



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)

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 core elements for network independent access to emergency services (NG112), 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)".

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.

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.

Referenced documents which are not found to be publicly available in the expected location might be found at <https://docbox.etsi.org/Reference/>.

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 (V1.2.1): "Emergency Communications (EMTEL); Core elements for network independent access to emergency services".

[2] Void.

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

NOTE: Available at <https://tools.ietf.org/html/IETF RFC 5985>.

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

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

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

NOTE: Available at <https://tools.ietf.org/html/IETF RFC 5222>.

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

NOTE: Available at <https://tools.ietf.org/html/IETF RFC 3261>.

[7] IETF RFC 5031: "A Uniform Resource Name (URN) for Emergency and Other Well-Known Services".

NOTE: Available at <https://tools.ietf.org/html/rfc5031>.

[8] 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>.

[9] Void.

[10] IETF RFC 6442: "Location Conveyance for the Session Initiation Protocol".

NOTE: Available at <https://datatracker.ietf.org/doc/html/rfc6442>.

[11] ETSI TS 103 698 (V1.1.1): "Emergency Communications (EMTEL); Lightweight Messaging Protocol for Emergency Service Accessibility (LMPE)".

2.2 Informative references

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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 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".
- [i.3] EENA: "Next Generation 112 Long Term Definition", Version 1.1, March 2013.

NOTE: Available at <https://eena.org/document/ng112-long-term-definition-standard-for-emergency-services/>.

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:

ACK	Acknowledge
AML	Advanced Mobile Location
ATS	Abstract Test Suite
BCF	Border Control Function
BI	Invalid Behavior
BV	Valid Behaviour
ECRF	Emergency Call. Routing Function
EENA	European Emergency Number Association
EES	European Emergency Services
ESRP	Emergency Service Routing Proxy
HELD	HTTP Enabled Location Discovery
HTTP	Hyper-text Transfer Protocol
ICS	Implementation Conformance Statement
ID	Identity
IM	Instant Messaging
ISO	International Organization for Standardization
IUT	Implementation Under Test
LI	Location Information
LIS	Location Information Server
LO	Location Object
LoST	Location to Service Translation

LTD	Long Term Definition
PICS	Protocol Implementation Conformance Statement
PIDF	Presence Information Data Format
PIXIT	Protocol Implementation eXtra Information for Testing
PSAP	Public Safety Answer Point
SDP	Session Description Protocol
SIP	Session Initiation Protocol
SMS	Short Message Service
TCP	Transmission Control Protocol
TLS	Transport Layer Security
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	
5	BCF	ETSI TS 103 479 [1], clause 5.1	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	HELD by Value	IETF RFC 5985 [3], clause 4.2	m	
2	HELD by Reference	IETF RFC 5985 [3], clause 4.3	m	
3	HELD by Reference GET	ETSI TS 103 479 [1], clause 8	o	
4	Does the IUT support Point	IETF RFC 5985 [3], clause 6.2 IETF RFC 5491 [8], clause 5.2.1	m	
5	Does the IUT support Circle	IETF RFC 5985 [3], clause 6.2 IETF RFC 5491 [8], clause 5.2.3	m	
6	Does the IUT support Civic Address	IETF RFC 5985 [3], clause 6.2 IETF RFC 5491 [8], clause 3.2	m	
7	Does the IUT support SIP Subscriptions	ETSI TS 103 479 [1], clause 5.5	o	
8	Does the IUT support subscriptions to Element State	ETSI TS 103 479 [1], clause 5.5	o	
9	Does the IUT support subscriptions to Service State	ETSI TS 103 479 [1], clause 5.5	o	
10	Does the IUT support subscriptions to Security Posture	ETSI TS 103 479 [1], clause 5.5	o	
11	Does the IUT support AML via HTTP	ETSI TS 103 479 [1], clause 5.5	o	
12	Does the IUT support AML via Data SMS	ETSI TS 103 479 [1], clause 5.5	o	
13	Does the IUT support AML via Text SMS	ETSI TS 103 479 [1], clause 5.5	o	
14	Does the IUT support mutual TLS authentication	ETSI TS 103 479 [1], clause 6.1.1	m	

4.4 ESRP features

Table 3: ESRP features

Prerequisite: Table 1/2				
Item	Name of field	Reference	Status	Support
1	Does the IUT support SIP SUBSCRIPTION		o.1	
2	Does the IUT support dequeue registration		o.1	
3	Does the IUT support fixed target		o.1	
4	Does the IUT support queue state		o	
5	Does the IUT support security posture		o	
6	Does the IUT support element stats		o	
7	Does the IUT support service state		o	
8	Does the IUT support LoST protocol	ETSI TS 103 479 [1], clause 5.2.2	m	
9	Does the IUT support LoST protocol with redirection	ETSI TS 103 479 [1], clause 5.2.2	o	
10	Does the IUT support HELD protocol	ETSI TS 103 479 [1], clause 5.2.2	o	
11	Does the IUT support HELP protocol with location reference	ETSI TS 103 479 [1], clause 5.2.2	o	
12	Does the IUT support TLS mutual authentication	ETSI TS 103 479 [1], clause 5.5	o	
13	Does the IUT support adding Call Identifier	ETSI TS 103 479 [1], clause 6.1.2.7	m	
14	Does the IUT support adding Incident Identifier	ETSI TS 103 479 [1], clause 6.1.2.7	m	

o.1: At least one of the items shall be supported.

4.5 ECRF features

Table 4: ECRF features

Prerequisite: Table 1/3				
Item	Name of field	Reference	Status	Support
1	Does the IUT support Find Service	IETF RFC 5222 [5], clause 14	m	
2	Does the IUT support List Services	ETSI TS 103 479 [1], clause 6.4	m	
3	Does the IUT support List Services by Location			
4	Does the IUT support Point	IETF RFC 5222 [5], clause 12.2 IETF RFC 5491 [8], clause 5.2.1	m	
5	Does the IUT support Circle	IETF RFC 5222 [5], clause 12.2 IETF RFC 5491 [8], clause 5.2.3	m	
6	Does the IUT support Ellipse	IETF RFC 5222 [5], clause 12.2 IETF RFC 5491 [8], clause 5.2.3	o	
7	Does the IUT support Arcband	IETF RFC 5222 [5], clause 8.2 IETF RFC 5491 [8], clause 3.2	o	
8	Does the IUT support Polygon	IETF RFC 5222 [5], clause 12.2 IETF RFC 5491 [8], clause 5.2.3	o	
9	Does the IUT support Loop detection	IETF RFC 5222 [5], clause 6	m	
10	Does the IUT support Redirection	IETF RFC 5222 [5], clause 8.3.3	m	
11	Does the IUT support subscriptions to Element State	ETSI TS 103 479 [1], clause 5.3	o	
12	Does the IUT support subscriptions to Security Posture	ETSI TS 103 479 [1], clause 5.3	o	
13	Does the IUT support subscriptions to Service State	ETSI TS 103 479 [1], clause 5.3	o	
14	Does the IUT support TLS mutual authentication	ETSI TS 103 479 [1], clause 5.5	o	

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	
4	Does the IUT support Dequeue registration/deregistration	ETSI TS 103 479 [1], clause 6.2.1	o	
5	Does the IUT support HELD protocol	ETSI TS 103 479 [1], clause 6.5.1	o	
6	Does IUT support LoST protocol	ETSI TS 103 479 [1], clause 6.4.1	o	
7	Does the IUT support TLS mutual authentication	ETSI TS 103 479 [1], clause 5.5	o	

o.1: At least one of the items shall be supported.

4.7 BCF features

Table 6: BCF features

Prerequisite: Table 1/5				
Item	Name of field	Reference	Status	Support
1	BCF service	ETSI TS 103 479 [1], clause 5.1	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	
4	Does the IUT support TLS mutual authentication	ETSI TS 103 479 [1], clause 5.5		

o.1: At least one of the items shall be supported.

4.8 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 7: Mnemonics for PICS reference

Mnemonic	PICS item
PICS_LIS_HELD_BY_VALUE	Table 2/1
PICS_LIS_HELD_BY_REFERENCE	Table 2/2
PICS_LIS_HELD_BY_REFERENCE_GET	Table 2/3
PICS_LIS_GEOMETRY_POINT	Table 2/4
PICS_LIS_GEOMETRY_CIRCLE	Table 2/5
PICS_LIS_CIVIC	Table 2/6
PICS_LIS_SIP_SUBSCRIPTION	Table 2/7
PICS_LIS_SIP_ELEMENT_STATE	Table 2/8
PICS_LIS_SIP_SERVICE_STATE	Table 2/9
PICS_LIS_SIP_SECURITY_POSTURE	Table 2/10
PICS_LIS_AML_HTTP	Table 2/11
PICS_LIS_AML_DATA_SMS	Table 2/12
PICS_LIS_AML_TEXT_SMS	Table 2/113
PICS_LIS_TLS_AUTHENTICATION	Table 2/14
PICS_ESRP_TARGET_SIP_REGISTER_SUPPORT	Table 3/1
PICS_ESRP_TARGET_DEQUEUE_REGISTRATION_SUPPORT	Table 3/2
PICS_ESRP_FIXED_TARGET_SUPPORT	Table 3/3
PICS_ESRP_QUEUE_STATE_SUPPORT	Table 3/4
PICS_ESRP_SIP_SECURITY_POSTURE	Table 3/5
PICS_ESRP_SIP_ELEMENT_STATE	Table 3/6
PICS_ESRP_SIP_SERVICE_STATE	Table 3/7
PICS_ESRP_LOST	Table 3/8
PICS_ESRP_LOST_REDIRECT	Table 3/9
PICS_ESRP_HELD	Table 3/10
PICS_ESRP_HELD_LOCATION_REFERENCE	Table 3/11
PICS_ESRP_TLS_AUTHENTICATION	Table 3/12
PICS_ESRP_CALL_IDENTIFIER_SUPPORT	Table 3/13
PICS_ESRP_INCIDENT_IDENTIFIER_SUPPORT	Table 3/14
PICS_ECRF_FIND_SERVICE	Table 4/1
PICS_ECRF_LIST_SERVICES	Table 4/2
PICS_ECRF_LIST_SERVICES_BY_LOCATION	Table 4/3
PICS_ECRF_GEOMETRY_POINT	Table 4/4
PICS_ECRF_GEOMETRY_CIRCLE	Table 4/5
PICS_ECRF_GEOMETRY_ELLIPSE	Table 4/6
PICS_ECRF_GEOMETRY_ARCBAND	Table 4/7
PICS_ECRF_GEOMETRY_POLYGON	Table 4/8
PICS_ECRF_LOOP_DETECTION	Table 4/9
PICS_ECRF_REDIRECT	Table 4/10
PICS_ECRF_SIP_ELEMENT_STATE	Table 4/11
PICS_ECRF_SIP_SECURITY_POSTURE	Table 4/12
PICS_ECRF_SIP_SERVICE_STATE	Table 4/13
PICS_ECRF_TLS_AUTHENTICATION	Table 4/14
PICS_A_SIP_BSC1	Table 5/1
PICS_E_SIP_URN1	Table 5/1
PICS_E_SIP_URN2	Table 5/1
PICS_E_SIP_URN3	Table 5/1
PICS_PSAP_B_SDP_ULA1	Table 5/1
PICS_PSAP_B_SDP_ALA1	Table 5/1
PICS_PSAP_S_SIP_BYE1	Table 5/1
PICS_M_SIP_URN1	Table 5/1
PICS_E_SIP_OPT1	Table 5/1
PICS_E_SIP_NO_REGISTRATION	Table 5/1
PICS_PSAP_S_SIP_REGISTRATION	Table 5/1
PICS_PSAP_S_SIP_UDP1	Table 5/2
PICS_PSAP_S_SIP_TCP1	Table 5/3
PICS_PSAP_S_HTTP_DEQUEUE_REGISTRATION	Table 5/4
PICS_PSAP_S_HTTP_HELD	Table 5/5

