



**EMTEL;**  
**Testing - Conformance test specifications for core elements**  
**for network independent access to emergency services**  
**(NG112);**  
**Part 1: Protocol Implementation**  
**Conformance Statement (PICS),**  
**Test Suite Structure and Test Purposes (TSS & TP)**

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**Reference**

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## Foreword

This Technical Specification (TS) has been produced by ETSI Special Committee Emergency Communications (EMTEL).

The present document is part 1 of a multi-part deliverable covering Conformance test specifications for Geonetworking ITS-G5 as identified below:

**Part 1: "Protocol Implementation Conformance Statement (PICS), Test Suite Structure and Test Purposes (TSS & TP)";**

Part 2: "Abstract Test Suite (ATS) and Protocol Implementation eXtra Information for Testing (PIXIT)".

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## Modal verbs terminology

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# 1 Scope

The present document provides the Protocol Implementation Conformance Statement (PICS) and Test Suite Structure and Test Purposes (TSS & TP) for core elements for network independent access to emergency services (NG112) as defined in standards listed in clause 2.1 of the present document.

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## 2 References

### 2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

[1] ETSI TS 103 479 (V1.1.1): "Emergency Communications (EMTEL); Core elements for network independent access to emergency services" ..

[2] IETF RFC 5985: "HTTP-Enabled Location Delivery (HELD)".

NOTE: Available at <https://tools.ietf.org/html/rfc5985>.

[3] IETF RFC 6753: "A Location Dereference Protocol Using HTTP-Enabled Location Delivery (HELD)".

NOTE: Available at <https://tools.ietf.org/html/rfc6753>.

[4] IETF RFC 5222: "LoST: A Location-to-Service Translation Protocol".

NOTE: Available at <https://tools.ietf.org/html/rfc5222>.

[5] IETF RFC 3261: "SIP: Session Initiation Protocol".

NOTE: Available at <https://tools.ietf.org/html/rfc3261>.

[6] IETF RFC 5301: "A Uniform Resource Name (URN) for Emergency and Other Well-Known Services".

NOTE: Available at <https://tools.ietf.org/html/rfc5301>.

[7] IETF RFC 5491: "GEOPRIV Presence Information Data Format Location Object (PIDF-LO) Usage Clarification, Considerations, and Recommendations".

NOTE: Available at <https://tools.ietf.org/html/rfc5491>.

[8] IETF RFC 5808: "Requirements for a Location-by-Reference Mechanism".

NOTE: Available at <https://tools.ietf.org/html/rfc5808>.

## 2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ISO/IEC 9646-1 (1994): "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 1: General concepts".
- [i.2] ISO/IEC 9646-7 (1995): "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 7: Implementation Conformance Statements".

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## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

For the purposes of the present document, the terms given in ISO/IEC 9646-1 [i.1] and ISO/IEC 9646-7 [i.2] apply.

### 3.2 Symbols

Void.

### 3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ATS	Abstract Test Suite
BV	Valid Behaviour
ECRF	Emergency Call. Routing FunctionESRP Emergency Service Routing Proxy
IUT	Implementation Under Test
LIS	Location Information Server
LTD	Long Term Definition
PICS	Protocol Implementation Conformance Statement
PIDF	Presence Information Data Format
PSAP	Public Safety Answer Point
SDP	Session Description Protocol
SIP	Session Initiation Protocol
TCP	Transmission Control Protocol
TP	Test Purposes
TS	Test Suite
TSS	Test Suite Structure
UDP	User Datagram Protocol
URI	Uniform Resource Identifier
URN	Universal Resource Name

## 4 Protocol Implementation Conformance Statement (PICS)

### 4.1 Introduction

The purpose of a PICS is to identify those standardized functions which an IUT shall support, those which are optional and those which are conditional on the presence of other functions. It helps to identify which functions an IUT will support when performing conformance testing. It is possible that with different choices in an ICS proforma, several different sets of TPs will be necessary.

In the following clauses assessments are made on whether requirements, features, components and other capabilities are required according to a referenced standard and in order to achieve compliance. This assessment provides the following options:

- m mandatory - the capability is required to be supported.
- o optional - the capability may, or may not, be supported.
- c.i conditional - the requirement on the capability ("m", "o", "x" or "n/a") depends on the support of other optional or conditional items. "i" is an integer identifying a unique conditional status expression which is defined immediately following the table.
- n/a not applicable - in the given context, it is not possible to use the capability.
- x prohibited (excluded) - there is a requirement not to use this capability in the given context.
- o.i qualified optional - for mutually exclusive or selectable options from a set: "i" is an integer which identifies a unique group of related optional items and the logic of their selection which is defined immediately following the table.

### 4.2 Entities

**Table 1: Entities**

Item	Name of field	Reference	Status	Support
1	LIS	ETSI TS 103 479 [1], clause 5.5	o.1	
2	ESRP	ETSI TS 103 479 [1], clause 5.2	o.1	
3	ECRF	ETSI TS 103 479 [1], clause 5.3	o.1	
4	PSAP	ETSI TS 103 479 [1], clause 5.4	o.1	
o.1: At least one of the items shall be supported				

### 4.3 LIS features

**Table 2: LIS features**

Prerequisite: Table 1/1				
Item	Name of field	Reference	Status	Support
1	HTTP Post request handling	IETF RFC 5985 [2], clause 8	m	
2	HTTP Get request handling	IETF RFC 5985 [2], clause 8	m	
3	Location retrieval via HELD	ETSI TS 103 479 [1], clause 6.5	m	
4	Does the IUT support POINT	IETF RFC 5985 [2], clause 6.2 IETF RFC 5491 [7], clause 5.2.1	m	
5	Does the IUT support Circle	IETF RFC 5985 [2], clause 6.2 IETF RFC 5491 [7], clause 5.2.3	m	
6	Does the IUT support Civic Address	IETF RFC 5985 [2], clause 6.2 IETF RFC 5491 [7], clause 3.2	m	

## 4.4 ESRP features

**Table 3: ESRP features**

Prerequisite: Table 1/2				
Item	Name of field	Reference	Status	Support
1	ESRP service	ETSI TS 103 479 [1], clause 5.2	m	

## 4.5 ECRF features

**Table 4: ECRF features**

Prerequisite: Table 1/3				
Item	Name of field	Reference	Status	Support
1	HTTP Post request handling	IETF RFC 5222 [4], clause 14	m	
2	LOST service	ETSI TS 103 479 [1], clause 6.4	m	
3	Does the IUT support POINT	IETF RFC 5222 [4], clause 12.2 IETF RFC 5491 [7], clause 5.2.1	m	
4	Does the IUT support Circle	IETF RFC 5222 [4], clause 12.2 IETF RFC 5491 [7], clause 5.2.3	m	
5	Does the IUT support Civic Address	IETF RFC 5222 [4], clause 8.2 IETF RFC 5491 [7], clause 3.2	m	

## 4.6 PSAP features

**Table 5: PSAP features**

Prerequisite: Table 1/4				
Item	Name of field	Reference	Status	Support
1	PSAP service	ETSI TS 103 479 [1], clause 5.4	m	
2	UDP handling	ETSI TS 103 479 [1], clause 6.1.1	o.1	
3	TCP handling	ETSI TS 103 479 [1], clause 6.1.1	o.1	
o.1: At least one of the items shall be supported				

## 4.7 Mnemonics for PICS reference

To avoid an update of all related documents when the PICS document is changed, the table below introduces mnemonic names and the correspondence with the PICS item number.



Table 6: Mnemonics for PICS reference

Mnemonic	PICS item
PICS_HTTP_POST_REQUEST	Table 2/1
PICS_HTTP_GET_REQUEST	Table 2/2
PICS_LOCATION_HELD	Table 2/3
PICS_SERVICE_ESRP	Table 3/1
PICS_HTTP_POST_REQUEST	Table 4/1
PICS_SERVICE_LOST	Table 4/2
PICS_LIS_URI	Table 2/1
PICS_ECRF_URI	Table 2/1
PICS_ECRF_REQUEST_URIs	Table 2/1
PICS_H_QRY_GEO1	Table 2/4
PICS_H_QRY_GEO2	Table 2/5
PICS_H_QRY_GEO3	Table 2/6
PICS_H_QRY_GEO4	Table 2/6
PICS_H_QRY_CIV1	Table 2/6
PICS_H_QRY_CIV3	Table 2/6
PICS_H_QRY_STR1	Table 2/3
PICS_H_QRY_ERR1	Table 2/3
PICS_H_QRY_ERR2	Table 2/3
PICS_H_DER_TOK1	Table 2/3
PICS_H_GET_ERR1	Table 2/1
PICS_L_FIS_GEO1	Table 4/3
PICS_L_FIS_GEO2	Table 4/4
PICS_L_FIS_SBV1	Table 4/1
PICS_L_LST_GEO1	Table 4/3
PICS_L_LST_ALL1	Table 4/1
PICS_L_FIS_ERR1	Table 4/1
PICS_L_FIS_ERR1	Table 4/1
PICS_E_SIP_URN1	Table 4/1, Table 4/1
PICS_E_SIP_URN2	Table 4/1, Table 4/1
PICS_E_SIP_URN3	Table 4/1, Table 4/1
PICS_M_SIP_URN1	Table 4/1, Table 4/1
PICS_E_SIP_HDR1	Table 4/1, Table 4/1
PICS_E_SIP_OPT1	Table 4/1, Table 4/1
PICS_E_SIP_BUS1	Table 4/1, Table 4/1

## 5 Test Configurations

### 5.1 LIS Test Configurations

#### 5.1.1 CFG\_LIS\_01



Figure 1: CFG\_LIS\_01

## 5.2 ESRP Test Configurations

### 5.2.1 CFG\_ESRP\_01

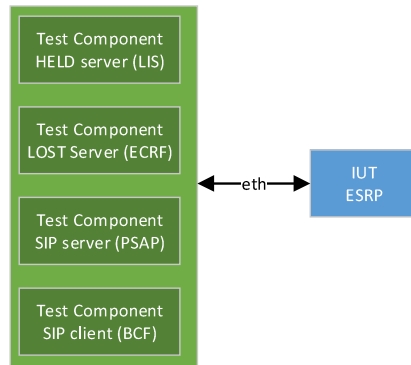


Figure 2: CFG\_ESRP\_01

## 5.3 ECRF Test Configurations

### 5.3.1 CFG\_ECRF\_01



Figure 3: CFG\_ECRF\_01

## 5.4 PSAP Test Configurations

### 5.4.1 CFG\_PSAP\_01



Figure 4: CFG\_PSAP\_01

---

## 6 Test Suite Structure (TSS)

### 6.1 Structure for NG112 tests

Table 1 shows the NG112 Test Suite Structure (TSS) including its subgroups defined for conformance testing.

