signed by the Service Metadata Publisher with XML-Signature [XML-DSIGv1.1]. The signature MUST be an enveloped XML signature represented via an &lt;ds:Signature&gt; element embedded in the &lt;SignedServiceMetadata&gt; element.”</i></p>
<b>Target</b>	Signed Service Metadata
<b>Prerequisite</b>	- The Sender requests signed Metadata from the SMP
<b>Predicate</b>	- The Metadata returned by the SMP contains a <ds:Signature> element embedded in the <SignedServiceMetadata> element
<b>Prescription Level</b>	mandatory
<b>Tag</b>	Signed Service Metadata, XML-Signature
<b>Variable</b>	

eSENS_SMP_TA23	
<b>TA id</b>	eSENS_SMP_TA23
<b>Normative source</b>	<p>[OASIS SMP section 3.6]</p> <p><i>"The &lt;ds:Signature&gt; element MUST be constructed according to the following rules:</i></p> <ul style="list-style-type: none"> <li><i>- The &lt;Reference&gt; MUST use exactly one Transform</i> <i><a href="http://www.w3.org/2000/09/xmldsig#enveloped-signature">http://www.w3.org/2000/09/xmldsig#enveloped-signature</a></i></li> <li><i>- The &lt;ds:KeyInfo&gt; element MUST contain an &lt;ds:X509Data&gt; element with an &lt;ds:X509Certificate&gt; sub-element containing the signer's X.509 certificate as base 64 encoded X509 DER value</i></li> <li><i>- The canonicalization algorithm MUST be</i> <i><a href="http://www.w3.org/TR/2001/REC-xml-c14n-20010315">http://www.w3.org/TR/2001/REC-xml-c14n-20010315</a></i></li> <li><i>- The SignatureMethod MUST be</i> <i><a href="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256">http://www.w3.org/2001/04/xmldsig-more#rsa-sha256</a></i></li> <li><i>- The DigestMethod MUST be</i> <i><a href="http://www.w3.org/2001/04/xmlenc#sha256">http://www.w3.org/2001/04/xmlenc#sha256</a>"</i></li> </ul>
<b>Target</b>	Signed Service Metadata
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- SMP uses REST as a binding</li> <li>- The Sender requests signed Metadata from the SMP</li> </ul>
<b>Predicate</b>	<p>The &lt;ds:Signature&gt; element is constructed according to the following rules:</p> <p>The &lt;Reference&gt; uses exactly one Transform: <a href="http://www.w3.org/2000/09/xmldsig#enveloped-signature">http://www.w3.org/2000/09/xmldsig#enveloped-signature</a></p> <p>The &lt;ds:KeyInfo&gt; element contains an &lt;ds:X509Data&gt; element with an &lt;ds:X509Certificate&gt; sub-element containing the signer's X.509 certificate as base 64 encoded X509 DER value</p> <p>The canonicalization algorithm is: <a href="http://www.w3.org/TR/2001/REC-xml-c14n-20010315">http://www.w3.org/TR/2001/REC-xml-c14n-20010315</a></p> <p>The SignatureMethod is: <a href="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256">http://www.w3.org/2001/04/xmldsig-more#rsa-sha256</a></p> <p>The DigestMethod is: <a href="http://www.w3.org/2001/04/xmlenc#sha256">http://www.w3.org/2001/04/xmlenc#sha256</a></p>
<b>Prescription Level</b>	mandatory
<b>Tag</b>	Signed Service Metadata, XML-Signature
<b>Variable</b>	

### 3. NOT TESTABLE TEST ASSERTIONS

It is assumed that currently the Test Assertions in this chapter cannot be transferred into useful Test Cases.

However, these Test Assertions might contain valuable information against which an implementation or configuration can be checked or they might be able to be transferred into useful Test Cases in the future.

For these reasons the not testable Test Assertions are available in this document in a separate chapter and are using a distinct naming convention.

eSENS_SMP_TAB1	
<b>TA id</b>	eSENS_SMP_TAB1
<b>Normative source</b>	[OASIS SMP 2.3.4.1] <i>"If the SignedServiceMetadata resource at the alternative SMP also contains a redirection element, the client SHOULD NOT follow that redirect. It is the responsibility of the client to enforce this constraint."</i>
<b>Target</b>	redirection
<b>Prerequisite</b>	there should be a double redirection at both the origin and first redirection SMP
<b>Predicate</b>	there are no double redirections possible in the SMP
<b>Prescription Level</b>	preferred
<b>Tag</b>	redirection, SignedServiceMetadata
<b>Variable</b>	