Mnemonic	PICS item
PICS_PSAP_S_HTTP_LOST	Table 5/6
PICS_PSAP_TLS_AUTHENTICATION	Table 5/7
PICS_BCF_S_SIP_TCP1	Table 6/3
PICS_BCF_M_SIP_CALL_INFO	Table 6/1
PICS_BCF_M_SIP_CALL_INFO_INCIDENT_TRACKING_ID	Table 6/1
PICS_BCF_M_SIP_CALL_INFO_CALL_ID	Table 6/1
PICS_BCF_M_SIP_CALL_INFO_SOURCE_ID	Table 6/1
PICS_BCF_S_SIP_TCP1	Table 6/3
PICS_BCF_TLS_AUTHENTICATION	Table 6/4

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

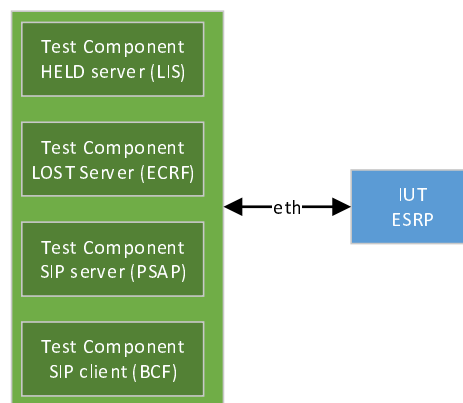


Figure 2: CFG_ESRP_01

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

5.5 BCF Test Configurations

5.5.1 CFG_BCF_01



Figure 5: CFG_BCF_01

6 Test Suite Structure (TSS)

6.1 Structure for NG112 tests

The test grouping is organized on three (3) levels. The first level is the reference to the base Document that contains the requirements for the tests. The second level is the Group and identifies the protocol (LIS, ESRP, ECRF, PSAP and BCF) component that is providing the Service or Interface to be tested. The third level is called Subgroup and identifies a set of functionalities.

Moreover, test purposes are identified and categorized by a sequential two-digits number (uniquely assigned upon definition of the each test purpose) and by the type of test performed. The type of test helps quickly identify the type of behaviour that is expected by the IUT in the test purpose.

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

TP Header	
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.
TP Behaviour	
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
		BCF
	<gr> = group	HELD
		HELD_BY_REFERENCE
		Error
		LOST
		AML
		FindService
		Fixed_TARGET
		SIP_REGISTER_TARGET
		HTTP_DEQUEUE_REGISTRATION
		QUEUE_STATE
		SIP
		TLS
	<sgr> =sub-group	GET
		PUT
		POST
		INVITE
		REGISTER
		ACK
		BYE
		MESSAGE
		OPTIONS
		CANCEL
		INFO
		SECURITY
	<x> = type of testing	BV
		BI
	<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
- "rejects": connection rejected due to security issue
- "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)
- "isConnected": connection between the IUT and peer is established
- "isDisconnected": connection between the IUT and peer is NOT established
- acceptingIncomingCalls: The IUT is ready to receive incoming calls
- establishesIncomingCall: The IUT establishes the incoming call
- acceptingIM: The IUT is ready to receive IM (Instant messaging)
- isRequestedToGetLocationInfo: The IUT is requested to send a request for location information
- isRequestedToGetRouteEmergencyCalls: The IUT is requested to send a request for route emergency call

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/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 "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

7.1.4.2 SIP initial conditions

SIP_INIT_CON_1

the IUT entity acceptingIncomingCalls

SIP_INIT_CON_2

the IUT entity acceptingIM

SIP_INIT_CON_3

the IUT entity isRegistered to the ESRP and,
 the IUT entity acceptingIncomingCalls

SIP_INIT_CON_4

```
the IUT entity inAnActiveIncomingCall
```

SIP_INIT_CON_5

```
the IUT entity isDisconnected
```

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 7.

7.2 Test purposes

7.2.1 LIS

7.2.1.1 HELD

TP Id	TP_LIS_HELD_BV_01
Test Objective	IUT successfully responds with a Point when it receives a location request without location type
Reference	ETSI TS 103 479 [1], clause 6.5.1 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_HELD_BY_VALUE and PICS_LIS_GEOMETRY_POINT
Initial Conditions	
<pre>with { the IUT has a Mapping containing uri indicating value PX_URI, location indicating value PX_POINT }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives an LocationRequest containing uri corresponding to PX_URI } then { the IUT sends a LocationResponse containing presence containing "location-info" carrying PX_POINT } }</pre>	

TP Id	TP_LIS_HELD_BV_02
Test Objective	IUT successfully responds with a Circle when it receives a location request without location type
Reference	ETSI TS 103 479 [1], clause 6.5.1 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_HELD_BY_VALUE and PICS_LIS_GEOMETRY_POINT
Initial Conditions	
<pre>with { the IUT has a Mapping containing uri indicating value PX_URI, location indicating value PX_CIRCLE }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives an LocationRequest containing uri corresponding to PX_URI } then { the IUT sends a LocationResponse containing presence containing "location-info" carrying PX_CIRCLE } }</pre>	

TP Id	TP_LIS_HELD_BV_03
Test Objective	IUT successfully responds with a Reference when it receives a location request with location type locationURI and exact attribute
Reference	ETSI TS 103 479 [1], clause 6.5.1 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_HELD_BY_REFERENCE_GET and PICS_LIS_GEOMETRY_CIRCLE
Initial Conditions	
<pre>with { the IUT has a Mapping containing uri indicating value PX_URI, location indicating value PX_CIRCLE }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives an LocationRequest containing uri corresponding to PX_URI, locationType containing exact indicating value True, values indicating value "locationURI" } then { the IUT sends a LocationResponse containing "locationUri" carrying any URI } }</pre>	

TP Id	TP_LIS_HELD_BV_04
Test Objective	IUT successfully responds with a Reference and Circle when it receives a location request with location types locationURI and geodetic and exact attribute
Reference	ETSI TS 103 479 [1], clause 6.5.1 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_HELD_BY_REFERENCE_GET and PICS_LIS_GEOMETRY_CIRCLE
Initial Conditions	
<pre>with { the IUT has a Mapping containing uri set to PX_URI, location set to PX_CIRCLE }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives an LocationRequest containing uri corresponding to PX_URI, locationType containing exact set to True, values set to "locationURI,geodetic" } then { the IUT sends a LocationResponse containing locationUri carrying any URI, presence containing "location-info" carrying PX_CIRCLE } }</pre>	

TP Id	TP_LIS_HELD_BV_05
Test Objective	IUT successfully responds with a Civic when it receives a location request with location type civic
Reference	ETSI TS 103 479 [1], clause 6.5.1 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_HELD_BY_VALUE and PICS_LIS_CIVIC
Initial Conditions	
<pre>with { the IUT has a Mapping containing uri set to PX_URI, address set to PX_ADDRESS }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives an LocationRequest containing uri corresponding to PX_URI, locationType containing exact set to True, values set to "civic" } then { the IUT sends a LocationResponse containing presence containing "location-info" carrying PX_ADDRESS } }</pre>	

TP Id	TP_LIS_HELD_BV_06
Test Objective	IUT successfully responds with a Circle when the locationURI is dereferenced
Reference	ETSI TS 103 479 [1], clause 6.5.2 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_HELD_BY_REFERENCE_GET and PICS_LIS_GEOMETRY_CIRCLE
Initial Conditions	
<pre> with { the IUT has a Mapping containing uri set to PX_URI, address set to PX_CIRCLE and the IUT receives an LocationRequest containing uri corresponding to PX_URI, locationType containing exact indicating value True, values indicating value "locationURI" and the IUT sends a LocationResponse containing "locationUri" carrying any URI } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT receives an DereferenceRequest containing uri indicating value "from LocationResponse" } then { the IUT sends a PresenceDocument containing "location-info" carrying PX_CIRCLE } } </pre>	

TP Id	TP_LIS_HELD_BV_07
Test Objective	IUT successfully responds with a Circle when the locationURI is dereferenced by HeldRequest
Reference	ETSI TS 103 479 [1], clause 6.5.2 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_HELD_BY_REFERENCE_POST and PICS_LIS_GEOMETRY_CIRCLE
Initial Conditions	
<pre>with { the IUT has a Mapping containing uri set to PX_URI, address set to PX_CIRCLE and the IUT receives an LocationRequest containing uri corresponding to PX_URI, locationType containing exact indicating value True, values indicating value "locationURI" and the IUT sends a LocationResponse containing "locationUri" carrying any URI }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives an DereferenceHeldRequest containing uri indicating value "from LocationResponse" } then { the IUT sends a LocationResponse containing presence containing "location-info" carrying PX_CIRCLE } }</pre>	

7.2.1.2 Error

TP Id	TP_LIS_HELD_BI_01
Test Objective	IUT responds with an error response when it receives a location request for an unknown device
Reference	ETSI TS 103 479 [1], clause 6.5.1 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
Initial Conditions	
<pre>with { the IUT has no Mapping containing uri set to PX_URI }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives an LocationRequest containing uri corresponding to PX_URI } then { the IUT sends an ErrorResponse containing code set to "locationUnknown" } }</pre>	

TP Id	TP_LIS_HELD_BI_02
Test Objective	IUT responds with an error response when it receives a location request with an unmatched location type
Reference	ETSI TS 103 479 [1], clause 6.5.1 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
Initial Conditions	
<pre>with { the IUT has a Mapping containing uri set to PX_URI, address set to PX_CIRCLE }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives an LocationRequest containing uri corresponding to PX_URI, locationType containing exact indicating value True, values indicating value "civic" } then { the IUT sends an ErrorResponse containing code set to "cannotProvideLiType" } }</pre>	

7.2.1.3 Subscription/Notifications

TP Id	TP_LIS_SIP_BV_01
Test Objective	IUT responds to SIP Subscribe with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.5.3.2 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_SIP_SUBSCRIPTION and PICS_LIS_HELD_BY_REFERENCE_GET and PICS_LIS_GEOMETRY_POINT
Initial Conditions	
<pre>with { the IUT has a Mapping containing uri indicating value PX_URI, location indicating value PX_POINT and the IUT receives an LocationRequest containing uri corresponding to PX_URI, locationType containing exact indicating value True, values indicating value "locationURI" and the IUT sends a LocationResponse containing "locationUri" carrying any URI }</pre>	

Expected Behaviour	
ensure that {	<pre> when { the IUT receives a SubscribeRequest containing "event" set to "presence" } then { the IUT sends an OkResponse and the IUT sends a Notify containing presence containing "location-info" carrying PX_POINT } } </pre>