**Table 7: TSS for NG112**

Root	Group	Sub-group	Category
LIS, ESRP, ECRF, PSAP	Protocol	HTTP	Valid
		SIP	Valid
	Protocol operation	GET	Valid
		PUT	Valid
		POST	Valid
		INVITE	Valid

The test suite is structured as a tree with the root defined as LIS, ESRP, ECRF or PSAP. The tree is of rank 3 with the first rank a Group, the second a sub-group and the third a category.

### 6.2 Test groups

#### 6.2.1 Root

The root identifies the entities to be tested.

#### 6.2.2 Test group

This level contains the protocols and protocol operations.

#### 6.2.3 Test sub-group

This level identifies the sub categories of each Group.

#### 6.2.4 Categories

This level contains the standard conformance test categories: behaviour for valid, invalid, inopportune events and timers.

---

## 7 Test Purposes (TP)

### 7.1 Introduction

#### 7.1.1 TP definition conventions

The TPs are defined by the rules shown in table 8.

**Table 8: TP definition rules**

<b>TP Header</b>	
TP ID	The TP ID is a unique identifier. It shall be specified according to the TP naming conventions defined in the above clause.
Test objective	Short description of test purpose objective according to the requirements from the base standard.
Reference	The reference indicates the clauses of the reference standard specifications in which the conformance requirement is expressed.
Config Id	The Config Id references the GeoNetworking configuration selected for this TP.
PICS Selection	Reference to the PICS statement involved for selection of the TP. Contains a Boolean expression.
<b>TP Behaviour</b>	
Initial conditions	The initial conditions define in which initial state the IUT has to be to apply the actual TP. In the corresponding Test Case, when the execution of the initial condition does not succeed, it leads to the assignment of an Inconclusive verdict.
Expected behaviour (TP body)	Definition of the events, which are parts of the TP objective, and the IUT are expected to perform in order to conform to the base specification. In the corresponding Test Case, Pass or Fail verdicts can be assigned there.

### 7.1.2 TP Identifier naming conventions

The identifier of the TP is built according to table 9.

**Table 9: TP naming convention**

Identifier:	TP <root> <gr> <sgr> <x> <nn>	
	<root> = root	LIS
		ESRP
		ECRF
		PSAP
	<gr> = group	HTTP
		SIP
	<sgr> =sub-group	GET
		PUT
		POST
		INVITE
	<x> = type of testing	BV
	<nn> = sequential number	

### 7.1.3 Rules for the behaviour description

In the TP the following wordings are used:

- "receives": for packets coming from the network to the IUT
- "sends": for packets sent by the IUT to the network
- "forwards": forwards the previously received message to the next hop
- "generates": for internal event generation
- "isRequestedToSend": an upper layer requests the IUT to send a packet
- "havingLocationMappingFor": IUT is provisioned with the relevant location data
- "havingReturnedLocationUriFor": IUT returned a locationURI for the relevant location data after a HELD request
- "isConfiguredWith": IUT is configured to use a specific service/parameter set
- "isReachableWith": the IUT is reachable via the specified URI

- "isNotReachable": the PSAP is not reachable
- "havingServiceBoundaryFor": IUT is provisioned with the relevant service boundary
- "serviceMappingFor": IUT is provisioned with the relevant service mapping
- "receivedInitialInviteRequestAndSentLostQueryToEcrf" (for more detail see INIT\_CON\_1)
- "receivedInitialInviteRequestWithoutLocationAndSentHeldRequestToLisFor" (for more detail see INIT\_CON\_2)
- "receivedInitialInviteRequestWithLocationReferenceAndSentGetRequestToLisFor" (for more detail see INIT\_CON\_3)
- "sendsLostQueryToEcrfFor": IUT sends a LoST request to the LIs with the given LOCATION (for more detail see INIT\_CON\_4)
- "receivesHeldResponseWith": IUT receives a HELD response with the give LOCATION (for more detail see INIT\_CON\_5)
- "receivesLostResponseWith": IUT receives a LoST response with the give URN (for more detail see INIT\_CON\_6)
- "receivesLocationResponseWith": IUT receives a Location response with the give LOCATION (for more detail see INIT\_CON\_7)
- "acceptingIncomingCalls": IUT ready to receive incoming calls
- "establishesIncomingCall": The IUT establishes the incoming call (for more detail see INIT\_CON\_8)
- "inAnActiveIncomingCall": An incoming call is established (for more detail see INIT\_CON\_9)

## 7.1.4 Pre-defined initial conditions

### 7.1.4.1 ESRP initial conditions

#### INIT\_CON\_1

the IUT entity receives a TCP SIP\_INVITE containing  
 Request\_URI indicating value SERVICE\_URN\_1,  
 Content\_Type indicating value "multipart/mixed",  
 body containing  
 SDP\_AND\_PIDF\_MULTIPART  
 and the IUT entity sends a POST containing  
 Content\_type indicating value "application/lost+xml;charset=utf-8",  
 body containing  
 xmlMessage containing  
 version indicating value "1.0",  
 element "findService" inNamespace "urn:ietf:params:xml:ns:lost1" containing  
 element "location" containing  
 element "Point" inNamespace "http://www.opengis.net/gml" containing  
 attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",  
 element "pos" indicating value LOCATION\_1  
 element "service" indicating value SERVICE\_URN\_1  
 to the ECRF entity

#### INIT\_CON\_2

the IUT entity receives a UDP SIP\_INVITE containing  
 Request\_URI indicating value SERVICE\_URN\_1,  
 Content\_Type indicating value "application/sdp",  
 P-Asserted-Identity indicating value tel:DEVICE\_NUMBER,  
 body containing  
 SDP  
 and the IUT entity sends a POST containing  
 Content\_type indicating value "application/lost+xml;charset=utf-8",  
 body containing  
 xmlMessage containing  
 version indicating value "1.0",

element "locationRequest" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing  
 element "locationType" indicating value "geodetic" containing  
   attribute "exact" indicating value "true"  
 element "device" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" containing  
   element "uri" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" indicating value  
     DEVICE\_NUMBER  
 to the LIS entity

### INIT\_CON\_3

the IUT entity receives a UDP SIP INVITE containing  
   Request\_URI indicating value SERVICE\_URN\_1,  
   Content\_Type indicating value "application/sdp",  
   Geolocation indicating value LOCATION\_URI  
   body containing  
     SDP  
 and the IUT entity sends a GET to the LOCATION\_URI

### INIT\_CON\_4

the IUT entity sends a POST containing  
   Content\_type indicating value "application/lost+xml;charset=utf-8",  
   body containing  
     xmlMessage containing  
       version indicating value "1.0",  
       element "findService" inNamespace "urn:ietf:params:xml:ns:lost1" containing  
         element "location" containing  
           element "Point" inNamespace "http://www.opengis.net/gml" containing  
             attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",  
             element "pos" indicating value LOCATION  
         element "service" indicating value SERVICE\_URN\_1  
 to the ECRF entity

### INIT\_CON\_5

the IUT entity receives a httpResponse containing  
   Status\_Code indicating value "200 OK",  
   version indicating value "1.0",  
   Content\_type indicating value "application/lost+xml;charset=utf-8",  
   body containing  
     xmlMessage containing  
       version indicating value "1.0",  
       element "locationResponse" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing  
       element "presence" inNamespace "urn:ietf:params:xml:ns:pidf" containing  
         attribute "entity" indicating value valid "pres:" uri,  
         element "tuple" containing  
           attribute "id",  
           element "status" containing  
             element "geopriv" inNamespace "urn:ietf:params:xml:ns:pidf:geopriv10" containing  
             element "location-info" containing  
               element "Point" inNamespace "http://www.opengis.net/gml" containing  
                 attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",  
                 element "pos" indicating value LOCATION  
 from the LIS entity

### INIT\_CON\_6

the IUT entity receives a httpResponse containing  
   Status\_Code indicating value "200 OK",  
   version indicating value "1.0",  
   Content\_type indicating value "application/lost+xml;charset=utf-8",  
   body containing  
     xmlMessage containing  
       version indicating value "1.0",  
       element "findServiceResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing  
         element "mapping" containing  
           attribute "source",  
           attribute "sourceId",  
           attribute "lastUpdated",  
           attribute "expires",  
           element "service" indicating value SERVICE\_URN\_1,  
           element "uri" indicating value [TARGET\_URI]  
         element "locationUsed"  
 from the ECRF entity

## INIT\_CON\_7

the IUT entity receives a httpResponse containing  
 Status\_Code indicating value "200 OK",  
 version indicating value "1.0",  
 Content\_type indicating value "application/pidf+xml;charset=utf-8",  
 body containing  
 xmlMessage containing  
 version indicating value "1.0",  
 element "presence" inNamespace "urn:ietf:params:xml:ns:pidf" containing  
 attribute "entity" indicating value valid "pres:" uri,  
 element "tuple" containing  
 attribute "id",  
 element "status" containing  
 element "geopriv" inNamespace "urn:ietf:params:xml:ns:pidf:geopriv10" containing  
 element "location-info" containing  
 element "Point" inNamespace "http://www.opengis.net/gml" containing  
 attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",  
 element "pos" indicating value LOCATION  
 from the LIS entity

## INIT\_CON\_8

THEN IUT sends TRYING (optional)  
 THEN IUT sends RINGING (optional)  
 THEN IUT sends OK  
 THEN IUT receives ACK

## INIT\_CON\_9

WHEN the IUT entity receives a TCP SIP\_INVITE containing  
 Request\_URI indicating value "urn:service:sos.police",  
 Content\_Type indicating value "multipart/mixed",  
 body containing  
 SDP\_AND\_PIDF\_MULTIPART  
 THEN the IUT sends TRYING (optional)  
 THEN the IUT sends RINGING (optional)  
 THEN the IUT sends OK  
 THEN the IUT receives ACK

## 7.1.5 Sources of TP definitions

All TPs have been specified according to the referenced standards in clause 2.1.

