

# Layered IMS Provisioning over CAI3G

## Ericsson Dynamic Activation 1

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### INTERFACE DESCRIPTION

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# 1 Introduction

This section is an introduction to this document. It contains information about the prerequisites, purpose, scope, and target group for the document. This section also contains explanations of typographic conventions used in this document.

## 1.1 Purpose and Scope

This document describes the supported operations or Customers Service Orders (CSOs) in the CAI3G interface, for provisioning of the IMS Subscription Manager (ISM) Module. This document also declares the types and occurrences of the attributes used in the operations.

This document is not a tutorial of CAI3G; it must be used together with *Generic CAI3G Interface 1.2*, Reference [2].

## 1.2 Target Group

The target group for this document is as follows:

- System Integrator

For more information about the different target groups, see *Library Overview*, Reference [3].

## 1.3 Typographic Conventions

Typographic conventions are described in *Library Overview*, Reference [3].

In addition, this document uses the following to indicate operations:

<b>C</b>	Create
<b>S</b>	Set
<b>G</b>	Get
<b>D</b>	Delete

## 1.4 Prerequisites

To use this document fully, users must meet the following prerequisites:

- Basic knowledge about the Ericsson™ Dynamic Activation (EDA) product

- Knowledge about *Generic CAI3G Interface 1.2*, Reference [2]

## 1.5 Namespaces

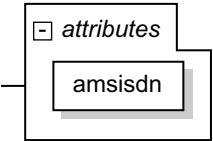

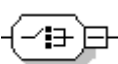
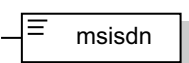
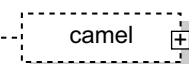
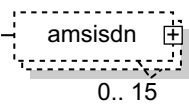

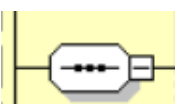
This document refers to the following namespaces:

- CAI3G 1.2 Namespace:  
`http://schemas.ericsson.com/cai3g1.2/`
- Provisioning Namespace:  
`http://schemas.ericsson.com/ma/HSS/`

## 1.6 Legends

The following table shows the legends used in XML schema figures in this specification.

*Table 1 Legends Used in XML Schema Figures in This Specification*

Legend	Description
	XML attribute
	Optional XML element
	Choice icon
	Mandatory XML element
	Structured element
	Subobject element The occurrence of this element is 0–15.
	User-defined type This is not a standard XML schema type. It is introduced to describe MO schema structure more clearly. In practice, this type is to be replaced by the corresponding elements.
	Sequence icon A list of elements, the sequence order must be followed.



## 1.7 Operations

One Managed Object (MO) with four operations are described in this document. See the following table for the commands and valid operations:

*Table 2 IMSAssociation Provisioning MOs*

MO	Operation			
	Create	Get	Set	Delete
IMSAssociation	x	x	x	x

## 1.8 Web Service Interface

The Web Services Definition Language (WSDL) and XML Schema Definition Language (XSD) files that describe the provisioning interface can be found in `/home/dveinstaller/ma/`. It is also possible to download the files and view or store them in an appropriate area by following below instruction:

1. Save the zip file, [Dynamic Activation WSDL and XSD files.zip](#), to a local folder.
2. Unpack the zip file.

## 1.9 MOType

MOType is a plain text string based on the type `xs:string`. An MO type consists of two parts. One is the namespace of the MO, and the other is the MO name string that is always starting with an alphabetical character in either upper or lower case, followed by zero or more alphabetical characters, digits or underscores.

Those two parts are connected with symbol @. The syntax of the MOType string is `MO_Name@MO_Namespace`. The name string of an MO type must follow the regular expression: `[A-Za-z][A-Za-z0-9]*`

The MO name together with the MO namespace must be globally unique.

## 1.10 MOId

MOId is an Extensible Markup Language (XML) fragment containing the MOId parameter-value pairs that are used to identify an MO instance in the interface data model. CAI3G 1.2 standard supports compound MO identifiers or multiple MO identifier. The following is an example of an MOId:



```
<MOId>
  <msisdn>46455395000</msisdn>
  <imsi>46234563545000</imsi>
</MOId>
```

### *Example 1 Example of MOId*

The MOId is defined as a sequence of `xs:any` element in CAI3G schema file. It is the developers responsibility to define the real schema for this parameter.

The MOId is also the key attributes that must be defined in the top-level element, `CreateMODefinition` or `SetMODefinition`, within `MOAttributes` parameter.

Each implementation of CAI3G interface is to define own logic relationship of MOId. It is also the CAI3GAgents responsibility to interpret this parameter correctly by either the hard-coded logic or the dynamic parsing of the schema.