TP Id	TP_LIS_SIP_BV_02
Test Objective	IUT responds to SIP Unsubscribe with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.5.3.2 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_SIP_SUBSCRIPTION
Initial Conditions	
with {	<pre> the IUT receives a SubscribeRequest containing "event" set to "presence" and the IUT sends an OkResponse and the IUT sends a Notify } </pre>
Expected Behaviour	
ensure that {	<pre> when { the IUT receives an UnsubscribeRequest } then { the IUT sends an OkResponse } } </pre>

TP Id	TP_LIS_SIP_BV_03
Test Objective	IUT sends SIP Notify when location changes
Reference	ETSI TS 103 479 [1], clause 6.5.3.2 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_SIP_SUBSCRIPTION
Initial Conditions	
with {	<pre> the IUT receives a SubscribeRequest containing "event" set to "presence" and the IUT sends an OkResponse and the IUT sends a Notify } </pre>
Expected Behaviour	
ensure that {	<pre> when { the IUT detects a LocationChange } then { the IUT sends an Notify containing Presence } } </pre>

TP Id	TP_LIS_SIP_BV_04
Test Objective	IUT responds to SIP Subscribe for Element State with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.3.4 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_ELEMENT_STATE
Expected Behaviour	
<pre> ensure that { when { the IUT receives a SubscribeRequest containing "event" set to "emergency-ElementState" } then { the IUT sends an OkResponse and the IUT sends a Notify containing ElementState containing state corresponding to normal } } </pre>	

TP Id	TP_LIS_SIP_BV_05
Test Objective	IUT responds to SIP Unsubscribe with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.3.4 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_ELEMENT_STATE
Initial Conditions	
<pre> with { the IUT receives a SubscribeRequest containing "event" set to "emergency-ElementState" and the IUT sends an OkResponse and the IUT sends a Notify } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a UnsubscribeRequest containing "event" set to "emergency-ElementState" } then { the IUT sends an OkResponse and the IUT sends a Notify } } </pre>	

TP Id	TP_LIS_SIP_BV_06
Test Objective	IUT responds to SIP Subscribe for SecurityPosture with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.3.3 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_SECURITY_POSTURE
Expected Behaviour	
<pre> ensure that { when { the IUT receives a SubscribeRequest containing "event" set to "emergency-SecurityPosture" } then { the IUT sends an OkResponse and the IUT sends a Notify containing SecurityPosture containing posture corresponding to green } } </pre>	

TP Id	TP_LIS_SIP_BV_07
Test Objective	IUT responds to SIP Unsubscribe with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.3.3 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_SECURITY_POSTURE
Initial Conditions	
<pre> with { the IUT receives a SubscribeRequest containing "event" set to "emergency-SecurityPosture" and the IUT sends an OkResponse and the IUT sends a Notify } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a UnsubscribeRequest containing "event" set to "emergency-SecurityPosture" } then { the IUT sends an OkResponse and the IUT sends a Notify } } </pre>	

TP Id	TP_LIS_SIP_BV_08
Test Objective	IUT responds to SIP Subscribe for ServiceState with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.3.5 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_SERVICE_STATE
Expected Behaviour	
<pre> ensure that { when { the IUT receives a SubscribeRequest containing "event" set to "emergency-ServiceState" } then { the IUT sends an OkResponse and the IUT sends a Notify containing ServiceState containing state corresponding to normal } } </pre>	

TP Id	TP_LIS_SIP_BV_09
Test Objective	IUT responds to SIP Unsubscribe with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.3.5 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_SERVICE_STATE
Initial Conditions	
<pre> with { the IUT receives a SubscribeRequest containing "event" set to "emergency-ServiceState" and the IUT sends an OkResponse and the IUT sends a Notify } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a UnsubscribeRequest containing "event" set to "emergency-ServiceState" } then { the IUT sends an OkResponse and the IUT sends a Notify } } </pre>	

7.2.1.4 Advanced Mobile Location

TP Id	TP_LIS_AML_BV_01
Test Objective	IUT successfully accepts AML HTTP Data
Reference	ETSI TS 103 479 [1], clause 5.5 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_AML_HTTP
Expected Behaviour	
<pre> ensure that { when { the IUT receives an AML_HTTP_Message } then { the IUT sends an AML_HTTP_MessageResponse } } </pre>	

TP Id	TP_LIS_AML_BV_02
Test Objective	IUT successfully provides received AML HTTP Data via HELD
Reference	ETSI TS 103 479 [1], clause 5.5 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_AML_HTTP and PICS_LIS_GEOMETRY_CIRCLE
Expected Behaviour	
<pre> ensure that { when { the IUT receives an AML_HTTP_Message containing device_number corresponding to PX_AML_DEVICE_NUMBER, location corresponding to PX_CIRCLE and the IUT sends an AML_HTTP_MessageResponse and the IUT receives an LocationRequest containing uri corresponding to PX_AML_DEVICE_NUMBER } then { the IUT sends a LocationResponse containing presence containing "location-info" corresponding to PX_CIRCLE } } </pre>	

TP Id	TP_LIS_AML_BV_03
Test Objective	IUT successfully provides received AML SMS Text via HELD
Reference	ETSI TS 103 479 [1], clause 5.5 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_AML_SMS_TEXT and PICS_LIS_GEOMETRY_CIRCLE
Expected Behaviour	
<pre> ensure that { when { the IUT receives an AML_SMS_Text_Message containing device_number corresponding to PX_AML_DEVICE_NUMBER, location corresponding to PX_CIRCLE and the IUT receives an LocationRequest containing uri corresponding to PX_AML_DEVICE_NUMBER } then { the IUT sends a LocationResponse containing presence containing "location-info" corresponding to PX_CIRCLE } } </pre>	

TP Id	TP_LIS_AML_BV_04
Test Objective	IUT successfully provides received AML SMS Data via HELD
Reference	ETSI TS 103 479 [1], clause 5.5 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_AML_SMS_DATA and PICS_LIS_GEOMETRY_CIRCLE
Expected Behaviour	
<pre> ensure that { when { the IUT receives an AML_SMS_Data_Message containing device_number corresponding to PX_AML_DEVICE_NUMBER, location corresponding to PX_CIRCLE and the IUT receives an LocationRequest containing uri corresponding to PX_AML_DEVICE_NUMBER } then { the IUT sends a LocationResponse containing presence containing "location-info" corresponding to PX_CIRCLE } } </pre>	

7.2.1.5 Security

TP Id	TP_LIS_TLS_BI_01
Test Objective	IUT rejects HELD requests without a certificate
Reference	ETSI TS 103 479 [1], clause 5.5 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_TLS_AUTHENTICATION
Expected Behaviour	
<pre> ensure that { when { the IUT receives any LocationRequest containing not certificate } then { the IUT rejects the Connection } } </pre>	

TP Id	TP_LIS_TLS_BI_02
Test Objective	IUT rejects SIP requests without a certificate
Reference	ETSI TS 103 479 [1], clause 5.5 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_LIS_TLS_AUTHENTICATION
Expected Behaviour	
<pre> ensure that { when { the IUT receives any SubscribeRequest containing not certificate } then { the IUT rejects the Connection } } </pre>	

7.2.2 ESRP

7.2.2.1 FindService

TP Id	TP_ESRP_FIND_SERVICE_BV_01
Test Objective	IUT fetches service URN from ECRF and forwards an incoming call with Geodetic Location
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_LOST
Initial Conditions	
<pre>with { the IUT isConfiguredWith an EcrfConfig containing uri set to PX_ECRF and the ECRF reachable_by a uri PX_ECRF and the DOWNSTREAM reachable_by a uri URI_POLICE_G1 }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives a request SipInvite containing location corresponding to PX_CIRCLE_IN_G1, service set to "urn:service:sos.police", caller corresponding to PX_CALLER } then { the IUT sends a request FindServiceRequest containing service corresponding to POLICE, location corresponding to PX_CIRCLE_IN_G1 to the ECRF entity and the ECRF sends a response FindServiceResponse containing service corresponding to POLICE, uri corresponding to URI_POLICE_G1 and the IUT forwards a request SipInvite containing location corresponding to PX_CIRCLE_IN_G1, service set to "urn:service:sos.police", caller corresponding to PX_CALLER to the DOWNSTREAM entity } }</pre>	

TP Id	TP_ESRP_FIND_SERVICE_BV_02
Test Objective	IUT fetches service URN from ECRF with redirect and forwards an incoming call with Geodetic Location
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_LOST and PICS_ESRP_LOST_REDIRECT
Initial Conditions	
<pre>with { the IUT isConfiguredWith an EcrfConfig containing uri set to PX_ECRF and the ECRF reachable_by a uri PX_ECRF and the ECRF_2 reachable_by a uri PX_REDIRECT_TARGET and the DOWNSTREAM reachable_by a uri URI_POLICE_G1 }</pre>	

Expected Behaviour

```

ensure that {
    when {
        the IUT receives
            a request SipInvite containing
                location corresponding to PX_CIRCLE_IN_G1,
                service set to "urn:service:sos.police",
                caller corresponding to PX_CALLER
    }
    then {
        the IUT sends a request FindServiceRequest containing
            service    corresponding to POLICE,
            location corresponding to PX_CIRCLE_IN_G1

            to the ECRF entity
        and
        the ECRF sends a response RedirectResponse containing
            target    corresponding to PX_REDIRECT_TARGET

        and
        the IUT sends a request FindServiceRequest containing
            service    corresponding to POLICE,
            location corresponding to PX_CIRCLE_IN_G1

            to the ECRF_2 entity
        and
        the ECRF_2 sends a response FindServiceResponse containing
            service    corresponding to POLICE,
            uri        corresponding to URI_POLICE_G1

        and
        the IUT forwards a request SipInvite containing
            location corresponding to PX_CIRCLE_IN_G1,
            service set to "urn:service:sos.police",
            caller corresponding to PX_CALLER

            to the DOWNSTREAM entity
    }
}

```

TP Id	TP_ESRP_FIND_SERVICE_BV_03
Test Objective	IUT gets location from LIS and fetches service URN from ECRF and forwards an incoming call without Location
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_HELD and PICS_ESRP_LOST
Initial Conditions	
<pre> with { the IUT isConfiguredWith an EcrfConfig containing uri set to PX_ECRF and the IUT isConfiguredWith a LisConfig containing uri set to PX_LIS and the ECRF reachable_by a uri PX_ECRF and the DOWNSTREAM reachable_by a uri URI_POLICE_G1 } </pre>	

Expected Behaviour
<pre> ensure that { when { the IUT receives a request SipInvite containing service set to "urn:service:sos.police", caller corresponding to PX_CALLER } then { the IUT sends a LocationRequest containing uri corresponding to PX_CALLER to the LIS entity and the IUT sends a LocationResponse containing presence containing "location-info" carrying PX_CIRCLE_IN_G1 and the IUT sends a request FindServiceRequest containing service corresponding to POLICE, location corresponding to PX_CIRCLE_IN_G1 to the ECRF entity and the ECRF sends a response FindServiceResponse containing service corresponding to POLICE, uri corresponding to URI_POLICE_G1 and the IUT forwards a request SipInvite containing service set to "urn:service:sos.police", caller corresponding to PX_CALLER to the DOWNSTREAM entity } } </pre>