## 7.1.6 Mnemonics for PICS reference

The present document makes use of PICS mnemonics defined in Table 6.

## 7.2 Test purposes

### 7.2.1 LIS

<b>TP Id</b>	TP_LIS_HTTP_POST_BV_01
<b>Test Objective</b>	IUT successfully responds with a Point when it receives a HTTP POST location request without location type
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.5 IETF RFC 5985 [2]
<b>Config Id</b>	CFG_LIS_01
<b>PICS Selection</b>	PICS_H_QRY_GEO1

<b>Initial Conditions</b>
<pre>with {   the IUT havingLocationMappingFor the DEVICE_NUMBER_POINT containing     "point" containing     "position" indicating value POINT_POS }</pre>
<b>Expected Behaviour</b>
<pre>ensure that {   when {     the IUT receives a POST containing       Uri indicating value "/location",       Host,       not Accept,       Content_type indicating value "application/held+xml;charset=utf-8",       body containing         xmlMessage containing           version indicating value "1.0",           element "locationRequest" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing             element "device" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" containing               element "uri" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" indicating value                 DEVICE_NUMBER_POINT           }     then {       the IUT sends a httpResponse containing         Status_Code indicating value "200 OK",         version indicating value "1.0",         Content_type indicating value "application/held+xml;charset=utf-8",         body containing           xmlMessage containing             version indicating value "1.0",             element "locationResponse" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing               element "presence" inNamespace "urn:ietf:params:xml:ns:pidf" containing                 attribute "" indicating value valid "pres:" uri,                 element "tuple" containing                   attribute "id",                   element "status" containing                     element "geopriv" inNamespace "urn:ietf:params:xml:ns:pidf:geopriv10" containing                       element "location-info" containing                         element "Point" inNamespace "http://www.opengis.net/gml" containing                           attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",                           element "pos" indicating value POINT_POS                     }       }     } }</pre>

<b>TP Id</b>	TP_LIS_HTTP_POST_BV_02
<b>Test Objective</b>	IUT successfully responds with a Circle when it receives a HTTP POST location request without location type
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.5IETF RFC 5985 [2]
<b>Config Id</b>	CFG_LIS_01
<b>PICS Selection</b>	PICS_H_QRY_GEO2
<b>Initial Conditions</b>	
<pre>with {   the IUT havingLocationMappingFor the DEVICE_NUMBER_CIRCLE containing     "circle" containing     "position" indicating value CIRCLE_POS,     "radius" indicating value CIRCLE_RADIUS }</pre>	



<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a POST containing       Uri indicating value "/location",       Host,       not Accept,       Content_type indicating value "application/held+xml;charset=utf-8",       body containing         xmlMessage containing           version indicating value "1.0",           element "locationRequest" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing             element "device" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" containing               element "uri" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" indicating value                 DEVICE_NUMBER_CIRCLE           }         }     then {       the IUT sends a httpResponse containing         Status_Code indicating value "200 OK",         version indicating value "1.0",         Content_type indicating value "application/held+xml;charset=utf-8",         body containing           xmlMessage containing             version indicating value "1.0",             element "locationResponse" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing               element "presence" inNamespace "urn:ietf:params:xml:ns:pidf" containing                 attribute "" indicating value valid "pres:" uri,                 element "tuple" containing                   attribute "id",                   element "status" containing                     element "geopriv" inNamespace "urn:ietf:params:xml:ns:pidf:geopriv10" containing                       element "location-info" containing                         element "Circle" inNamespace "http://www.opengis.net/pidf/1.0" containing                           attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",                           element "pos" inNamespace "http://www.opengis.net/gml" indicating value                             CIRCLE_POS,                           element "radius" indicating value CIRCLE_RADIUS containing                             attribute "uom" indicating value "urn:ogc:def:uom:EPSG::9001"                     }                 }             }           }         }       }     }   } } </pre>	

<b>TP Id</b>	TP_LIS_HTTP_POST_BV_03
<b>Test Objective</b>	IUT successfully responds with a reference when it receives a HTTP POST location request with location type locationURI and exact attribute
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.5 IETF RFC 5985 [2]
<b>Config Id</b>	CFG_LIS_01
<b>PICS Selection</b>	PICS_H_QRY_GEO4

<b>Initial Conditions</b>	
<pre> with {   the IUT havingLocationMappingFor the DEVICE_NUMBER_CIRCLE containing     "circle" containing       "position" indicating value CIRCLE_POS,       "radius" indicating value CIRCLE_RADIUS } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a POST containing       Uri indicating value "/location",       Host,       not Accept,       Content_type indicating value "application/held+xml;charset=utf-8",       body containing         xmlMessage containing           version indicating value "1.0",           element "locationRequest" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing </pre>	

```

        element "locationType" indicating value "locationURI" containing
            attribute "exact" indicating value "true"
        element "device" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" containing
            element "uri" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" indicating value
                DEVICE_NUMBER_CIRCLE
    }
    then {
        the IUT sends a httpResponse containing
            Status_Code indicating value "200 OK",
            version indicating value "1.0",
            Content_type indicating value "application/held+xml;charset=utf-8",
            body containing
                xmlMessage containing
                    version indicating value "1.0",
                    element "locationResponse" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing
                        element "locationUriSet" containing
                            attribute "expires",
                            element "locationURI" indicating value valid urn
    }
}

```

<b>TP Id</b>	TP_LIS_HTTP_POST_BV_04
<b>Test Objective</b>	IUT successfully responds with a reference and geodetic location when it receives a HTTP POST location request with location types locationURI and geodetic and exact attribute
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.5 IETF RFC 5985 [2]
<b>Config Id</b>	CFG_LIS_01
<b>PICS Selection</b>	PICS_H_QRY_STR1 and PICS_H_QRY_GEO2 and PICS_H_QRY_GEO4
<b>Initial Conditions</b>	
<pre> with {     the IUT havingLocationMappingFor the DEVICE_NUMBER_CIRCLE containing         "circle" containing             "position" indicating value CIRCLE_POS,             "radius" indicating value CIRCLE_RADIUS } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {     when {         the IUT receives a POST containing             Uri indicating value "/location",             Host,             not Accept,             Content_type indicating value "application/held+xml;charset=utf-8",             body containing                 xmlMessage containing                     version indicating value "1.0",                     element "locationRequest" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing                         element "locationType" indicating value "locationURI geodetic" containing                             attribute "exact" indicating value "true"                         element "device" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" containing                             element "uri" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" indicating value                                 DEVICE_NUMBER_CIRCLE     }     then {         the IUT sends a httpResponse containing             Status_Code indicating value "200 OK",             version indicating value "1.0",             Content_type indicating value "application/held+xml;charset=utf-8",             body containing                 xmlMessage containing                     version indicating value "1.0",                     element "locationResponse" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing                         element "locationUriSet" containing                             attribute "expires",                             element "locationURI" indicating value valid urn                     element "presence" inNamespace "urn:ietf:params:xml:ns:pidf" containing                         attribute "" indicating value valid "pres:" uri,     } } </pre>	

```

    element "tuple" containing
      attribute "id",
      element "status" containing
        element "geopriv" inNamespace "urn:ietf:params:xml:ns:pidf:geopriv10" containing
          element "location-info" containing
            element "Circle" inNamespace "http://www.opengis.net/pidflo/1.0" containing
              attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",
              element "pos" inNamespace "http://www.opengis.net/gml" indicating value
                CIRCLE_POS,
              element "radius" indicating value CIRCLE_RADIUS containing
                attribute "uom" indicating value "urn:ogc:def:uom:EPSG::9001"
    }
  }

```

<b>TP Id</b>	TP_LIS_HTTP_POST_BV_05
<b>Test Objective</b>	IUT successfully responds with an error response when it receives a HTTP POST location request for an unknown device
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.5 IETF RFC 5985 [2]
<b>Config Id</b>	CFG_LIS_01
<b>PICS Selection</b>	PICS_H_QRY_ERR1
<b>Initial Conditions</b>	
with { the IUT not havingLocationMappingFor the UNKNOWN_DEVICE_NUMBER }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a POST containing Uri indicating value "/location", Host, not Accept, Content_type indicating value "application/held+xml;charset=utf-8", body containing xmlMessage containing version indicating value "1.0", element "locationRequest" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing element "device" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" containing element "uri" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" indicating value UNKNOWN_DEVICE_NUMBER } then { the IUT sends a httpResponse containing Status_Code indicating value "200 OK", version indicating value "1.0", Content_type indicating value "application/held+xml;charset=utf-8", body containing xmlMessage containing version indicating value "1.0", element "error" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing attribute "code" indicating value "locationUnknown" } }	