## 2 Create IMSAssociation

This section covers the command `CreateIMSAssociation`.

### MOType

`IMSAssociation@http://schemas.ericsson.com/ma/HSS/`

### 2.1 Request Data

**Note:** It is not allowed to create new services for a Subscriber (Multi Service Consumer, privateUser) when the Subscriber (Multi Service Consumer) is involved in an ongoing IMSI Changeover. This applies to both the old and new IMSI.

When assigning an `associationId`, the recommendation is to NOT use any of the Identifiers as `associationId`. Use any random value or other value the customer has, except the identifier for any of the services (like IMSI, MSISDN, IMPI, IMPU) in the solution. This, since features like IMSI Changeover will only handle the service identities.

#### 2.1.1 Parameters

##### MOId

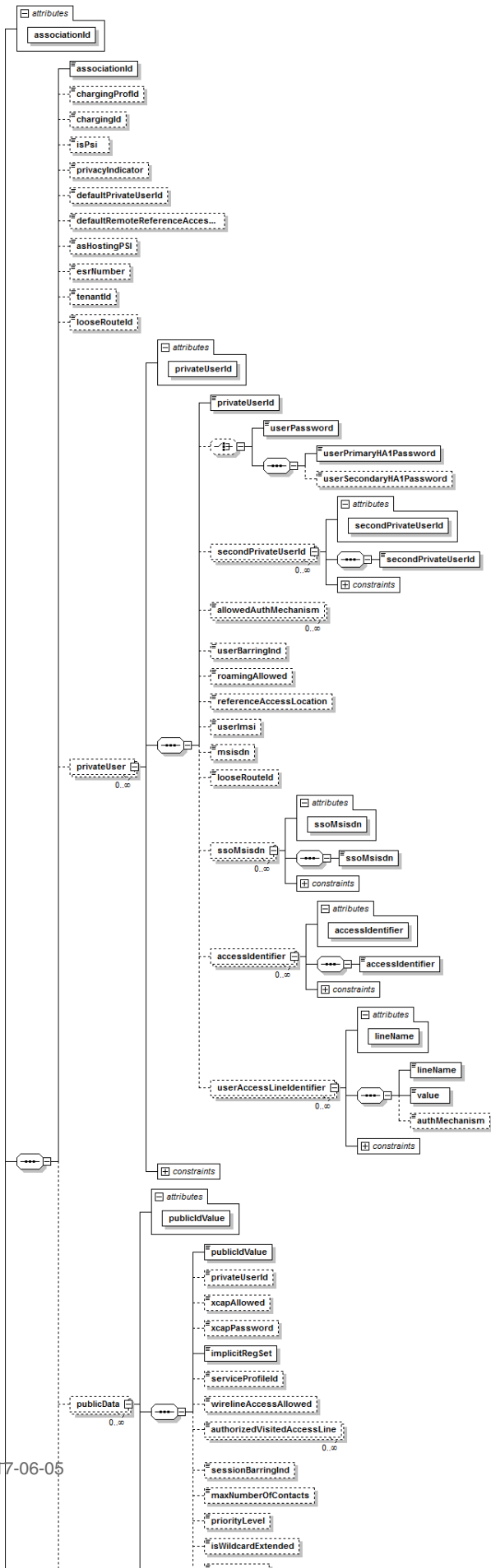
Table 3 Create IMSAssociation MOId

Parameter	Type	Occurrence	Description
<code>associationId</code>	String maxLength value = "32"	Mandatory	Contains the identifier of the Association (subscriber).  Note that <code>associationId</code> is a new parameter to provision in UDC compared to Monolithic solution. The customer system should be properly adapted to make sure that the <code>associationId</code> does not exceed the maximum length 32. This means that it is not a good idea to use the <code>subscriberId</code> from Monolithic as <code>associationId</code> in UDC. The recommendation is also to NOT use any of the subscriber Identifiers (like IMSI, MSISDN, IMPI, IMPU) as <code>associationId</code> . This, since features like IMSI Changeover will only change impacted subscriber Identifiers, it will not change the <code>associationId</code> . Use any random value or other value the customer has.

##### MOAttributes



The parameters that are used in the operation are shown in Figure 1.





The following table covers the parameters that can be used in a CreateIMSAssociation request.