TP Id	TP_ESRP_FIND_SERVICE_BV_04
Test Objective	IUT resolves location reference and fetches service URN from ECRF and forwards an incoming call with location reference
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_HELD_LOCATION_REFERENCE and PICS_ESRP_LOST
Initial Conditions	
<pre> with { the IUT isConfiguredWith an EcrfConfig containing uri set to PX_ECRF and the ECRF reachable_by a uri PX_ECRF and the LIS reachable_by a uri PX_LOCATION_REFERENCE and the DOWNSTREAM reachable_by a uri URI_POLICE_G1 } </pre>	

Expected Behaviour
<pre> ensure that { when { the IUT receives a request SipInvite containing service set to "urn:service:sos.police", caller corresponding to PX_CALLER, locationReference corresponding to PX_LOCATION_REFERENCE } then { the IUT sends a LocationDereferenceRequest to the LIS entity and the IUT sends a LocationResponse containing presence containing "location-info" carrying PX_CIRCLE_IN_G1 and the IUT sends a request FindServiceRequest containing service corresponding to POLICE, location corresponding to PX_CIRCLE_IN_G1 to the ECRF entity and the ECRF sends a response FindServiceResponse containing service corresponding to POLICE, uri corresponding to URI_POLICE_G1 and the IUT forwards a request SipInvite containing service set to "urn:service:sos.police", caller corresponding to PX_CALLER to the DOWNSTREAM entity } } </pre>

7.2.2.2 Fixed Target

TP Id	TP_ESRP_FIXED_TARGET_SIP_INVITE_BV_01
Test Objective	IUT forwards an incoming call to a fixed target
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_FIXED_TARGET_SUPPORT
Initial Conditions	
<pre> with { the IUT is configured for the DOWNSTREAM entity } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a request SipInvite } then { the IUT forwards the typed request SipInvite to the DOWNSTREAM entity } } </pre>	

7.2.2.3 SIP REGISTER Target

TP Id	TP_ESRP_SIP_REGISTER_TARGET_SIP_REGISTER_BV_01
Test Objective	IUT accepts SIP register requests
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_TARGET_SIP_REGISTER_SUPPORT
Expected Behaviour	
<pre> ensure that { when { the IUT receives a SIP_REGISTER from the DOWNSTREAM entity } then { the IUT returns a SIP_RESPONSE containing STATUS_CODE set to 200 to the DOWNSTREAM entity } } </pre>	

7.2.2.4 'Dequeue Registration Target

TP Id	TP_ESRP_HTTP_DEQUEUE_REGISTRATION_TARGET_REGISTRATION_BV_01
Test Objective	IUT accepts Dequeue Registration
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_TARGET_DEQUEUE_REGISTRATION_SUPPORT
Expected Behaviour	
<pre> ensure that { when { the IUT receives a DEQUEUE_REGISTRATION_REQUEST from the DOWNSTREAM entity } then { the IUT returns a DEQUEUE_REGISTRATION_RESPONSE to the DOWNSTREAM entity } } </pre>	

TP Id	TP_ESRP_HTTP_DEQUEUE_REGISTRATION_TARGET_REGISTRATION_BV_02
Test Objective	IUT sends correct error response for invalid Dequeue Registration
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_TARGET_DEQUEUE_REGISTRATION_SUPPORT
Expected Behaviour	
<pre> ensure that { when { the IUT receives a DEQUEUE_REGISTRATION_REQUEST containing an invalid queue from the DOWNSTREAM entity } then { the IUT returns a DEQUEUE_REGISTRATION_RESPONSE containing error_response to the DOWNSTREAM entity } } </pre>	

TP Id	TP_ESRP_HTTP_DEQUEUE_REGISTRATION_TARGET_DEREGISTRATION_BV_01
Test Objective	IUT accepts Dequeue Deregistration
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_TARGET_DEQUEUE_REGISTRATION_SUPPORT
Expected Behaviour	
<pre> ensure that { when { the IUT receives a DEQUEUE_DEREGISTRATION_REQUEST from the DOWNSTREAM entity } then { the IUT returns a DEQUEUE_DEREGISTRATION_RESPONSE to the DOWNSTREAM entity } } </pre>	

7.2.2.5 QueueState

TP Id	TP_ESRP_QUEUE_STATE_BV_01
Test Objective	IUT subscribes for Queue State event
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_QUEUE_STATE_SUPPORT
Expected Behaviour	
<pre> ensure that { when { the IUT receives a DEQUEUE_REGISTRATION_REQUEST from the DOWNSTREAM entity } then { the IUT sends a QUEUE_STATE_SUBSCRIBE_REQUEST to the DOWNSTREAM entity } } </pre>	

TP Id	TP_ESRP_QUEUE_STATE_BV_02
Test Objective	IUT response to QueueState Notify
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_QUEUE_STATE_SUPPORT
Initial Conditions	
<pre> with { the DOWNSTREAM dequeueRegistered to the IUT entity } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a QUEUE_STATE_NOTIFY_REQUEST from the DOWNSTREAM entity } then { the IUT returns a QUEUE_STATE_NOTIFY_RESPONSE to the DOWNSTREAM entity } } </pre>	

TP Id	TP_ESRP_QUEUE_STATE_BV_03
Test Objective	IUT forwards call to active queue
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_QUEUE_STATE_SUPPORT
Initial Conditions	
<pre> with { the DOWNSTREAM dequeueRegistered to the IUT entity and the IUT receives a QUEUE_STATE_NOTIFY_REQUEST containing queueState set to "active" from the DOWNSTREAM entity } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a request SipInvite } then { the IUT forwards the request SipInvite to the DOWNSTREAM entity } } </pre>	

TP Id	TP_ESRP_QUEUE_STATE_BV_04
Test Objective	IUT does not forward call to inactive queue
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_QUEUE_STATE_SUPPORT
Initial Conditions	
<pre> with { the IUT default_routes to the DIVERSION entity and the DOWNSTREAM dequeueRegistered to the IUT entity } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a QUEUE_STATE_NOTIFY_REQUEST containing queueState set to "inactive" from the DOWNSTREAM entity and the IUT receives a request SipInvite } then { the IUT forwards the request SipInvite to the DIVERSION entity } } </pre>	

TP Id	TP_ESRP_QUEUE_STATE_BV_05
Test Objective	IUT does not forward call to disabled queue
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_QUEUE_STATE_SUPPORT
Initial Conditions	
with { the IUT default_routes to the DIVERSION entity and the DOWNSTREAM dequeueRegistered to the IUT entity }	
Expected Behaviour	
ensure that { when { the IUT receives a QUEUE_STATE_NOTIFY_REQUEST containing queueState set to "disabled" from the DOWNSTREAM entity and the IUT receives a request SipInvite } then { the IUT forwards the request SipInvite to the DIVERSION entity } }	

TP Id	TP_ESRP_QUEUE_STATE_BV_06
Test Objective	IUT does not forward call to full queue
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_QUEUE_STATE_SUPPORT
Initial Conditions	
with { the IUT default_routes to the DIVERSION entity and the DOWNSTREAM dequeueRegistered to the IUT entity }	
Expected Behaviour	
ensure that { when { the IUT receives a QUEUE_STATE_NOTIFY_REQUEST containing queueState set to "full" from the DOWNSTREAM entity and the IUT receives a request SipInvite } then { the IUT forwards the request SipInvite to the DIVERSION entity } }	

TP Id	TP_ESRP_QUEUE_STATE_BV_07
Test Objective	IUT forwards call to standby queue
Reference	ETSI TS 103 479 [1], clause 5.2.2 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ESRP_QUEUE_STATE_SUPPORT
Initial Conditions	
with { the DOWNSTREAM dequeueRegistered to the IUT entity }	
Expected Behaviour	
ensure that { when { the IUT receives a QUEUE_STATE_NOTIFY_REQUEST containing queueState set to "standby" from the DOWNSTREAM entity and the IUT receives a request SipInvite } then { the IUT forwards the request SipInvite to the DOWNSTREAM entity } }	

7.2.2.6 Subscriptions/Notifications

TP Id	TP_ESRP_SIP_BV_01
Test Objective	IUT responds to SIP Subscribe for Element State with an 200 OK
Reference	ETSI TS 103 479 [1], clause 5.3 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_ELEMENT_STATE
Expected Behaviour	
ensure that { when { the IUT receives a SubscribeRequest containing "event" set to "emergency-ElementState" } then { the IUT sends an OkResponse and the IUT sends a Notify containing ElementState containing state corresponding to normal } }	

TP Id	TP_ESRP_SIP_BV_02
Test Objective	IUT responds to SIP Unsubscribe with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.5.3.2 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_ELEMENT_STATE
Initial Conditions	
<pre>with { the IUT receives a SubscribeRequest containing "event" set to "emergency-ElementState" and the IUT sends an OkResponse and the IUT sends a Notify }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives a UnsubscribeRequest containing "event" set to "emergency-ElementState" } then { the IUT sends an OkResponse and the IUT sends a Notify } }</pre>	

TP Id	TP_ESRP_SIP_BV_03
Test Objective	IUT responds to SIP Subscribe for SecurityPosture with an 200 OK
Reference	ETSI TS 103 479 [1], clause 5.3 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_SECURITY_POSTURE
Expected Behaviour	
<pre>ensure that { when { the IUT receives a SubscribeRequest containing "event" set to "emergency-SecurityPosture" } then { the IUT sends an OkResponse and the IUT sends a Notify containing SecurityPosture containing posture corresponding to green } }</pre>	

TP Id	TP_ESRP_SIP_BV_04
Test Objective	IUT responds to SIP Unsubscribe with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.5.3.2 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_SECURITY_POSTURE
Initial Conditions	
<pre>with { the IUT receives a SubscribeRequest containing "event" set to "emergency-SecurityPosture" and the IUT sends an OkResponse and the IUT sends a Notify }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives a UnsubscribeRequest containing "event" set to "emergency-SecurityPosture" } then { the IUT sends an OkResponse and the IUT sends a Notify } }</pre>	

TP Id	TP_ESRP_SIP_BV_05
Test Objective	IUT responds to SIP Subscribe for ServiceState with an 200 OK
Reference	ETSI TS 103 479 [1], clause 5.3 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_SERVICE_STATE
Expected Behaviour	
<pre>ensure that { when { the IUT receives a SubscribeRequest containing "event" set to "emergency-ServiceState" } then { the IUT sends an OkResponse and the IUT sends a Notify containing ServiceState containing state corresponding to normal } }</pre>	

TP Id	TP_ESRP_SIP_BV_06
Test Objective	IUT responds to SIP Unsubscribe with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.5.3.2 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_SERVICE_STATE
Initial Conditions	
<pre>with { the IUT receives a SubscribeRequest containing "event" set to "emergency-ServiceState" and the IUT sends an OkResponse and the IUT sends a Notify }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives a UnsubscribeRequest containing "event" set to "emergency-ServiceState" } then { the IUT sends an OkResponse and the IUT sends a Notify } }</pre>	

7.2.2.7 Security

TP Id	TP_ESRP_TLS_SIP_INVITE_BI_01
Test Objective	IUT rejects SIP requests without a certificate
Reference	ETSI TS 103 479 [1], clause 6.1.1 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_ESRP_TLS_AUTHENTICATION
Expected Behaviour	
<pre>ensure that { when { the IUT receives a request SipInvite containing not certificate } then { the IUT rejects the Connection } }</pre>	