<b>TP Id</b>	TP_LIS_HTTP_POST_BV_06
<b>Test Objective</b>	IUT successfully responds with a CIVIC address when it receives a HTTP POST location request without location type
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.5 IETF RFC 5985 [2]
<b>Config Id</b>	CFG_LIS_01
<b>PICS Selection</b>	PICS_H_QRY_CIV1
<b>Initial Conditions</b>	
with { the IUT havingLocationMappingFor the DEVICE_NUMBER_CIVIC containing CIVIC_ADDRESS }	

**Expected Behaviour**

```

ensure that {
  when {
    the IUT receives a POST containing
      Uri indicating value "/location",
      Host,
      not Accept,
      Content_type indicating value "application/held+xml;charset=utf-8",
      body containing
        xmlMessage containing
          version indicating value "1.0",
          element "locationRequest" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing
            element "device" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" containing
              element "uri" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" indicating value
                DEVICE_NUMBER_CIVIC
  }
  then {
    the IUT sends a httpResponse containing
      Status_Code indicating value "200 OK",
      version indicating value "1.0",
      Content_type indicating value "application/held+xml;charset=utf-8",
      body containing
        xmlMessage containing
          version indicating value "1.0",
          element "locationResponse" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing
            element "presence" inNamespace "urn:ietf:params:xml:ns:pidf" containing
              attribute "" indicating value valid "pres:" uri,
            element "tuple" containing
              attribute "id",
            element "status" containing
              element "geopriv" inNamespace "urn:ietf:params:xml:ns:pidf:geopriv10" containing
                element "location-info" containing
                  element "civicAddress" inNamespace "urn:ietf:params:xml:ns:pidf:geopriv10:civicAddr"
                    containing
                      element "country" indicating value "AU",
                      element "A1" indicating value "NSW",
                      element "A3" indicating value "Wollongong",
                      element "A4" indicating value "Gwynneville",
                      element "STS" indicating value "Northfield Avenue",
                      element "LMK" indicating value "University of Wollongong",
                      element "FLR" indicating value "2",
                      element "NAM" indicating value "Andrew Corporation",
                      element "PC" indicating value "2500",
                      element "BLD" indicating value "39",
                      element "SEAT" indicating value "WS-183",
                      element "POBOX" indicating value "U40"
  }
}

```

<b>TP Id</b>	TP_LIS_HTTP_POST_BV_07
<b>Test Objective</b>	IUT successfully responds with an error response when it receives a HTTP POST location request with an unmatched location type
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.5 IETF RFC 5985 [2]
<b>Config Id</b>	CFG_LIS_01
<b>PICS Selection</b>	PICS_H_QRY_ERR2
<b>Initial Conditions</b>	
with { the IUT havingLocationMappingFor the DEVICE_NUMBER_POINT containing "point" containing "position" indicating value POINT_POS }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a POST containing Uri indicating value "/location", Host, not Accept, Content_type indicating value "application/held+xml;charset=utf-8", body containing xmlMessage containing version indicating value "1.0", element "locationRequest" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing element "locationType" indicating value "civic" containing attribute "exact" indicating value "true"; element "device" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" containing element "uri" inNamespace "urn:ietf:params:xml:ns:geopriv:held:id" indicating value DEVICE_NUMBER_POINT } then { the IUT sends a httpResponse containing Status_Code indicating value "200 OK", version indicating value "1.0", Content_type indicating value "application/held+xml;charset=utf-8", body containing xmlMessage containing version indicating value "1.0", element "error" inNamespace "urn:ietf:params:xml:ns:geopriv:held" containing attribute "code" indicating value "cannotProvideLiType" } } }	

<b>TP Id</b>	TP_LIS_HTTP_GET_BV_01
<b>Test Objective</b>	IUT successfully returns the location when a locationURI is dereferenced
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.5 IETF RFC 5985 [2] IETF RFC 6753 [3] IETF RFC 5808 [8]
<b>Config Id</b>	CFG_LIS_01
<b>PICS Selection</b>	PICS_H_DER_TOK1
<b>Initial Conditions</b>	
with { the IUT havingLocationMappingFor the DEVICE_NUMBER_CIRCLE containing "circle" containing "position" indicating value CIRCLE_POS, "radius" indicating value CIRCLE_RADIUS and the IUT havingReturnedLocationUriFor the DEVICE_NUMBER_CIRCLE containing element "locationURI" indicating value LOCATION_URI }	

<b>Expected Behaviour</b>
<pre> ensure that {   when {     the IUT receives a GET containing       Uri indicating value LOCATION_URI   }   then {     the IUT sends a httpResponse containing       Status_Code indicating value "200 OK",       version indicating value "1.0",       Content_type indicating value "application/pdf+xml;charset=utf-8",       body containing         xmlMessage containing           version indicating value "1.0",           element "presence" inNamespace "urn:ietf:params:xml:ns:pdf" containing             attribute "" indicating value valid "pres:" uri,             element "tuple" containing               attribute "id",               element "status" containing                 element "geopriv" inNamespace "urn:ietf:params:xml:ns:pdf:geopriv10" containing                   element "location-info" containing                     element "Circle" inNamespace "http://www.opengis.net/pidf/1.0" containing                       attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",                       element "pos" inNamespace "http://www.opengis.net/gml" indicating value                         CIRCLE_POS,                       element "radius" indicating value CIRCLE_RADIUS containing                         attribute "uom" indicating value "urn:ogc:def:uom:EPSG::9001"                 }             }           }         }       }     }   } } </pre>

<b>TP Id</b>	TP_LIS_HTTP_GET_BV_02
<b>Test Objective</b>	IUT returns HTTP error 404 if it does not support HTTP GET method
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.5 IETF RFC 5985 [2] IETF RFC 6753 [3]
<b>Config Id</b>	CFG_LIS_01
<b>PICS Selection</b>	PICS_H_GET_ERR1
<b>Initial Conditions</b>	
<pre> with {   the IUT havingLocationMappingFor the DEVICE_NUMBER_CIRCLE containing     "circle" containing       "position" indicating value CIRCLE_POS,       "radius" indicating value CIRCLE_RADIUS   and the IUT havingReturnedLocationUriFor the DEVICE_NUMBER_CIRCLE containing     element "locationURI" indicating value LOCATION_URI } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a GET containing       Uri indicating value LOCATION_URI   }   then {     the IUT sends a httpResponse containing       Status_Code indicating value "404 not found",       version indicating value "1.0",       Content_type indicating value "application/pdf+xml;charset=utf-8"   } } </pre>	

## 7.2.2 ESRP

<b>TP Id</b>	TP_ESRP_SIP_INVITE_BV_01
<b>Test Objective</b>	IUT successfully forwards an incoming SIP INVITE to the correct downstream element, based on the ECRF response
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.2 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ESRP_01
<b>PICS Selection</b>	E_SIP_URN1 and L_FIS_GEO1
<b>Initial Conditions</b>	
with { the IUT isConfiguredWith the ECRF and the PSAP isReachableWith the SIP_URI_1 and the IUT receivedInitialInviteRequestAndSentLostQueryToEcrf }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a TCP SIP_INVITE containing Request_URI indicating value SERVICE_URN_1, Content_Type indicating value "multipart/mixed", body containing SDP_AND_PIDF_MULTIPART and the IUT sends a POST containing Content_type indicating value "application/lost+xml;charset=utf-8", body containing receivedInitialInviteRequestWithLocationReferenceAndSentGetRequestToLisFor xmlMessage containing version indicating value "1.0", element "findService" inNamespace "urn:ietf:params:xml:ns:lost1" containing element "location" containing element "Point" inNamespace "http://www.opengis.net/gml" containing attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326", element "pos" indicating value LOCATION_1 element "service" indicating value SERVICE_URN_1 to the ECRF and the IUT receives a httpResponse containing Status_Code indicating value "200 OK", version indicating value "1.0", Content_type indicating value "application/lost+xml;charset=utf-8", body containing xmlMessage containing version indicating value "1.0", element "findServiceResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing element "mapping" containing attribute "source", attribute "sourceId", attribute "lastUpdated", attribute "expires", element "service" indicating value SERVICE_URN_1, element "uri" indicating value SIP_URI_1 element "locationUsed" from the ECRF } then { the IUT forwards a SIP_INVITE containing Request_URI indicating value SERVICE_URN_1, Content_Type indicating value "multipart/mixed", Route_Header indicating value SIP_URI_1 body containing SDP_AND_PIDF_MULTIPART to the PSAP } }	

<b>TP Id</b>	TP_ESRP_SIP_INVITE_BV_02
<b>Test Objective</b>	IUT adds Incident-ID and Call-ID INFO headers
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.2 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ESRP_01
<b>PICS Selection</b>	E_SIP_URN1 and L_FIS_GEO1 and E_SIP_HDR1
<b>Initial Conditions</b>	
<pre>with {   the IUT isConfiguredWith the ECRF   and the PSAP isReachableWith the SIP_URI_1   and the IUT receivedInitialInviteRequestAndSentLostQueryToEcrf }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receivesLostResponseWith the SIP_URI_1 from the ECRF   }   then {     the IUT forwards the SIP_INVITE containing       Request_URI indicating value SERVICE_URN_1,       Content_Type indicating value "multipart/mixed",       Route indicating value SIP_URI_1,       Call_Info containing         uri indicating value valid "Incident Tracking Identifier",         purpose "EES-IncidentId"       Call_Info containing         uri indicating value valid "Call Identifier",         purpose "EES-CallId"       body containing         SDP_AND_PIDF_MULTIPART     to the PSAP   } }</pre>	