**Table 4** Create IMSAssociation Parameters

Parameter	Type	Occurrence	Description
associationId	String maxLength value = "32"	Mandatory	Contains the identifier of the Association (subscriber).  Note that associationId is a new parameter to provision in UDC compared to Monolithic solution. The customer system should be properly adapted to make sure that the associationId does not exceed the maximum length 32. This means that it is not a good idea to use the subscriberId from Monolithic as associationId in UDC. The recommendation is also to NOT use any of the subscriber Identifiers (like IMSI, MSISDN, IMPI, IMPU) as associationId. This, since features like IMSI Changeover will only change impacted subscriber Identifiers, it will not change the associationId. Use any random value or other value the customer has.
chargingProfileId	String maxLength value = "255"	Optional (0-1)	Identifies the Charging Profile configured in HSS-FE.  Default value is: DefaultChargingProfile
chargingId	String Pattern value = "\d{5,15}" 5-15 digits Each digit is 0-9	Optional (0-1)	The MSISDN to use for charging purposes.
isPsi	Boolean {true, false}	Optional (0-1)	Indicates if the IMS users belonging to this subscriber are Public Service Identities, either Distinct or Wildcarded.  Default value is: false.
privacyIndicator	Boolean {true, false}	Optional (0-1)	Indicates if data sharing with the Application Servers (AS) is allowed.  privacyIndicator = false, means that data sharing with the AS is allowed.  privacyIndicator = true, means that the data is protected.  Default value is: false
defaultPrivateUserId	String minLength value="5" maxLength value="70"	Optional (0-1)	Describes the private user identity that is applied by default. <sup>(1)</sup>
defaultRemoteReferenceAccessLocation	String maxLength value = "255"	Optional (0-1)	Describes the default physical line identifier of the end equipment in the wireline access network.
asHostingPSI	String maxLength value = "255"	Optional	Indicates the application server name hosting the PSI user used for Routing Purposes.



Table 4 Create IMSAssociation Parameters

Parameter	Type	Occurrence	Description
esrNumber	String Pattern value="([0-9]{7}) ([0-9]{10})/"	Optional	Indicates the Emergency Services Routing Number (ESRN) for a user with a public identity belonging to this subscriber.  This attribute is only applicable if routing of emergency calls based on ESRN is supported in the network.
tenantId	Integer minInclusive value = "1" maxInclusive value = "100"	Optional	Indicates the identifier of the Tenant Configuration associated to the IMS subscriber.  It can only take values in the range [1-100].
looseRouteId	String Enumeration value = "LOOSE_ROUTE_REQUIRED" Enumeration value = "LOOSE_ROUTE_NOT_REQUIRED"	Optional (0-1)	Indicates to the S-CSCF whether Loose Routing mechanism is to be applied or not.  This attribute can also be included in the IMS IMPI object.
<b>privateUser</b>	Sub-MO	Optional (0-n)	A list of PrivateUsers
privateUserId	String minLength value="5" maxLength value="70"	Mandatory	Identifies the PrivateUser.
userPassword	String minLength value="4" maxLength value="255"	Optional (0-1)	Used for SIP Digest authentication service purposes.  userPassword and userPrimaryHA1Password cannot be present at the same time. One of them must be set if allowedAuthMechanism = Digest and isPsi = FALSE.  <b>Note:</b> If isPsi = TRUE, userPassword, userPrimaryHA1Password, and allowedAuthMechanism do not take effect in the HSS traffic handling.
userPrimaryHA1Password	String Pattern value="[0-9A-F]{1,32}"	Optional (0-1)	Contains the A1 hashed value to be used in SIP Digest authentication when the digest username received matches the privateUserId.  userPassword and userPrimaryHA1Password cannot be present at the same time. One of them must be set if allowedAuthMechanism = Digest and isPsi = FALSE.  <b>Note:</b> If isPsi = TRUE, userPassword, userPrimaryHA1Password, and allowedAuthMechanism do not take effect in the HSS traffic handling.
userSecondaryHA1Password	String Pattern value="[0-9A-F]{1,32}"	Optional (0-1)	Contains the A1 hashed value to be used in SIP Digest authentication when the digest username received matches with the user part (removing the realm part) of the privateUserId.
<b>secondPrivateUserId</b>	Sub-MO	Optional (0-n)	A list of second Private User Id