7.2.2.8 Headers

TP Id	TP_ESRP_HEADERS_SIP_INVITE_BV_01
Test Objective	IUT adds CallIdentifier header and forwards an incoming call to a fixed target
Reference	ETSI TS 103 479 [1], clause 6.1.2.7
PICS Selection	PICS_ESRP_FIXED_TARGET_SUPPORT
Initial Conditions	
with {	
the IUT is configured for the DOWNSTREAM entity	
}	
Expected Behaviour	
ensure that {	
when {	
the IUT receives a request SipInvite containing not callIdHeader	
}	
then {	
the IUT forwards a request SipInvite containing callIdHeader	
to the DOWNSTREAM entity	
}	
}	

TP Id	TP_ESRP_HEADERS_SIP_INVITE_BV_02
Test Objective	IUT adds IncidentTrackingIdentifier header and forwards an incoming call to a fixed target
Reference	ETSI TS 103 479 [1], clause 6.1.2.7
PICS Selection	PICS_ESRP_FIXED_TARGET_SUPPORT
Initial Conditions	
with {	
the IUT is configured for the DOWNSTREAM entity	
}	
Expected Behaviour	
ensure that {	
when {	
the IUT receives a request SipInvite containing not incidentIdHeader	
}	
then {	
the IUT forwards a request SipInvite containing incidentIdHeader	
to the DOWNSTREAM entity	
}	
}	

7.2.3 ECRF

7.2.3.1 LoST

TP Id	TP_ECRF_LOST_BV_01
Test Objective	IUT successfully responds with a service URI for a Point in the service boundary
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE and PICS_ECRF_GEOMETRY_POINT
Initial Conditions	
with { <div style="margin-left: 40px;">the IUT has a mapping PX_POLICE_G1</div>	
Expected Behaviour	
ensure that { <div style="margin-left: 40px;">when { <div style="margin-left: 40px;">the IUT receives a request FindServiceRequest containing service corresponding to POLICE, location corresponding to PX_POINT_IN_G1</div> </div>	

}

then {

the IUT sends a response FindServiceResponse containing
service corresponding to POLICE,
uri corresponding to URI_POLICE_G1

TP Id	TP_ECRF_LOST_BV_02
Test Objective	IUT successfully responds with a service URI for a Circle in the service boundary
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE and PICS_ECRF_GEOMETRY_CIRCLE
Initial Conditions	
with { <div style="margin-left: 40px;">the IUT has a mapping PX_POLICE_G1</div>	
Expected Behaviour	
ensure that { <div style="margin-left: 40px;">when { <div style="margin-left: 40px;">the IUT receives a request FindServiceRequest containing service corresponding to POLICE, location corresponding to PX_CIRCLE_IN_G1</div> </div>	

}

then {

the IUT sends a response FindServiceResponse containing
service corresponding to POLICE,
uri corresponding to URI_POLICE_G1

TP Id	TP_ECRF_LOST_BV_03
Test Objective	IUT successfully responds with an error response for an unknown Service URN in the service boundary
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE
Initial Conditions	
with { the IUT has no Mapping containing service set to "urn:some:unknown:service" }	
Expected Behaviour	
ensure that { when { the IUT receives a request FindServiceRequest containing service set to "urn:some:unknown:service" } then { the IUT sends a response ErrorResponse containing errors indicating value "serviceNotImplemented" } }	

TP Id	TP_ECRF_LOST_BV_04
Test Objective	IUT successfully responds with an error response for an unrecognized location profile
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE
Initial Conditions	
with { the IUT has no Mapping containing service set to "urn:some:unknown:service" }	
Expected Behaviour	
ensure that { when { the IUT receives a request FindServiceRequest containing profile set to "someUnknownProfile" } then { the IUT sends a response ErrorResponse containing errors indicating value "locationProfileUnrecognized" } }	

TP Id	TP_ECRF_LOST_BV_05
Test Objective	IUT successfully includes the service boundary by value
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE and PICS_ECRF_GEOMETRY_POINT
Initial Conditions	
with { the IUT has a mapping PX_POLICE_G1 }	
Expected Behaviour	
ensure that { when { the IUT receives a request FindServiceRequest containing service corresponding to POLICE, location corresponding to PX_POINT_IN_G1, serviceBoundary set to "value" } then { the IUT sends a response FindServiceResponse containing service corresponding to POLICE, uri corresponding to URI_POLICE_G1, geometry corresponding to PX_G1 } }	

TP Id	TP_ECRF_LOST_BV_06
Test Objective	IUT successfully responds with the service URI for intersecting Circle
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE and PICS_ECRF_GEOMETRY_CIRCLE
Initial Conditions	
with { the IUT has a mapping PX_POLICE_G1 }	
Expected Behaviour	
ensure that { when { the IUT receives a request FindServiceRequest containing service corresponding to POLICE, location corresponding to PX_CIRCLE_INTERSECT_ONLY_G1 } then { the IUT sends a response FindServiceResponse containing service corresponding to POLICE, uri corresponding to URI_POLICE_G1 } }	

TP Id	TP_ECRF_LOST_BV_07
Test Objective	IUT successfully responds with the service URI for Circle intersecting multiple service boundaries
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE and PICS_ECRF_GEOMETRY_CIRCLE
Initial Conditions	
with { the IUT has a mapping PX_POLICE_G1 and the IUT has a mapping PX_POINT_IN_G2 }	
Expected Behaviour	
ensure that { when { the IUT receives a request FindServiceRequest containing service corresponding to POLICE, location corresponding to PX_CIRCLE_INTERSECT_MAINLY_G1_AND_G2 } then { the IUT sends a response FindServiceResponse containing service corresponding to POLICE, uri corresponding to URI_POLICE_G1 } }	

TP Id	TP_ECRF_LOST_BV_08
Test Objective	IUT successfully responds with the service URI for Circle a boundary with multiple services
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE and PICS_ECRF_GEOMETRY_CIRCLE
Initial Conditions	
with { the IUT has a mapping PX_POLICE_G1 and the IUT has a mapping PX_FIRE_G1 }	
Expected Behaviour	
ensure that { when { the IUT receives a request FindServiceRequest containing service corresponding to FIRE, location corresponding to PX_CIRCLE_IN_G1 } then { the IUT sends a response FindServiceResponse containing service corresponding to FIRE, uri corresponding to URI_FIRE_G1 } }	

TP Id	TP_ECRF_LOST_BV_09
Test Objective	IUT successfully responds with configured service types for a ListServices request
Reference	ETSI TS 103 479 [1], clause 6.4.3 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_LIST_SERVICES
Expected Behaviour	
<pre> ensure that { when { the IUT receives a request ListServicesRequest containing service set to "urn:service:sos" } then { the IUT sends a response ListServicesResponse containing services corresponding to PX_CONFIGURED_SERVICES } } </pre>	

TP Id	TP_ECRF_LOST_BV_10
Test Objective	IUT successfully responds with configured service types for a ListServicesByLocation request
Reference	ETSI TS 103 479 [1], clause 6.4.3 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_LIST_SERVICES_BY_LOCATION
Initial Conditions	
<pre> with { the IUT has a mapping PX_POLICE_G1 and the IUT has a mapping PX_FIRE_G1 } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a request ListServicesByLocationRequest containing location corresponding to PX_POINT_IN_G1, service set to "urn:service:sos" } then { the IUT sends a response ListServicesByLocationResponse containing serviceList carrying POLICE, serviceList carrying FIRE } } </pre>	

TP Id	TP_ECRF_LOST_BV_11
Test Objective	IUT successfully responds with configured service types for a ListServices request without service element
Reference	ETSI TS 103 479 [1], clause 6.4.3 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_LIST_SERVICES
Expected Behaviour	
<pre> ensure that { when { the IUT receives a request ListServicesRequest } then { the IUT sends a response ListServicesResponse containing services corresponding to PX_CONFIGURED_SERVICES } } </pre>	

TP Id	TP_ECRF_LOST_BV_12
Test Objective	IUT successfully responds with configured service types for a ListServicesByLocation request without service
Reference	ETSI TS 103 479 [1], clause 6.4.3 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_LIST_SERVICES_BY_LOCATION
Initial Conditions	
with { the IUT has a mapping PX_POLICE_G1 and the IUT has a mapping PX_FIRE_G1 }	
Expected Behaviour	
ensure that { when { the IUT receives a request ListServicesByLocationRequest containing location corresponding to PX_POINT_IN_G1, not service } then { the IUT sends a response ListServicesByLocationResponse containing serviceList carrying POLICE, serviceList carrying FIRE } }	

TP Id	TP_ECRF_LOST_BV_13
Test Objective	IUT successfully responds with a service URI for an ellipse in the service boundary
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE and PICS_ECRF_GEOMETRY_ELLIPSE
Initial Conditions	
with { the IUT has a mapping PX_POLICE_G1 }	
Expected Behaviour	
ensure that { when { the IUT receives a request FindServiceRequest containing service corresponding to POLICE, location corresponding to PX_ELLIPSE_IN_G1 } then { the IUT sends a response FindServiceResponse containing service corresponding to POLICE, uri corresponding to URI_POLICE_G1 } }	

TP Id	TP_ECRF_LOST_BV_14
Test Objective	IUT successfully responds with a service URI for an arcband in the service boundary
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE and PICS_ECRF_GEOMETRY_ARCBAND
Initial Conditions	
with { the IUT has a mapping PX_POLICE_G1 }	
Expected Behaviour	
ensure that { when { the IUT receives a request FindServiceRequest containing service corresponding to POLICE, location corresponding to PX_ARCBAND_IN_G1 } then { the IUT sends a response FindServiceResponse containing service corresponding to POLICE, uri corresponding to URI_POLICE_G1 } }	

TP Id	TP_ECRF_LOST_BV_15
Test Objective	IUT successfully responds with a service URI for an polygon in the service boundary
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE and PICS_ECRF_GEOMETRY_POLYGON
Initial Conditions	
with { the IUT has a mapping PX_POLICE_G1 }	
Expected Behaviour	
ensure that { when { the IUT receives a request FindServiceRequest containing service corresponding to POLICE, location corresponding to PX_POLYGON_IN_G1 } then { the IUT sends a response FindServiceResponse containing service corresponding to POLICE, uri corresponding to URI_POLICE_G1 } }	

TP Id	TP_ECRF_LOST_BV_16
Test Objective	IUT responds with redirect response for a findServiceRequest
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE and PICS_ECRF_GEOMETRY_POINT and PICS_ECRF_REDIRECT
Initial Conditions	
with { <div style="margin-left: 40px;">the IUT has no typed mapping Mapping containing <div style="margin-left: 40px;">geometry set to PX_G3</div> </div>	

TP Id	TP_ECRF_LOST_BV_17
Test Objective	IUT responds with redirect response for a listServiceByLocation
Reference	ETSI TS 103 479 [1], clause 6.4.3 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_LIST_SERVICES_BY_LOCATION and PICS_ECRF_GEOMETRY_POINT and PICS_ECRF_REDIRECT
Initial Conditions	
with { <div style="margin-left: 40px;">the IUT has no typed mapping Mapping containing <div style="margin-left: 40px;">geometry set to PX_G3</div> </div>	