<b>TP Id</b>	TP_ESRP_SIP_INVITE_BV_03
<b>Test Objective</b>	IUT uses HELD request to query location when INVITE does not contain the location
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.2 IETF RFC 5985 [2] IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ESRP_01
<b>PICS Selection</b>	E_SIP_URN3 and H_QRY_GEO1 and L_FIS_GEO1
<b>Initial Conditions</b>	
<pre>with {   the IUT isConfiguredWith the ECRF   and the IUT isConfiguredWith the LIS   and the PSAP isReachableWith the SIP_URI_1   and the IUT receivedInitialInviteRequestWithoutLocationAndSentHeldRequestToLisFor the DEVICE_NUMBER   and the IUT receivesHeldResponseWith the LOCATION_1 from the LIS   and the IUT sendsLostQueryToEcrfFor the LOCATION_1 to the ECRF }</pre>	



<b>Expected Behaviour</b>
<pre> ensure that {   when {     the IUT receivesLostResponseWith the SIP_URI_1 from the ECRF   }   then {     the IUT forwards the SIP_INVITE containing       Request_URI indicating value SERVICE_URN_1,       Content_Type indicating value "multipart/mixed",       Route indicating value SIP_URI_1,       Call_Info containing         uri indicating value valid "Incident Tracking Identifier",         purpose "EES-IncidentId"       Call_Info containing         uri indicating value valid "Call Identifier",         purpose "EES-CallId"       body containing         SDP_AND_PIDF_MULTIPART     to the PSAP   } } </pre>

<b>TP Id</b>	TP_ESRP_SIP_INVITE_BV_04
<b>Test Objective</b>	IUT uses HELD request to query location when INVITE contains location by reference
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.2 IETF RFC 6753 [3] IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ESRP_01
<b>PICS Selection</b>	E_SIP_URN2 and H_DER_TOK1 and L_FIS_GEO1
<b>Initial Conditions</b>	
<pre> with {   the IUT isConfiguredWith the ECRF   and the IUT isConfiguredWith the LIS   and the PSAP isReachableWith the SIP_URI_1   and the IUT receivedInitialInviteRequestWithLocationReferenceAndSentGetRequestToLisFor the     DEVICE_NUMBER   and the IUT receivesLocationResponseWith the LOCATION_1 from the LIS   and the IUT sendsLostQueryToEcrfFor the LOCATION_1 to the ECRF } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receivesLostResponseWith the SIP_URI_1 from the ECRF   }   then {     the IUT forwards the SIP_INVITE containing       Request_URI indicating value SERVICE_URN_1,       Content_Type indicating value "multipart/mixed",       Route indicating value SIP_URI_1,       Call_Info containing         uri indicating value valid "Incident Tracking Identifier",         purpose "EES-IncidentId"       Call_Info containing         uri indicating value valid "Call Identifier",         purpose "EES-CallId"       body containing         SDP_AND_PIDF_MULTIPART     to the PSAP   } } </pre>	

<b>TP Id</b>	TP_ESRP_SIP_INVITE_BV_05
<b>Test Objective</b>	IUT responds to OPTIONS requests
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.2 IETF RFC 3261 [5]
<b>Config Id</b>	CFG_ESRP_01
<b>PICS Selection</b>	S_SIP_OPT1
<b>Initial Conditions</b>	
with { the IUT isConfiguredWith the ECRF and the PSAP isReachableWith the SIP_URI_1 }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a SIP_OPTIONS } then { the IUT sends a SIP_RESPONSE containing Status_Code indicating value "200 OK" } }	

<b>TP Id</b>	TP_ESRP_SIP_INVITE_BV_06
<b>Test Objective</b>	IUT successfully forwards an incoming SIP MESSAGE to the correct downstream element, based on the ECRF response
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.2 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ESRP_01
<b>PICS Selection</b>	M_SIP_URN1 and L_FIS_GEO1
<b>Initial Conditions</b>	
with { the IUT isConfiguredWith the ECRF and the PSAP isReachableWith the SIP_URI_1 and the IUT receivedInitialInviteRequestAndSentLostQueryToEcrf }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a TCP SIP_MESSAGE containing Request_URI indicating value SERVICE_URN_1, Content_Type indicating value "application/pdf+xml", body containing PIDF and the IUT sends a POST containing Content_type indicating value "application/lost+xml;charset=utf-8", body containing receivedInitialInviteRequestWithLocationReferenceAndSentGetRequestToLisFor xmlMessage containing version indicating value "1.0", element "findService" inNamespace "urn:ietf:params:xml:ns:lost1" containing element "location" containing element "Point" inNamespace "http://www.opengis.net/gml" containing attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326", element "pos" indicating value LOCATION_1 element "service" indicating value SERVICE_URN_1 to the ECRF and the IUT receives a httpResponse containing Status_Code indicating value "200 OK", version indicating value "1.0", Content_type indicating value "application/lost+xml;charset=utf-8", body containing xmlMessage containing version indicating value "1.0", element "findServiceResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing element "mapping" containing attribute "source", attribute "sourceId", attribute "lastUpdated", }	

```

        attribute "expires",
        element "service" indicating value SERVICE_URN_1,
        element "uri" indicating value SIP_URI_1
        element "locationUsed"
    from the ECRF
}
then {
    the IUT forwards a SIP_MESSAGE containing
    Request_URI indicating value SERVICE_URN_1,
    Content_Type indicating value "application/pdf+xml",
    Route_Header indicating value SIP_URI_1
    body containing
    PIDF
    to the PSAP
}
}

```

<b>TP Id</b>	TP_ESRP_SIP_INVITE_BV_07
<b>Test Objective</b>	IUT responds BUSY for an incoming SIP INVITE when downstream element is not reachable
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.2 IETF RFC 5222 [4] IETF RFC 3261 [5]
<b>Config Id</b>	CFG_ESRP_01
<b>PICS Selection</b>	E_SIP_URN1 and S_SIP_BUS1
<b>Initial Conditions</b>	
with { the IUT isConfiguredWith the ECRF and the PSAP isNotReachable and the IUT receivedInitialInviteRequestAndSentLostQueryToEcrf }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a TCP SIP_INVITE containing Request_URI indicating value SERVICE_URN_1, Content_Type indicating value "application/pdf+xml", body containing PIDF and the IUT sends a POST containing Content_type indicating value "application/lost+xml;charset=utf-8", body containing receivedInitialInviteRequestWithLocationReferenceAndSentGetRequestToLisFor xmlMessage containing version indicating value "1.0", element "findService" inNamespace "urn:ietf:params:xml:ns:lost1" containing element "location" containing element "Point" inNamespace "http://www.opengis.net/gml" containing attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326", element "pos" indicating value LOCATION_1 element "service" indicating value SERVICE_URN_1 to the ECRF and the IUT receives a httpResponse containing Status_Code indicating value "200 OK", version indicating value "1.0", Content_type indicating value "application/lost+xml;charset=utf-8", body containing xmlMessage containing version indicating value "1.0", element "findServiceResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing element "mapping" containing attribute "source", attribute "sourceId", attribute "lastUpdated", attribute "expires", element "service" indicating value SERVICE_URN_1, element "uri" indicating value SIP_URI_1 element "locationUsed" from the ECRF }	

```

}
then {
  the IUT sends a SIP_RESPONSE containing
  Status_Code indicating value "486 BUSY HERE"
}
}

```

### 7.2.3 ECRF

<b>TP Id</b>	TP_ECRF_HTTP_POST_BV_01
<b>Test Objective</b>	IUT successfully responds with a service URI for a Point in the service boundary
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.3 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ECRF_01
<b>PICS Selection</b>	L_FIS_GEO1
<b>Initial Conditions</b>	
<pre> with {   the IUT havingServiceBoundaryFor the E_POLICE_SERVICE_BOUNDARY containing   serviceMappingFor E_POLICE_SERVICE_URN containing   URI indicating value E_POLICE_SIP_URI   and the IUT havingServiceBoundaryFor the V_POLICE_SERVICE_BOUNDARY containing   serviceMappingFor V_POLICE_SERVICE_URN containing   URI indicating value V_POLICE_SIP_URI } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a POST containing     Uri indicating value "/service",     Host,     not Accept,     Content_type indicating value "application/lost+xml;charset=utf-8",     body containing     xmlMessage containing     version indicating value "1.0",     element "findService" inNamespace "urn:ietf:params:xml:ns:lost1" containing     element "location" containing     attribute "profile" indicating value "geodetic-2d",     attribute "id" indicating value LOCATION_ID,     element "Point" inNamespace "http://www.opengis.net/gml" containing     attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",     element "pos" indicating value POINT_IN_E_POLICE_SERVICE_BOUNDARY     element "service" indicating value E_POLICE_SERVICE_URN   }   then {     the IUT sends a httpResponse containing     Status_Code indicating value "200 OK",     version indicating value "1.0",     Content_type indicating value "application/lost+xml;charset=utf-8",     body containing     xmlMessage containing     version indicating value "1.0",     element "findServiceResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing     element "mapping" containing     attribute "source",     attribute "sourceId",     attribute "lastUpdated",     attribute "expires",     element "service" indicating value E_POLICE_SERVICE_URN,     element "uri" indicating value E_POLICE_SIP_URI     element "path" containing     element via containing attribute "source"     element "locationUsed" containing     attribute "id" indicating value LOCATION_ID   } } </pre>	