eSENS_SMP_TAB2	
<b>TA id</b>	eSENS_SMP_TAB2
<b>Normative source</b>	[OASIS SMP 2.4.3] <i>“When any type of identifiers are used in URLs, each section between slashes MUST be percent encoded individually, i.e. section by section.”</i>
<b>Target</b>	identifiers
<b>Prerequisite</b>	the sender constructs a URL containing an identifier of any type
<b>Predicate</b>	each section between slashes in the URL is percent encoded
<b>Prescription Level</b>	mandatory
<b>Tag</b>	identifiers, encoding
<b>Variable</b>	

eSENS_SMP_TAB3	
<b>TA id</b>	eSENS_SMP_TAB3
<b>Normative source</b>	[OASIS SMP 2.4.5.2] <i>“The scheme type of a participant identifier MUST be in the form of a URI.”</i>
<b>Target</b>	participant identifiers
<b>Prerequisite</b>	the client makes a request for info about for an existing participant identifier
<b>Predicate</b>	the scheme of the participant identifier is presented in the form of a URI
<b>Prescription Level</b>	mandatory participant identifier scheme, URI
<b>Tag</b>	participant identifier scheme, URI
<b>Variable</b>	

eSENS_SMP_TAB4	
<b>TA id</b>	eSENS_SMP_TAB4
<b>Normative source</b>	[OASIS SMP section 3.2] <i>“HTTP GET operations MUST return the status code 500 if the service experiences an internal processing error.”</i>
<b>Target</b>	resource retrieval
<b>Prerequisite</b>	- the sender requests metadata from the SMP but there is an internal processing error
<b>Predicate</b>	HTTP GET returns status code 500
<b>Prescription Level</b>	mandatory
<b>Tag</b>	resource retrieval, HTTP GET
<b>Variable</b>	

eSENS_SMP_TAB5	
<b>TA id</b>	eSENS_SMP_TAB5
<b>Normative source</b>	<p>[OASIS SMP 2.3.2]</p> <p><i>“SMP publishing services MUST NOT produce metadata that contain extensions necessary for a Client to understand in order to make use of this metadata. The ability to parse and adjust client behaviour based on an extension element MUST NOT be a prerequisite for a client to locate a service, or to make a successful request at the referenced service.”</i></p>
<b>Target</b>	extension points
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- the sender requests metadata from the SMP</li> <li>- the metadata contains an extension element</li> </ul>
<b>Predicate</b>	The response does not contain an extension element that contains essential information for the client to be able to locate the service or to be able to use the metadata
<b>Prescription Level</b>	mandatory
<b>Tag</b>	extension element
<b>Variable</b>	

eSENS_SMP_TAB6	
<b>TA id</b>	eSENS_SMP_TAB6
<b>Normative source</b>	[OASIS SMP 2.4.6] <i>"XML documents with only local names MUST NOT be referenced using Service Metadata Publishing:"</i>
<b>Target</b>	document identifiers
<b>Prerequisite</b>	the sender constructs a URL containing a document identifier in XML format
<b>Predicate</b>	the metadata returned by the SMP does not consist of local names only
<b>Prescription Level</b>	mandatory
<b>Tag</b>	document identifiers, local names, Service Metadata Publishing
<b>Variable</b>	

eSENS_SMP_TAB7	
<b>TA id</b>	eSENS_SMP_TA24
<b>Normative source</b>	<p>[OASIS SMP section 3.5]</p> <p><i>“For referencing the SMP REST binding, for example from Business Document Metadata Service Location records, the following identifier should be used for the version 1.0 of the SMP REST binding: <a href="http://docs.oasis-open.org/bdxx/ns/SMP/2016/05">http://docs.oasis-open.org/bdxx/ns/SMP/2016/05</a>.”</i></p>
<b>Target</b>	SMP REST binding
<b>Prerequisite</b>	<ul style="list-style-type: none"> <li>- SMP uses version 1.0 of the SMP REST binding</li> <li>- a BDXL record is present</li> </ul>
<b>Predicate</b>	the following identifier has been used for the version 1.0 of the SMP REST binding: <a href="http://docs.oasisopen.org/bdxx/ns/SMP/2016/05">http://docs.oasisopen.org/bdxx/ns/SMP/2016/05</a>
<b>Prescription Level</b>	preferred
<b>Tag</b>	REST binding, BDXL
<b>Variable</b>	

## 4. CONTACT INFORMATION

### CEF Support Team

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By phone: +32 2 299 09 09

- Standard Service: 8am to 6pm (Normal EC working Days)
- Standby Service\*: 6pm to 8am (Commission and Public Holidays, Weekends)

*\* Only for critical and urgent incidents and only by phone*