TP Id	TP_ECRF_LOST_BV_18
Test Objective	IUT responds with redirect response for a findServiceRequest with recursive set to false
Reference	ETSI TS 103 479 [1], clause 6.4.3 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE and PICS_ECRF_GEOMETRY_POINT and PICS_ECRF_REDIRECT and PICS_ECRF_RECURSION
Initial Conditions	
with { <div style="margin-left: 40px;">the IUT has no typed mapping Mapping containing <div style="margin-left: 40px;">geometry set to PX_G3</div> </div>	

TP Id	TP_ECRF_LOST_BV_19
Test Objective	IUT responds with redirect response for a listServiceByLocation with recursive set to false
Reference	ETSI TS 103 479 [1], clause 6.4.3 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_LIST_SERVICES_BY_LOCATION and PICS_ECRF_GEOMETRY_POINT and PICS_ECRF_REDIRECT and PICS_ECRF_RECURSION
Initial Conditions	
with { <div style="margin-left: 40px;">the IUT has no typed mapping Mapping containing <div style="margin-left: 40px;">geometry set to PX_G3</div> </div>	

7.2.3.2 Errors

TP Id	TP_ECRF_LOST_BI_01
Test Objective	IUT responds to a findServiceRequest with an loop error response
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE and PICS_ECRF_LOOP_DETECTION
Expected Behaviour	
<pre> ensure that { when { the IUT receives a request FindServiceRequest containing path carrying PX_IUT_NAPTR } then { the IUT sends a response ErrorResponse containing errors indicating value "loop" } } </pre>	

TP Id	TP_ECRF_LOST_BI_02
Test Objective	IUT responds to a listServiceByLocation with an loop error response
Reference	ETSI TS 103 479 [1], clause 6.4.3 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_LIST_SERVICES_BY_LOCATION and PICS_ECRF_LOOP_DETECTION
Expected Behaviour	
<pre> ensure that { when { the IUT receives a request ListServicesByLocationRequest containing path carrying PX_IUT_NAPTR } then { the IUT sends a response ErrorResponse containing errors indicating value "loop" } } </pre>	

TP Id	TP_ECRF_LOST_BI_03
Test Objective	IUT responds to an invalid findService with an badRequest error response
Reference	ETSI TS 103 479 [1], clause 6.4.1 EENA Next Generation 112 LTD [i.3], clause 4.4 IETF RFC 5222 [5]
PICS Selection	PICS_ECRF_FIND_SERVICE
Expected Behaviour	
<pre> ensure that { when { the IUT receives a request InvalidRequest } then { the IUT sends a response ErrorResponse containing errors indicating value "badRequest" } } </pre>	

7.2.3.3 Subscriptions/Notifications

TP Id	TP_ECRF_SIP_BV_01
Test Objective	IUT responds to SIP Subscribe for Element State with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.3.4 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_ELEMENT_STATE
Expected Behaviour	
<pre> ensure that { when { the IUT receives a SubscribeRequest containing "event" set to "emergency-ElementState" } then { the IUT sends an OkResponse and the IUT sends a Notify containing ElementState containing state corresponding to normal } } </pre>	

TP Id	TP_ECRF_SIP_BV_02
Test Objective	IUT responds to SIP Unsubscribe with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.3.4 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_ELEMENT_STATE
Initial Conditions	
<pre> with { the IUT receives a SubscribeRequest containing "event" set to "emergency-ElementState" and the IUT sends an OkResponse and the IUT sends a Notify } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a UnsubscribeRequest containing "event" set to "emergency-ElementState" } then { the IUT sends an OkResponse and the IUT sends a Notify } } </pre>	

TP Id	TP_ECRF_SIP_BV_03
Test Objective	IUT responds to SIP Subscribe for SecurityPosture with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.3.3 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_SECURITY_POSTURE
Expected Behaviour	
<pre> ensure that { when { the IUT receives a SubscribeRequest containing "event" set to "emergency-SecurityPosture" } then { the IUT sends an OkResponse and the IUT sends a Notify containing SecurityPosture containing posture corresponding to green } } </pre>	

TP Id	TP_ECRF_SIP_BV_04
Test Objective	IUT responds to SIP Unsubscribe with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.3.3 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_SECURITY_POSTURE
Initial Conditions	
<pre> with { the IUT receives a SubscribeRequest containing "event" set to "emergency-SecurityPosture" and the IUT sends an OkResponse and the IUT sends a Notify } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a UnsubscribeRequest containing "event" set to "emergency-SecurityPosture" } then { the IUT sends an OkResponse and the IUT sends a Notify } } </pre>	

TP Id	TP_ECRF_SIP_BV_05
Test Objective	IUT responds to SIP Subscribe for ServiceState with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.3.5 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_SERVICE_STATE
Expected Behaviour	
<pre> ensure that { when { the IUT receives a SubscribeRequest containing "event" set to "emergency-ServiceState" } then { the IUT sends an OkResponse and the IUT sends a Notify containing ServiceState containing state corresponding to normal } } </pre>	

TP Id	TP_ECRF_SIP_BV_06
Test Objective	IUT responds to SIP Unsubscribe with an 200 OK
Reference	ETSI TS 103 479 [1], clause 6.3.5 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_SIP_SUBSCRIPTION_SERVICE_STATE
Initial Conditions	
<pre> with { the IUT receives a SubscribeRequest containing "event" set to "emergency-ServiceState" and the IUT sends an OkResponse and the IUT sends a Notify } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a UnsubscribeRequest containing "event" set to "emergency-ServiceState" } then { the IUT sends an OkResponse and the IUT sends a Notify } } </pre>	

7.2.3.4 Security

TP Id	TP_ECRF_TLS_BI_01
Test Objective	IUT rejects requests without a certificate
Reference	ETSI TS 103 479 [1], clause 6.4.1.4 EENA Next Generation 112 LTD [i.32], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_ECRF_TLS_AUTHENTICATION
Expected Behaviour	
<pre> ensure that { when { the IUT receives any FindServiceRequest containing not certificate } then { the IUT rejects the Connection } } </pre>	

TP Id	TP_ECRF_TLS_BI_02
Test Objective	IUT rejects SIP requests without a certificate
Reference	ETSI TS 103 479 [1], clause 6.4.1.4 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_ECRF_TLS_AUTHENTICATION
Expected Behaviour	
<pre> ensure that { when { the IUT receives any SubscribeRequest containing not certificate } then { the IUT rejects the Connection } } </pre>	

7.2.4 PSAP

7.2.4.1 Invite

TP Id	TP_PSAP_SIP_INVITE_BV_01
Test Objective	IUT successfully handles SIP INVITE with different service urn and ULAW via UDP, with no SIP registration
Reference	ETSI TS 103 479 [1], clauses 5.4, 6.1.1 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_UDP1 and PICS_PSAP_E_SIP_URN3 and PICS_PSAP_B_SDP_ULA1 and PICS_PSAP_S_SIP_NO_REGISTRATION
Initial Conditions	
<pre> with { the IUT acceptingIncomingCalls } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a SIP_INVITE containing Request_URI indicating value PX_PSAP_SERVICE_URN, Content_Type indicating value "application/sdp", Body containing SDP_ULAW } then { the IUT establishesIncomingCall } } </pre>	

TP Id	TP_PSAP_SIP_INVITE_BV_02
Test Objective	IUT successfully handles SIP INVITE with different service urn and ULAW via UDP, with SIP registration
Reference	ETSI TS 103 479 [1], clauses 5.4, 6.1.1 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_UDP1 and PICS_PSAP_E_SIP_URN3 and PICS_PSAP_B_SDP_ULA1 and PICS_PSAP_S_SIP_REGISTRATION
Initial Conditions	
with { the IUT isRegistered to the ESRP and the IUT acceptingIncomingCalls }	
Expected Behaviour	
ensure that { when { the IUT receives a SIP_INVITE containing Request_URI indicating value PX_PSAP_SERVICE_URN, Content_Type indicating value "application/sdp", Body containing SDP_ULAW } then { the IUT establishesIncomingCall } }	

TP Id	TP_PSAP_SIP_INVITE_BV_03
Test Objective	IUT successfully handles SIP INVITE with different service urn and ALAW via UDP, with no SIP registration
Reference	ETSI TS 103 479 [1], clauses 5.4, 6.1.1 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_UDP1 and PICS_PSAP_E_SIP_URN3 and PICS_PSAP_B_SDP_ALA1 and PICS_PSAP_S_SIP_NO_REGISTRATION
Initial Conditions	
with { the IUT acceptingIncomingCalls }	
Expected Behaviour	
ensure that { when { the IUT receives a SIP_INVITE containing Request_URI indicating value PX_PSAP_SERVICE_URN, Content_Type indicating value "application/sdp", Body containing SDP_ALAW } then { the IUT establishesIncomingCall } }	

TP Id	TP_PSAP_SIP_INVITE_BV_04
Test Objective	IUT successfully handles SIP INVITE with different service urn and ALAW via UDP, with SIP registration
Reference	ETSI TS 103 479 [1], clauses 5.4, 6.1.1 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_UDP1 and PICS_PSAP_E_SIP_URN3 and PICS_PSAP_B_SDP_ALA1 and PICS_PSAP_S_SIP_REGISTRATION
Initial Conditions	
<pre>with { the IUT isRegistered to the ESRP and the IUT acceptingIncomingCalls }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives a SIP_INVITE containing Request_URI indicating value PX_PSAP_SERVICE_URN, Content_Type indicating value "application/sdp", Body containing SDP_ALAW } then { the IUT establishesIncomingCall } }</pre>	

TP Id	TP_PSAP_SIP_INVITE_BV_05
Test Objective	IUT successfully handles SIP INVITE with different service urn via TCP
Reference	ETSI TS 103 479 [1], clauses 5.4, 6.1.1 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_TCP1 and PICS_PSAP_E_SIP_URN3 and PICS_PSAP_B_SDP_ULA1 and PICS_PSAP_S_SIP_NO_REGISTRATION
Initial Conditions	
<pre>with { the IUT acceptingIncomingCalls }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives a SIP_INVITE containing Request_URI indicating value PX_PSAP_SERVICE_URN, Content_Type indicating value "application/sdp", Body containing SDP_ULAW } then { the IUT establishesIncomingCall } }</pre>	

TP Id	TP_PSAP_SIP_INVITE_BV_06
Test Objective	IUT successfully handles SIP INVITE with SDP and PIDF-LO content
Reference	ETSI TS 103 479 [1], clauses 5.4, 6.1.1 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_TCP1 and PICS_PSAP_E_SIP_URN1 and PICS_PSAP_B_SDP_ULA1 and PICS_PSAP_S_SIP_NO_REGISTRATION
Initial Conditions	
with { the IUT acceptingIncomingCalls }	
Expected Behaviour	
ensure that { when { the IUT receives a SIP_INVITE containing Request_URI indicating value PX_PSAP_SERVICE_URN, Content_Type indicating value "multipart/mixed", Body containing SDP_AND_PIDF_MULTIPART } } then { the IUT establishesIncomingCall } }	