<b>TP Id</b>	TP_ECRF_HTTP_POST_BV_02
<b>Test Objective</b>	IUT successfully responds with a service URI for a Circle in the service boundary
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.3 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ECRF_01
<b>PICS Selection</b>	L_FIS_GEO2
<b>Initial Conditions</b>	
<pre> with {   the IUT havingServiceBoundaryFor the E_POLICE_SERVICE_BOUNDARY containing   serviceMappingFor E_POLICE_SERVICE_URN containing   URI indicating value E_POLICE_SIP_URI   and the IUT havingServiceBoundaryFor the V_POLICE_SERVICE_BOUNDARY containing   serviceMappingFor V_POLICE_SERVICE_URN containing   URI indicating value V_POLICE_SIP_URI } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a POST containing     Uri indicating value "/service",     Host,     not Accept,     Content_type indicating value "application/lost+xml;charset=utf-8",     body containing     xmlMessage containing     version indicating value "1.0",     element "findService" inNamespace "urn:ietf:params:xml:ns:lost1" containing     element "location" containing     attribute "profile" indicating value "geodetic-2d",     attribute "id" indicating value LOCATION_ID,     element "Circle" inNamespace "http://www.opengis.net/pidflo/1.0" containing     attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",     element "pos" inNamespace "http://www.opengis.net/gml" indicating value     CIRCLE_IN_V_POLICE_SERVICE_BOUNDARY_POS,     element "radius" indicating value CIRCLE_IN_V_POLICE_SERVICE_BOUNDARY_RADIUS     containing     attribute "uom" indicating value "urn:ogc:def:uom:EPSG::9001"     element "service" indicating value V_POLICE_SERVICE_URN   }   then {     the IUT sends a httpResponse containing     Status_Code indicating value "200 OK",     version indicating value "1.0",     Content_type indicating value "application/lost+xml;charset=utf-8",     body containing     xmlMessage containing     version indicating value "1.0",     element "findServiceResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing     element "mapping" containing     attribute "source",     attribute "sourceId",     attribute "lastUpdated",     attribute "expires",     element "service" indicating value V_POLICE_SERVICE_URN,     element "uri" indicating value V_POLICE_SIP_URI     element "path" containing     element via containing attribute "source"     element "locationUsed" containing     attribute "id" indicating value LOCATION_ID   } } </pre>	

<b>TP Id</b>	TP_ECRF_HTTP_POST_BV_03
<b>Test Objective</b>	IUT successfully responds with an error response for an unknown Service URN in the service boundary
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.3 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ECRF_01
<b>PICS Selection</b>	L_FIS_ERR1
<b>Initial Conditions</b>	
<pre> with {   the IUT havingServiceBoundaryFor the E_POLICE_SERVICE_BOUNDARY containing   serviceMappingFor E_POLICE_SERVICE_URN containing   URI indicating value E_POLICE_SIP_URI   and the IUT havingServiceBoundaryFor the V_FIRE_SERVICE_BOUNDARY containing   serviceMappingFor V_POLICE_SERVICE_URN containing   URI indicating value V_POLICE_SIP_URI } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a POST containing     Uri indicating value "/service",     Host,     not Accept,     Content_type indicating value "application/lost+xml;charset=utf-8",     body containing     xmlMessage containing     version indicating value "1.0",     element "findService" inNamespace "urn:ietf:params:xml:ns:lost1" containing     element "location" containing     attribute "profile" indicating value "geodetic-2d",     attribute "id" indicating value LOCATION_ID,     element "Point" inNamespace "http://www.opengis.net/gml" containing     attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",     element "pos" indicating value POINT_IN_E_POLICE_SERVICE_BOUNDARY     element "service" indicating value V_FIRE_SERVICE_URN   }   then {     the IUT sends a httpResponse containing     Status_Code indicating value "200 OK",     version indicating value "1.0",     Content_type indicating value "application/lost+xml;charset=utf-8",     body containing     xmlMessage containing     version indicating value "1.0",     element "errors" inNamespace "urn:ietf:params:xml:ns:lost1" containing     element "serviceNotImplemented"   } } </pre>	

<b>TP Id</b>	TP_ECRF_HTTP_POST_BV_04
<b>Test Objective</b>	IUT successfully responds with an error response for an unrecognized location profile
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.3 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ECRF_01
<b>PICS Selection</b>	L_FIS_ERR2
<b>Initial Conditions</b>	
<pre> with {   the IUT havingServiceBoundaryFor the E_POLICE_SERVICE_BOUNDARY containing   serviceMappingFor E_POLICE_SERVICE_URN containing   URI indicating value E_POLICE_SIP_URI   and the IUT havingServiceBoundaryFor the V_FIRE_SERVICE_BOUNDARY containing   serviceMappingFor V_FIRE_SERVICE_URN containing   URI indicating value V_FIRE_SIP_URI } </pre>	

<b>Expected Behaviour</b>
<pre> ensure that {   when {     the IUT receives a POST containing       Uri indicating value "/service",       Host,       not Accept,       Content_type indicating value "application/lost+xml;charset=utf-8",       body containing         xmlMessage containing           version indicating value "1.0",           element "findService" inNamespace "urn:ietf:params:xml:ns:lost1" containing             element "location" containing               attribute "profile" indicating value "someUnknownProfile",               attribute "id" indicating value LOCATION_ID,               element "Point" inNamespace "http://www.opengis.net/gml" containing                 attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",                 element "pos" indicating value POINT_IN_E_POLICE_SERVICE_BOUNDARY             element "service" indicating value V_FIRE_SERVICE_URN           }         }     then {       the IUT sends a httpResponse containing         Status_Code indicating value "200 OK",         version indicating value "1.0",         Content_type indicating value "application/lost+xml;charset=utf-8",         body containing           xmlMessage containing             version indicating value "1.0",             element "errors" inNamespace "urn:ietf:params:xml:ns:lost1" containing               element "locationProfileUnrecognized"             }           }     }   } </pre>

<b>TP Id</b>	TP_ECRF_HTTP_POST_BV_05
<b>Test Objective</b>	IUT successfully responds with service boundary by value if requested
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.3 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ECRF_01
<b>PICS Selection</b>	L_FIS_GEO1 and L_FIS_SBV1
<b>Initial Conditions</b>	
with {	<pre> the IUT havingServiceBoundaryFor the E_POLICE_SERVICE_BOUNDARY containing serviceMappingFor E_POLICE_SERVICE_URN containing URI indicating value E_POLICE_SIP_URI </pre>
<b>Expected Behaviour</b>	
ensure that {	<pre> when {   the IUT receives a POST containing     Uri indicating value "/service",     Host,     not Accept,     Content_type indicating value "application/lost+xml;charset=utf-8",     body containing       xmlMessage containing         version indicating value "1.0",         element "findService" inNamespace "urn:ietf:params:xml:ns:lost1" containing           attribute "serviceBoundary" indicating value "value"           element "location" containing             attribute "profile" indicating value "geodetic-2d",             attribute "id" indicating value LOCATION_ID,             element "Point" inNamespace "http://www.opengis.net/gml" containing               attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",               element "pos" indicating value POINT_IN_E_POLICE_SERVICE_BOUNDARY             element "service" indicating value E_POLICE_SERVICE_URN           }         }     }   }   then { </pre>

```

the IUT sends a httpResponse containing
  Status_Code indicating value "200 OK",
  version indicating value "1.0",
  Content_type indicating value "application/lost+xml;charset=utf-8",
  body containing
    xmlMessage containing
      version indicating value "1.0",
      element "findServiceResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing
        element "mapping" containing
          attribute "source",
          attribute "sourceId",
          attribute "lastUpdated",
          attribute "expires",
          element "service" indicating value E_POLICE_SERVICE_URN,
          element "<serviceBoundary" containing
            attribute "profile" indicating value "geodetic-2d",
            element "Polygon" inNamespace "http://www.opengis.net/gml" containing
              attribute "srsName" indicating value "urn:ogc:def::crs:EPSG::4326",
              element "exterior" containing
                element "LinearRing" containing
                  element "posList" indicating value E_POLICE_SERVICE_BOUNDARY_POS_LIST
            element "uri" indicating value E_POLICE_SIP_URI
          element "path" containing
            element via containing attribute "source"
          element "locationUsed" containing
            attribute "id" indicating value LOCATION_ID
or the IUT sends a httpResponse containing
  Status_Code indicating value "200 OK",
  version indicating value "1.0",
  Content_type indicating value "application/lost+xml;charset=utf-8",
  body containing
    xmlMessage containing
      version indicating value "1.0",
      element "findServiceResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing
        element "mapping" containing
          attribute "source",
          attribute "sourceId",
          attribute "lastUpdated",
          attribute "expires",
          element "service" indicating value V_FIRE_SERVICE_URN,
          element "<serviceBoundary" containing
            attribute "profile" indicating value "geodetic-2d",
            element "Polygon" inNamespace "http://www.opengis.net/gml" containing
              attribute "srsName" indicating value "urn:ogc:def::crs:EPSG::4326",
              element "exterior" containing
                element "LinearRing" containing
                  element "pos" indicating value E_POLICE_SERVICE_BOUNDARY_POS_LIST_0,
                  element "pos" indicating value E_POLICE_SERVICE_BOUNDARY_POS_LIST_1,
                  element "pos" indicating value E_POLICE_SERVICE_BOUNDARY_POS_LIST_2,
                  element "pos" indicating value E_POLICE_SERVICE_BOUNDARY_POS_LIST_3,
                  element "pos" indicating value E_POLICE_SERVICE_BOUNDARY_POS_LIST_4
            element "uri" indicating value V_FIRE_SIP_URI
          element "locationUsed" containing
            attribute "id" indicating value LOCATION_ID