TP Id	TP_PSAP_SIP_INVITE_BV_07
Test Objective	IUT successfully handles SIP INVITE without service URN
Reference	ETSI TS 103 479 [1], clauses 5.4 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_UDP1 and PICS_PSAP_A_SIP_BSC1 and PICS_PSAP_B_SDP_ULA1 and PICS_PSAP_S_SIP_NO_REGISTRATION
Initial Conditions	
with { the IUT acceptingIncomingCalls }	
Expected Behaviour	
ensure that { when { the IUT receives a 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 } }	

TP Id	TP_PSAP_SIP_INVITE_BV_08
Test Objective	IUT successfully handles SIP INVITE with Geolocation header
Reference	ETSI TS 103 479 [1], clauses 5.4, 6.1.1 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7] IETF RFC 6442 [10]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_UDP1 and PICS_PSAP_E_SIP_URN3 and PICS_PSAP_B_SDP_ULA1 and PICS_PSAP_S_SIP_REGISTRATION
Initial Conditions	
<pre>with { the IUT isRegistered to the ESRP and the IUT acceptingIncomingCalls }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT receives a SIP_INVITE containing Request_URI indicating value PX_PSAP_SERVICE_URN, Geolocation indicating value PX_GEOLOCATION, Content_Type indicating value "multipart/mixed", Body containing SDP_AND_PIDF_MULTIPART } then { the IUT establishesIncomingCall } }</pre>	

7.2.4.2 Ack

TP Id	TP_PSAP_SIP_ACK_BV_01
Test Objective	IUT after sending 200 OK INVITE successfully handles an incoming SIP ACK to accept the emergency call
Reference	ETSI TS 103 479 [1], clauses 5.4, 6.1.1 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_UDP1 and PICS_PSAP_E_SIP_URN3 and PICS_PSAP_S_SIP_REGISTRATION
Initial Conditions	
<pre>with { the IUT isRegistered to the ESRP and the IUT acceptingIncomingCalls }</pre>	
Expected Behaviour	
<pre>ensure that { when { the IUT sends a SIP_200OK_INVITE } then { the IUT receives a SIP_ACK and the IUT establishesIncomingCall } }</pre>	

7.2.4.3 Bye

TP Id	TP_PSAP_SIP_BYE_BV_01
Test Objective	IUT successfully handles an incoming SIP BYE
Reference	ETSI TS 103 479 [1], clauses 5.4 and 6.1.2.2 ETSI TS 103 698 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_BYE1 and PICS_PSAP_S_SIP_TCP1 and PICS_PSAP_E_SIP_URN1 and PICS_PSAP_B_SDP_ULA1 and PICS_PSAP_S_SIP_NO_REGISTRATION
Initial Conditions	
with { the IUT inAnActiveIncomingCall }	
Expected Behaviour	
ensure that { when { the IUT receives a SIP_BYE } then { the IUT sends a SIP_200OK_BYE } }	

TP Id	TP_PSAP_SIP_BYE_BV_02
Test Objective	IUT successfully trigger SIP BYE and accepts 200 OK response
Reference	ETSI TS 103 479 [1], clauses 5.4 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_BYE1 and PICS_PSAP_S_SIP_TCP1 and PICS_PSAP_E_SIP_URN1 and PICS_PSAP_B_SDP_ULA1
Initial Conditions	
with { the IUT inAnActiveIncomingCall }	
Expected Behaviour	
ensure that { when { the IUT sends a SIP_BYE } then { the IUT receives a SIP_200OK_BYE } }	

7.2.4.4 Message

TP Id	TP_PSAP_SIP_MESSAGE_BV_01
Test Objective	IUT successfully handles an incoming SIP MESSAGE
Reference	ETSI TS 103 479 [1], clauses 5.4 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_M_SIP_URN1 and PICS_PSAP_S_SIP_REGISTRATION
Initial Conditions	
with { the IUT acceptingIM }	
Expected Behaviour	
ensure that { when { the IUT receives a SIP_MESSAGE containing Request_URI indicating value PX_PSAP_SERVICE_URN } then { the IUT sends a SIP_200OK_MESSAGE } }	

TP Id	TP_PSAP_SIP_MESSAGE_BV_02
Test Objective	IUT successfully handles an incoming SIP MESSAGE with Call-info and Geolocation header fields
Reference	ETSI TS 103 479 [1], clauses 5.4, 6.1.2.2 and 6.1.2.3 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_E_SIP_URN2 and PICS_PSAP_S_SIP_REGISTRATION
Initial Conditions	
with { the IUT acceptingIM }	
Expected Behaviour	
ensure that { when { the IUT receives a SIP_MESSAGE containing Request_URI indicating value PX_PSAP_SERVICE_URN, Geolocation indicating value PX_GEOLOCATION, Call_Info indicating value PX_CALL_INFO } then { the IUT sends a SIP_200OK_MESSAGE } }	

7.2.4.5 Options

TP Id	TP_PSAP_SIP_OPTIONS_BV_01
Test Objective	IUT successfully handles an incoming SIP OPTIONS
Reference	ETSI TS 103 479 [1], clauses 5.4 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_OPT1 and PICS_PSAP_S_SIP_NO_REGISTRATION
Initial Conditions	
with { the IUT isDisconnected }	
Expected Behaviour	
ensure that { when { the IUT receives a SIP_OPTIONS } then { the IUT sends a SIP_200OK_OPTIONS } }	

7.2.4.6 Cancel

TP Id	TP_PSAP_SIP_CANCEL_BV_01
Test Objective	Check that IUT successfully handles an incoming SIP CANCEL, release the call with 200 OK CANCEL and 487
Reference	ETSI TS 103 479 [1], clauses 5.4 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_UDP1 and PICS_PSAP_A_SIP_BSC1 and PICS_PSAP_B_SDP_ULA1
Initial Conditions	
with { the IUT acceptingIncomingCalls }	
Expected Behaviour	
ensure that { when { the IUT receives a SIP_CANCEL } then { the IUT sends a SIP_200OK_CANCEL and the IUT sends a SIP_487_INVITE } }	

7.2.4.7 Info

TP Id	TP_PSAP_SIP_INFO_BV_01
Test Objective	IUT successfully handles an incoming SIP INFO
Reference	ETSI TS 103 479 [1], clauses 5.4 and 6.1.2.2 Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_01
PICS Selection	PICS_PSAP_S_SIP_TCP1 and PICS_PSAP_E_SIP_URN1 and PICS_PSAP_B_SDP_ULA1
Initial Conditions	
with { the IUT inAnActiveIncomingCall }	
Expected Behaviour	
ensure that { when { the IUT receives a SIP_INFO } then { the IUT sends a SIP_200OK_INFO } }	

7.2.4.8 Dequeue registration/deregistration

TP Id	TP_PSAP_HTTP_DEQUEUE_REGISTRATION_BV_01
Test Objective	Check that the IUT registers properly to an ESRP Dequeue
Reference	ETSI TS 103 479 [1], clauses 5.2.4 and 6.2.1 ETSI TS 103 698 [11] Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_03
PICS Selection	PICS_PSAP_S_HTTP_DEQUEUE_REGISTRATION
Initial Conditions	
with { the IUT isDisconnected }	
Expected Behaviour	
ensure that { when { the IUT isRequestedtoConnect } then { the IUT sends a GET containing Uri indicating value "/dqregrequest", Content_type indicating value "application/json", Body containing JsonMessage containing DequeueRegistrationQueueUri indicating value PX_PSAP_DQ_SIP_URL, DequeueRegistrationDequeuer indicating value PX_PSAP_DQR_SIP_URL, DequeueRegistrationExpirationTime indicating value PX_PSAP_DQ_EXPIRY_TIME to a ESRP and the IUT receives a SIP_SUBSCRIBE containing To indicating value "{PSAP SIP URI}", From indicating value "{ESRP SIP URI}", Body containing JsonMessage containing DequeueRegistrationQueueUri indicating value PX_PSAP_DQ_SIP_URL, DequeueRegistrationDequeuer indicating value PX_PSAP_DQR_SIP_URL, DequeueRegistrationExpirationTime indicating value PX_PSAP_DQ_EXPIRY_TIME from a ESRP and the IUT sends a SIP_NOTIFY containing To indicating value "{ESRP SIP URI}",	

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    From indicating value "{PSAP SIP URI}",
    Body containing
      JsonMessage containing
        DequeueRegistrationQueueUri indicating value PX_PSAP_DQ_SIP_URL,
        DequeueRegistrationDequeueer indicating value PX_PSAP_DQR_SIP_URL,
        DequeueRegistrationExpirationTime indicating value PX_PSAP_DQ_EXPIRY_TIME