```



<b>TP Id</b>	TP_ECRF_HTTP_POST_BV_06
<b>Test Objective</b>	IUT successfully responds with a service URI for a Circle that intersects the service boundary
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.3 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ECRF_01
<b>PICS Selection</b>	L_FIS_GEO2
<b>Initial Conditions</b>	
<pre> with {   the IUT havingServiceBoundaryFor the E_POLICE_SERVICE_BOUNDARY containing     serviceMappingFor E_POLICE_SERVICE_URN containing       URI indicating value E_POLICE_SIP_URI   and the IUT havingServiceBoundaryFor the V_FIRE_SERVICE_BOUNDARY containing     serviceMappingFor V_FIRE_SERVICE_URN containing       URI indicating value V_FIRE_SIP_URI } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a POST containing       Uri indicating value "/service",       Host,       not Accept,       Content_type indicating value "application/lost+xml;charset=utf-8",       body containing         xmlMessage containing           version indicating value "1.0",           element "findService" inNamespace "urn:ietf:params:xml:ns:lost1" containing             element "location" containing               attribute "profile" indicating value "geodetic-2d",               attribute "id" indicating value LOCATION_ID,             element "Circle" inNamespace "http://www.opengis.net/pidflo/1.0" containing               attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",               element "pos" inNamespace "http://www.opengis.net/gml" indicating value                 CIRCLE_INTERSECTING_V_FIRE_SERVICE_BOUNDARY_POS,               element "radius" indicating value                 CIRCLE_INTERSECTING_V_FIRE_SERVICE_BOUNDARY_RADIUS containing                   attribute "uom" indicating value "urn:ogc:def:uom:EPSG::9001"             element "service" indicating value V_FIRE_SERVICE_URN           }     then {       the IUT sends a httpResponse containing         Status_Code indicating value "200 OK",         version indicating value "1.0",         Content_type indicating value "application/lost+xml;charset=utf-8",         body containing           xmlMessage containing             version indicating value "1.0",             element "findServiceResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing               element "mapping" containing                 attribute "source",                 attribute "sourceId",                 attribute "lastUpdated",                 attribute "expires",               element "service" indicating value V_FIRE_SERVICE_URN,               element "uri" indicating value V_FIRE_SIP_URI             element "path" containing               element via containing attribute "source"             element "locationUsed" containing               attribute "id" indicating value LOCATION_ID           }     }   } } </pre>	

<b>TP Id</b>	TP_ECRF_HTTP_POST_BV_07
<b>Test Objective</b>	IUT successfully responds with a service URI for a Circle that intersects multiple service boundaries
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.3 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ECRF_01
<b>PICS Selection</b>	L_FIS_GEO2
<b>Initial Conditions</b>	
<pre> with {   the IUT havingServiceBoundaryFor the V_FIRE_SERVICE_BOUNDARY containing     serviceMappingFor V_FIRE_SERVICE_URN containing       URI indicating value V_FIRE_SIP_URI   and the IUT havingServiceBoundaryFor the H_FIRE_SERVICE_BOUNDARY containing     serviceMappingFor H_FIRE_SERVICE_URN containing       URI indicating value H_FIRE_SIP_URI } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a POST containing       Uri indicating value "/service",       Host,       not Accept,       Content_type indicating value "application/lost+xml;charset=utf-8",       body containing         xmlMessage containing           version indicating value "1.0",           element "findService" inNamespace "urn:ietf:params:xml:ns:lost1" containing             element "location" containing               attribute "profile" indicating value "geodetic-2d",               attribute "id" indicating value LOCATION_ID,             element "Circle" inNamespace "http://www.opengis.net/pidflo/1.0" containing               attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",               element "pos" inNamespace "http://www.opengis.net/gml" indicating value CIRCLE_INTERSECTING_V_FIRE_SERVICE_BOUNDARY_AND_H_FIRE_SERVICE_BOUNDARY_POS,               element "radius" indicating value CIRCLE_INTERSECTING_V_FIRE_SERVICE_BOUNDARY_AND_H_FIRE_SERVICE_BOUNDARY_RADIUS             containing               attribute "uom" indicating value "urn:ogc:def:uom:EPSG::9001"               element "service" indicating value V_FIRE_SERVICE_URN           }         }     then {       the IUT sends a httpResponse containing         Status_Code indicating value "200 OK",         version indicating value "1.0",         Content_type indicating value "application/lost+xml;charset=utf-8",         body containing           xmlMessage containing             version indicating value "1.0",             element "findServiceResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing               element "mapping" containing                 attribute "source",                 attribute "sourceId",                 attribute "lastUpdated",                 attribute "expires",                 element "service" indicating value V_FIRE_SERVICE_URN,                 element "uri" indicating value V_FIRE_SIP_URI               element "path" containing                 element via containing attribute "source"                 element "locationUsed" containing                   attribute "id" indicating value LOCATION_ID             }           }     } } </pre>	

<b>TP Id</b>	TP_ECRF_HTTP_POST_BV_08
<b>Test Objective</b>	IUT successfully responds with a service URI for a Circle in the service boundary with multiple services
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.3 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ECRF_01
<b>PICS Selection</b>	L_FIS_GEO2
<b>Initial Conditions</b>	
<pre> with {   the IUT havingServiceBoundaryFor the V_POLICE_SERVICE_BOUNDARY containing     serviceMappingFor V_POLICE_SERVICE_URN containing       URI indicating value V_POLICE_SIP_URI   and the IUT havingServiceBoundaryFor the V_FIRE_SERVICE_BOUNDARY containing     serviceMappingFor V_FIRE_SERVICE_URN containing       URI indicating value V_FIRE_SIP_URI } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a POST containing       Uri indicating value "/service",       Host,       not Accept,       Content_type indicating value "application/lost+xml;charset=utf-8",       body containing         xmlMessage containing           version indicating value "1.0",           element "findService" inNamespace "urn:ietf:params:xml:ns:lost1" containing             element "location" containing               attribute "profile" indicating value "geodetic-2d",               attribute "id" indicating value LOCATION_ID,             element "Circle" inNamespace "http://www.opengis.net/pidflo/1.0" containing               attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",               element "pos" inNamespace "http://www.opengis.net/gml" indicating value                 CIRCLE_IN_V_FIRE_SERVICE_BOUNDARY_POS,               element "radius" indicating value CIRCLE_IN_V_FIRE_SERVICE_BOUNDARY_RADIUS                 containing                   attribute "uom" indicating value "urn:ogc:def:uom:EPSG::9001"               element "service" indicating value V_FIRE_SERVICE_URN           }     }   then {     the IUT sends a httpResponse containing       Status_Code indicating value "200 OK",       version indicating value "1.0",       Content_type indicating value "application/lost+xml;charset=utf-8",       body containing         xmlMessage containing           version indicating value "1.0",           element "findServiceResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing             element "mapping" containing               attribute "source",               attribute "sourceId",               attribute "lastUpdated",               attribute "expires",               element "service" indicating value V_FIRE_SERVICE_URN,               element "uri" indicating value V_FIRE_SIP_URI             element "path" containing               element via containing attribute "source"             element "locationUsed" containing               attribute "id" indicating value LOCATION_ID           }     }   } } </pre>	

<b>TP Id</b>	TP_ECRF_HTTP_POST_BV_09
<b>Test Objective</b>	IUT successfully responds with configured service types for a ListServices request
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.3 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ECRF_01
<b>PICS Selection</b>	L_LST_ALL1
<b>Initial Conditions</b>	
<pre> with {   the IUT havingServiceBoundaryFor the E_POLICE_SERVICE_BOUNDARY containing     serviceMappingFor E_POLICE_SERVICE_URN containing       URI indicating value E_POLICE_SIP_URI   and the IUT havingServiceBoundaryFor the V_FIRE_SERVICE_BOUNDARY containing     serviceMappingFor V_FIRE_SERVICE_URN containing       URI indicating value V_FIRE_SIP_URI   and the IUT havingServiceBoundaryFor the N_AMBULANCE_SERVICE_BOUNDARY containing     serviceMappingFor N_AMBULANCE_SERVICE_URN containing       URI indicating value N_AMBULANCE_SIP_URI   and the IUT havingServiceBoundaryFor the A_SOS_SERVICE_BOUNDARY containing     serviceMappingFor A_SOS_SERVICE_URN containing       URI indicating value A_SOS_SIP_URI } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a POST containing       Uri indicating value "/service",       Host,       not Accept,       Content_type indicating value "application/lost+xml;charset=utf-8",       body containing         xmlMessage containing           version indicating value "1.0",           element "listServices" inNamespace "urn:ietf:params:xml:ns:lost1" containing             element "service" indicating value "urn:service:sos"   }   then {     the IUT sends a httpResponse containing       Status_Code indicating value "200 OK",       version indicating value "1.0",       Content_type indicating value "application/lost+xml;charset=utf-8",       body containing         xmlMessage containing           version indicating value "1.0",           element "listServicesResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing             element "serviceList" indicating value "urn:service:sos urn:service:sos.fire urn:service:sos.police               urn:service:sos.ambulance",             element "path" containing               element via containing attribute "source"   } } </pre>	

<b>TP Id</b>	TP_ECRF_HTTP_POST_BV_10
<b>Test Objective</b>	IUT successfully responds with configured service types for a ListServicesByLocation request
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.3 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ECRF_01
<b>PICS Selection</b>	L_LST_GEO1
<b>Initial Conditions</b>	
<pre> with {   the IUT havingServiceBoundaryFor the E_POLICE_SERVICE_BOUNDARY containing     serviceMappingFor E_POLICE_SERVICE_URN containing       URI indicating value E_POLICE_SIP_URI   and the IUT havingServiceBoundaryFor the V_FIRE_SERVICE_BOUNDARY containing     serviceMappingFor V_FIRE_SERVICE_URN containing       URI indicating value V_FIRE_SIP_URI } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a POST containing       Uri indicating value "/service",       Host,       not Accept,       Content_type indicating value "application/lost+xml;charset=utf-8",       body containing         xmlMessage containing           version indicating value "1.0",           element "listServicesByLocation" inNamespace "urn:ietf:params:xml:ns:lost1" containing             element "location" containing               attribute "profile" indicating value "geodetic-2d",               attribute "id" indicating value LOCATION_ID,               element "Point" inNamespace "http://www.opengis.net/gml" containing                 attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",                 element "pos" indicating value POINT_IN_E_POLICE_SERVICE_BOUNDARY             element "service" indicating value "urn:service:sos"           }         }     then {       the IUT sends a httpResponse containing         Status_Code indicating value "200 OK",         version indicating value "1.0",         Content_type indicating value "application/lost+xml;charset=utf-8",         body containing           xmlMessage containing             version indicating value "1.0",             element "listServicesByLocationResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing               element "serviceList" indicating value "urn:service:sos.police",               element "path" containing                 element via containing attribute "source"               element "locationUsed" containing                 attribute "id" indicating value LOCATION_ID             }           }     } } </pre>	

<b>TP Id</b>	TP_ECRF_HTTP_POST_BV_11
<b>Test Objective</b>	IUT successfully responds with configured service types for a ListServices request without service element
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.3 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ECRF_01
<b>PICS Selection</b>	L_LST_ALL1
<b>Initial Conditions</b>	
<pre> with {   the IUT havingServiceBoundaryFor the E_POLICE_SERVICE_BOUNDARY containing   serviceMappingFor E_POLICE_SERVICE_URN containing   URI indicating value E_POLICE_SIP_URI   and the IUT havingServiceBoundaryFor the V_FIRE_SERVICE_BOUNDARY containing   serviceMappingFor V_FIRE_SERVICE_URN containing   URI indicating value V_FIRE_SIP_URI   and the IUT havingServiceBoundaryFor the N_AMBULANCE_SERVICE_BOUNDARY containing   serviceMappingFor N_AMBULANCE_SERVICE_URN containing   URI indicating value N_AMBULANCE_SIP_URI   and the IUT havingServiceBoundaryFor the A_SOS_SERVICE_BOUNDARY containing   serviceMappingFor A_SOS_SERVICE_URN containing   URI indicating value A_SOS_SIP_URI } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a POST containing     Uri indicating value "/service",     Host,     not Accept,     Content_type indicating value "application/lost+xml;charset=utf-8",     body containing     xmlMessage containing     version indicating value "1.0",     element "listServices" inNamespace "urn:ietf:params:xml:ns:lost1"   }   then {     the IUT sends a httpResponse containing     Status_Code indicating value "200 OK",     version indicating value "1.0",     Content_type indicating value "application/lost+xml;charset=utf-8",     body containing     xmlMessage containing     version indicating value "1.0",     element "listServicesResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing     element "serviceList" indicating value "urn:service:sos urn:service:sos.fire urn:service:sos.police     urn:service:sos.ambulance",     element "path" containing     element via containing attribute "source"   } } </pre>	

<b>TP Id</b>	TP_ECRF_HTTP_POST_BV_12
<b>Test Objective</b>	IUT successfully responds with configured service types for a ListServicesByLocation request without service element
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.3 IETF RFC 5222 [4]
<b>Config Id</b>	CFG_ECRF_01
<b>PICS Selection</b>	L_LST_GEO1
<b>Initial Conditions</b>	
<pre> with {   the IUT havingServiceBoundaryFor the E_POLICE_SERVICE_BOUNDARY containing     serviceMappingFor E_POLICE_SERVICE_URN containing       URI indicating value E_POLICE_SIP_URI   and the IUT havingServiceBoundaryFor the V_FIRE_SERVICE_BOUNDARY containing     serviceMappingFor V_FIRE_SERVICE_URN containing       URI indicating value V_FIRE_SIP_URI } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a POST containing       Uri indicating value "/service",       Host,       not Accept,       Content_type indicating value "application/lost+xml;charset=utf-8",       body containing         xmlMessage containing           version indicating value "1.0",           element "listServicesByLocation" inNamespace "urn:ietf:params:xml:ns:lost1" containing             element "location" containing               attribute "profile" indicating value "geodetic-2d",               attribute "id" indicating value LOCATION_ID,             element "Point" inNamespace "http://www.opengis.net/gml" containing               attribute "srsName" indicating value "urn:ogc:def:crs:EPSG::4326",               element "pos" indicating value POINT_IN_E_POLICE_SERVICE_BOUNDARY           }     then {       the IUT sends a httpResponse containing         Status_Code indicating value "200 OK",         version indicating value "1.0",         Content_type indicating value "application/lost+xml;charset=utf-8",         body containing           xmlMessage containing             version indicating value "1.0",             element "listServicesByLocationResponse" inNamespace "urn:ietf:params:xml:ns:lost1" containing               element "serviceList" indicating value "urn:service:sos.police",               element "path" containing                 element via containing attribute "source"               element "locationUsed" containing                 attribute "id" indicating value LOCATION_ID             }     }   } } </pre>	

## 7.2.4 PSAP

<b>TP Id</b>	TP_PSAP_SIP_INVITE_BV_01
<b>Test Objective</b>	IUT successfully handles SIP INVITE with service urn and ULAW via UDP
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.4 IETF RFC 3261 [5] IETF RFC 5301 [6]
<b>Config Id</b>	CFG_PSAP_01
<b>PICS Selection</b>	S_SIP_UDP1 and E_SIP_URN3 and B_SDP_ULA1
<b>Initial Conditions</b>	
with { the IUT acceptingIncomingCalls }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a UDP SIP_INVITE containing Request_URI indicating value "urn:service:sos.police", Content_Type indicating value "application/sdp", body containing SDP_ULAW } then { the IUT establishesIncomingCall } }	

<b>TP Id</b>	TP_PSAP_SIP_INVITE_BV_02
<b>Test Objective</b>	IUT successfully handles SIP INVITE with service urn and ALAW via UDP
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.4 IETF RFC 3261 [5] IETF RFC 5301 [6]
<b>Config Id</b>	CFG_PSAP_01
<b>PICS Selection</b>	S_SIP_UDP1 and E_SIP_URN3 and B_SDP_ALA1
<b>Initial Conditions</b>	
with { the IUT acceptingIncomingCalls }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a UDP SIP_INVITE containing Request_URI indicating value "urn:service:sos.police", Content_Type indicating value "application/sdp", body containing SDP_ALAW } then { the IUT establishesIncomingCall } }	



<b>TP Id</b>	TP_PSAP_SIP_INVITE_BV_03
<b>Test Objective</b>	IUT successfully handles SIP INVITE with service urn via TCP
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.4 IETF RFC 3261 [5] IETF RFC 5301 [6]
<b>Config Id</b>	CFG_PSAP_01
<b>PICS Selection</b>	S_SIP_TCP1 and E_SIP_URN3 and B_SDP_ULA1
<b>Initial Conditions</b>	
with { the IUT acceptingIncomingCalls }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a TCP SIP_INVITE containing Request_URI indicating value "urn:service:sos.police", Content_Type indicating value "application/sdp", body containing SDP_ULAW } then { the IUT establishesIncomingCall } }	

<b>TP Id</b>	TP_PSAP_SIP_INVITE_BV_04
<b>Test Objective</b>	IUT successfully handles SIP INVITE with SDP and PIDF-LO content
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.4 IETF RFC 3261 [5] IETF RFC 5301 [6]
<b>Config Id</b>	CFG_PSAP_01
<b>PICS Selection</b>	S_SIP_TCP1 and E_SIP_URN1 and B_SDP_ULA1
<b>Initial Conditions</b>	
with { the IUT acceptingIncomingCalls }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a TCP SIP_INVITE containing Request_URI indicating value "urn:service:sos.police", Content_Type indicating value "multipart/mixed", body containing SDP_AND_PIDF_MULTIPART } then { the IUT establishesIncomingCall } }	

<b>TP Id</b>	TP_PSAP_SIP_INVITE_BV_05
<b>Test Objective</b>	IUT successfully handles SIP INVITE without service URN
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.4 IETF RFC 3261 [5]
<b>Config Id</b>	CFG_PSAP_01
<b>PICS Selection</b>	S_SIP_UDP1 and A_SIP_BSC1 and B_SDP_ULA1
<b>Initial Conditions</b>	
with { the IUT acceptingIncomingCalls }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a UDP SIP_INVITE containing Request_URI indicating value "sip:psap@city.com", Content_Type indicating value "application/sdp", body containing SDP_ULAW } then { the IUT establishesIncomingCall } }	

<b>TP Id</b>	TP_PSAP_SIP_INVITE_BV_06
<b>Test Objective</b>	IUT successfully handles an incoming SIP BYE
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.4 IETF RFC 3261 [5] IETF RFC 5301 [6]
<b>Config Id</b>	CFG_PSAP_01
<b>PICS Selection</b>	S_SIP_TCP1 and E_SIP_URN1 and B_SDP_ULA1
<b>Initial Conditions</b>	
with { the IUT inAnActiveIncomingCall }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a SIP_BYE } then { the IUT sends a SIP_OK } }	

<b>TP Id</b>	TP_PSAP_SIP_INVITE_BV_07
<b>Test Objective</b>	IUT successfully handles an incoming SIP MESSAGE
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.4 IETF RFC 3261 [5]
<b>Config Id</b>	CFG_PSAP_01
<b>PICS Selection</b>	M_SIP_URN1
<b>Initial Conditions</b>	
with { the IUT acceptingIncomingCalls }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a SIP_MESSAGE } then { the IUT sends a SIP_OK } }	

<b>TP Id</b>	TP_PSAP_SIP_INVITE_BV_08
<b>Test Objective</b>	IUT successfully handles an incoming SIP OPTIONS
<b>Reference</b>	ETSI TS 103 479 [1], clause 5.4 IETF RFC 3261 [5]
<b>Config Id</b>	CFG_PSAP_01
<b>PICS Selection</b>	S_SIP_OPT1
<b>Initial Conditions</b>	
with { the IUT acceptingIncomingCalls }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a SIP_OPTIONS } then { the IUT sends a SIP_OK } }	

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## History

<b>Document history</b>		
V1.1.1	January 2020	Publication