    to the ESRP entity
  }
}

```

TP Id	TP_PSAP_HTTP_DEQUEUE_REGISTRATION_BV_02
Test Objective	Check that the IUT accepts incoming calls after having registered to an ESRP Dequeue
Reference	ETSI TS 103 479 [1], clauses 5.2.4 and 6.2.1 ETSI TS 103 698 [11] Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_02
PICS Selection	PICS_PSAP_S_HTTP_DEQUEUE_REGISTRATION
Initial Conditions	
with { the IUT isConnected and the IUT isRegistered }	
Expected Behaviour	
ensure that { when { the IUT receives a SIP_INVITE containing Request_URI indicating value PX_PSAP_SERVICE_URN, Content_Type indicating value "application/sdp" } then { the IUT establishesIncomingCall } }	

TP Id	TP_PSAP_HTTP_DEQUEUE_REGISTRATION_BV_03
Test Objective	Check that the IUT deregisters properly from an ESRP Dequeue
Reference	ETSI TS 103 479 [1], clauses 5.2.4 and 6.2.1.2 ETSI TS 103 698 [11] Next Generation 112 LTD [i.3], clause 4.7 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_03
PICS Selection	PICS_PSAP_S_HTTP_DEQUEUE_REGISTRATION
Initial Conditions	
with { the IUT isConnected }	

Expected Behaviour
<pre> ensure that { when { the IUT isRequestedtoDisconnect } then { the IUT sends a GET containing Uri indicating value "/dqregrequest", Content_type indicating value "application/json", Body containing JsonMessage containing DequeueRegistrationQueueUri indicating value PX_PSAP_DQ_SIP_URL, DequeueRegistrationDequeueer indicating value PX_PSAP_DQR_SIP_URL, DequeueRegistrationExpirationTime indicating value "0" to the ESRP entity } } </pre>

7.2.4.9 HELD

TP Id	TP_PSAP_HELD_BV_01
Test Objective	Check that the IUT sends an HTTP/HELD request when the IUT is requested to get location information
Reference	ETSI TS 103 479 [1], clause 6.5 ETSI TS 103 698 [11] Next Generation 112 LTD [i.3], clause 4.7.3 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_03
PICS Selection	PICS_PSAP_S_HTTP_HELD
Initial Conditions	
<pre> with { the IUT isConnected and the IUT isRegistered } </pre>	
Expected Behaviour	
<pre> ensure that { when { the IUT isRequestedToGetLocationInfo } then { the IUT sends an 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", locationRequest containing namespace indicating value "urn:ietf:params:xml:ns:geopriv:held" device containing uri indicating value DEVICE_NUMBER_POINT to the LIS entity } } </pre>	

7.2.4.10 LoST

TP Id	TP_PSAP_LOST_BV_01
Test Objective	Check that the IUT sends an HTTP/LOST request when the IUT is requested to get route emergency call
Reference	ETSI TS 103 479 [1], clause 6.4 ETSI TS 103 698 [11] Next Generation 112 LTD [i.3], clause 4.7.2 IETF RFC 3261 [6] IETF RFC 5301 [7]
Configuration	CFG_PSAP_03
PICS Selection	PICS_PSAP_S_HTTP_LOST
Initial Conditions	
with { the IUT isConnected and the IUT isRegistered }	
Expected Behaviour	
<pre> ensure that { when { the IUT isRequestedToGetRouteEmergencyCalls } then { the IUT sends an 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", findService containing namespace indicating value "urn:ietf:params:xml:ns:lost1", location containing profile indicating value "geodetic-2d", id indicating value LOCATION_ID, Point containing namespace indicating value "http://www.opengis.net/gml", srsName indicating value "urn:ogc:def:crs:EPSG::4326", pos indicating value POINT_IN_E_POLICE_SERVICE_BOUNDARY , service indicating value E_POLICE_SERVICE_URN to the ECRF entity } } } </pre>	

7.2.4.11 Security

TP Id	TP_PSAP_TLS_BI_01
Test Objective	IUT rejects requests without a certificate
Reference	ETSI TS 103 479 [1], clause 6.1.1 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_PSAP_TLS_AUTHENTICATION
Initial Conditions	
with { the IUT isDisconnected }	
Expected Behaviour	
ensure that { when { the IUT receives any SIP_REQUEST containing not certificate } then { the IUT rejects the Connection } }	

7.2.5 BCF

7.2.5.1 Invite

TP Id	TP_BCF_SIP_INVITE_BV_01
Test Objective	IUT forwards well-formated INVITE to PSAP
Reference	ETSI TS 103 479 [1], clause 5.1 ETSI TS 103 698 [11], clause 5.1.1 EENA Next Generation 112 LTD [i.3], clause 4.2
Configuration	CFG_BCF_01
PICS Selection	PICS_BCF_S_SIP_TCP1
Initial Conditions	
with { the IUT acceptingIncomingCalls }	
Expected Behaviour	
ensure that { when { the IUT receives a TCP SIP_INVITE containing Request_URI indicating value PX_BCF_SERVICE_URN, Content_Type indicating value "application/sdp" } then { the IUT sends a TCP SIP INVITE containing Request_URI indicating value PX_BCF_REQUEST_URI, Content_Type indicating value "application/sdp" } }	

TP Id	TP_BCF_SIP_INVITE_BV_02
Test Objective	IUT adds EES-source to the INVITE Via header
Reference	EENA Next Generation 112 LTD [i.3], clauses 4.2 and 4.2.2
Configuration	CFG_BCF_01
PICS Selection	PICS_BCF_S_SIP_TCP1
Initial Conditions	
with { the IUT acceptingIncomingCalls }	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a TCP SIP_INVITE containing Request_URI indicating value PX_BCF_SERVICE_URN, Content_Type indicating value "application/sdp" } then { the IUT sends a TCP SIP_INVITE containing Request_URI indicating value PX_BCF_REQUEST_URI, Content_Type indicating value "application/sdp", Via indicating value "PX_IMS_SUT_BCF_IPADDR or PX_IMS_SUT_BCF_HOME_DOMAIN and PX_IMS_SUT_BCF_PORT" to the PSAP entity } } </pre>	

TP Id	TP_BCF_SIP_INVITE_BV_03
Test Objective	IUT adds Incident Tracking ID within Call-Info header to the INVITE message.
Reference	ETSI TS 103 479 [1], clauses 5.1.1 and 6.1.2.7 ETSI TS 103 698 [11], clause 5.1.1
Configuration	CFG_BCF_01
PICS Selection	PICS_BCF_S_SIP_TCP1 and PICS_BCF_M_SIP_CALL_INFO
Initial Conditions	
with { the IUT acceptingIncomingCalls }	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a TCP SIP_INVITE containing Request_URI indicating value PX_BCF_SERVICE_URN, Content_Type indicating value "application/sdp" } then { the IUT sends a TCP SIP_INVITE containing Request_URI indicating value PX_BCF_REQUEST_URI, Content_Type indicating value "application/sdp", Call_Info indicating value PX_CALL_INFO_INCIDENT_TRACKING_ID to the PSAP entity } } </pre>	

TP Id	TP_BCF_SIP_INVITE_BV_04
Test Objective	IUT adds Call ID within Call-Info header to the INVITE message.
Reference	ETSI TS 103 479 [1], clauses 5.1.1 and 6.1.2.7 ETSI TS 103 698 [11], clauses 5.1.1 and 6.1.2.7
Configuration	CFG_BCF_01
PICS Selection	PICS_BCF_S_SIP_TCP1 and PICS_BCF_M_SIP_CALL_INFO
Initial Conditions	
with { the IUT acceptingIncomingCalls }	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a TCP SIP_INVITE containing Request_URI indicating value PX_BCF_SERVICE_URN, Content_Type indicating value "application/sdp" } then { the IUT sends a TCP SIP_INVITE containing Request_URI indicating value PX_BCF_REQUEST_URI, Content_Type indicating value "application/sdp", Call_Info indicating value PX_CALL_INFO_CALL_ID } to the PSAP entity } </pre>	

TP Id	TP_BCF_SIP_INVITE_BV_05
Test Objective	IUT adds Source ID within Call-Info header to the INVITE message.
Reference	ETSI TS 103 479 [1], clauses 5.1.1 and 6.1.2.7 ETSI TS 103 698 [11], clause 5.1.1
Configuration	CFG_BCF_01
PICS Selection	PICS_BCF_S_SIP_TCP1 and PICS_BCF_M_SIP_CALL_INFO
Initial Conditions	
with { the IUT acceptingIncomingCalls }	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a TCP SIP_INVITE containing Request_URI indicating value PX_BCF_SERVICE_URN, Content_Type indicating value "application/sdp" } then { the IUT sends a TCP SIP_INVITE containing Request_URI indicating value PX_BCF_REQUEST_URI, Content_Type indicating value "application/sdp", Call_Info indicating value PX_CALL_INFO_SOURCE_ID } to the PSAP entity } </pre>	

7.2.5.2 Message

TP Id	TP_BCF_SIP_MESSAGE_BV_01
Test Objective	IUT forwards well-formated MESSAGE to PSAP
Reference	ETSI TS 103 479 [1], clause 5.1 ETSI TS 103 698 [11], clause 5.1.1 EENA Next Generation 112 LTD [i.3], clause 4.2
Configuration	CFG_BCF_01
PICS Selection	PICS_BCF_S_SIP_TCP1
Initial Conditions	
with { the IUT acceptingIM }	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a TCP SIP_MESSAGE containing Request_URI indicating value PX_BCF_SERVICE_URN, Content_Type indicating value "text/plain" } then { the IUT sends a TCP SIP MESSAGE containing Request_URI indicating value PX_BCF_REQUEST_URI, Content_Type indicating value "text/plain" } } </pre>	

TP Id	TP_BCF_SIP_MESSAGE_BV_02
Test Objective	IUT adds EES-source to the MESSAGE Via header.
Reference	EENA Next Generation 112 LTD [i.3], clauses 4.2 and 4.2.2
Configuration	CFG_BCF_01
PICS Selection	PICS_BCF_S_SIP_TCP1
Initial Conditions	
with { the IUT acceptingIM }	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a TCP SIP_MESSAGE containing Request_URI indicating value PX_BCF_SERVICE_URN, Content_Type indicating value "text/plain" } then { the IUT sends a TCP SIP_MESSAGE containing Request_URI indicating value PX_BCF_REQUEST_URI, Content_Type indicating value "text/plain", Via indicating value "PX_IMS_SUT_BCF_IPADDR or PX_IMS_SUT_BCF_HOME_DOMAIN and PX_IMS_SUT_BCF_PORT" to the PSAP entity } } </pre>	

TP Id	TP_BCF_SIP_MESSAGE_BV_03
Test Objective	IUT adds Incident Tracking ID within Call-Info header to the MESSAGE message.
Reference	ETSI TS 103 479 [1], clauses 5.1.1 and 6.1.2.7 ETSI TS 103 698 [11], clause 5.1.1
Configuration	CFG_BCF_01
PICS Selection	PICS_BCF_S_SIP_TCP1 and PICS_BCF_M_SIP_CALL_INFO
Initial Conditions	
with { the IUT acceptingIM }	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a TCP SIP_MESSAGE containing Request_URI indicating value PX_BCF_SERVICE_URN, Content_Type indicating value "text/plain" } then { the IUT sends a TCP SIP_MESSAGE containing Request_URI indicating value PX_BCF_REQUEST_URI, Content_Type indicating value "text/plain", Call_Info indicating value PX_CALL_INFO_INCIDENT_TRACKING_ID } to the PSAP entity } </pre>	

TP Id	TP_BCF_SIP_MESSAGE_BV_04
Test Objective	IUT adds Call ID within Call-Info header to the MESSAGE message.
Reference	ETSI TS 103 479 [1], clauses 5.1.1 and 6.1.2.7 ETSI TS 103 698 [11], clauses 5.1.1 and 6.1.2.7
Configuration	CFG_BCF_01
PICS Selection	PICS_BCF_S_SIP_TCP1 and PICS_BCF_M_SIP_CALL_INFO
Initial Conditions	
with { the IUT acceptingIM }	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a TCP SIP_MESSAGE containing Request_URI indicating value PX_BCF_SERVICE_URN, Content_Type indicating value "text/plain" } then { the IUT sends a TCP SIP_MESSAGE containing Request_URI indicating value PX_BCF_REQUEST_URI, Content_Type indicating value "text/plain", Call_Info indicating value PX_CALL_INFO_CALL_ID } to the PSAP entity } </pre>	

TP Id	TP_BCF_SIP_MESSAGE_BV_05
Test Objective	IUT adds Source ID within Call-Info header to the MESSAGE message.
Reference	ETSI TS 103 479 [1], clauses 5.1.1 and 6.1.2.7 ETSI TS 103 698 [11], clause 5.1.1
Configuration	CFG_BCF_01
PICS Selection	PICS_BCF_S_SIP_TCP1 and PICS_BCF_M_SIP_CALL_INFO
Initial Conditions	
with { the IUT acceptingIM }	
Expected Behaviour	
<pre> ensure that { when { the IUT receives a TCP SIP_MESSAGE containing Request_URI indicating value PX_BCF_SERVICE_URN, Content_Type indicating value "text/plain" } then { the IUT sends a TCP SIP_MESSAGE containing Request_URI indicating value PX_BCF_REQUEST_URI, Content_Type indicating value "text/plain", Call_Info indicating value PX_CALL_INFO_SOURCE_ID } to the PSAP entity } </pre>	

7.2.5.3 Security

TP Id	TP_BCF_TLS_BI_01
Test Objective	IUT rejects requests without a certificate
Reference	ETSI TS 103 479 [1], clause 6.1.1 EENA Next Generation 112 LTD [i.3], clause 4.10 IETF RFC 5985 [3]
PICS Selection	PICS_BCF_TLS_AUTHENTICATION
Initial Conditions	
with { the IUT isDisconnected }	
Expected Behaviour	
<pre> ensure that { when { the IUT receives any SIP_REQUEST containing not certificate } then { the IUT rejects the Connection } } </pre>	

History

Document history		
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