Table 4 Create IMSAssociation Parameters

Parameter	Type	Occurrence	Description
secondPrivateUserId	String minLength value="1" maxLength value="255"	Mandatory	Identifies an additional IMPI associated to the Multi Service Consumer, a second private user id.  This IMPI must be derived from IMSI.  If privateUserId is derived or a user IMSI is provided, or both, the identified IMSI must be the same in all attributes.  If the IMSI is defined for another subscriber, it is not allowed.
allowedAuthMechanism	String Enumeration value = "DIGEST" Enumeration value = "SSO" Enumeration value = "NBA"	Optional (0-n)	Contains a list of authentication mechanisms supported by the multiServiceConsumer (Private User).  If isPsi = FALSE: <ul style="list-style-type: none"> <li>IMS-AKA is always supported as default value in the list, regardless of this attribute.</li> <li>If DIGEST is provide, either userPassword or userPrimaryHA1Password must be input as well.</li> </ul> If isPsi = TRUE: <ul style="list-style-type: none"> <li>userPassword, userPrimaryHA1Password, and allowedAuthMechanism do not take effect in the HSS traffic handling.</li> </ul>
userBarringInd	Boolean {true, false}	Optional (0-1)	Indicates if the multiServiceConsumer (Private User) is barred or not.  Default value is: false
roamingAllowed	Boolean {true, false}	Optional (0-1)	Indicates whether the multiServiceConsumer (Private User) is allowed to roam or not.  Default value is: false
referenceAccessLocation	String maxLength value = "255"	Optional (0-1)	Describes the physical line identifier of the end-user equipment in the wireline access network.  Cannot be provisioned if isPsi = TRUE.
userImsi	String Pattern value = [0-9]* minLength value = "6" maxLength value = "15"	Optional (0-1)	Contains the IMSI associated to the PrivateUser. (2)
msisdn	String Pattern value = [0-9]* minLength value = "5" maxLength value = "15"	Optional (0-1)	Identifies the Mobile Station ISDN number assigned to a PrivateUser.
looseRouteId	String Enumeration value = "LOOSE_ROUTE_REQUIRED" Enumeration value = "LOOSE_ROUTE_NOT_REQUIRED"	Optional (0-1)	Indicates to the S-CSCF whether Loose Routing mechanism is to be applied or not.  This attribute can also be included in the IMS Subscriber object.



Table 4 Create IMSAssociation Parameters

Parameter	Type	Occurrence	Description
<b>ssoMsisdn</b>	Sub-MO	Optional (0-n)	A list of MSISDN used for Single Sign-On (SSO) authentication.
ssoMsisdn	String Pattern value = [0-9]* minLength value = "5" maxLength value = "15"	Mandatory	Identifies an MSISDN used for SSO authentication.
<b>accessIdentifier</b>	Sub-MO	Optional (0-n)	A list of Network Access Identifier assigned to the multiServiceConsumer (Private User).
accessIdentifier	String maxLength value = "255"	Mandatory	Contains a Network Access Identifier assigned to the multiServiceConsumer (Private User).
<b>userAccessLineIdentifier</b>	Sub-MO	Optional (0-n)	Contains a list of physical line identifiers of end-user equipment in a wireline access network.
lineName	String minLength value = "1" maxLength value = "15"	Mandatory	Identifies the Access Line
value	String Maximum Length = 255	Mandatory	Identifies the Access Line, physically.
authMechanism	String Enumeration value = "NBA" Enumeration value = "NBA_LINE_PROFILE" Enumeration value = "DIGEST_LINE_PROFILE"	Optional (0-1)	Contains the authentication type to be supported by the Access Line.
<b>publicData</b>	Sub-MO	Optional (0-n)	A list of public data related to one or more MultiSCs (Private Users).

Table 4 Create IMSAssociation Parameters

Parameter	Type	Occurrence	Description
publicIdValue	String  SIP URI (restricted)= sip:userinfo host where userinfo=user or telephone-subscriber and in both cases followed by an @  User and telephone-subscriber do not allow the following: “\”, “<” or “>”, “@”, “[” or “]”, “#”, “ ” (space), Tab, CR, or LF.  In case of a Wildcard SIP URI, the user or telephone-subscriber ends in “!.*!”  In case of a Wildcard Extended SIP URI, the user or telephone-subscriber contains an Extended Regular Expression placed between a pair of exclamation marks (“!”).  Host=hostname or IPv4address or IPv6reference. See Reference [8] for detailed description of host contents. When the configuration parameter AllowSipUriWithoutDomain is set to true, host is not mandatory.  or  TEL URL (restricted)= tel:global-phone-number where global-phone-number=“+” followed by digits 0-9. In case of a Wildcard TEL URL the global-phone-number ends in “!.*!”  In case of a Wildcard Extended TEL URL, the global-phone-number contains an Extended Regular Expression placed between a pair of exclamation marks (“!”).  Maximum length = 255	Mandatory	Identifies the Public Identity. <sup>(3)</sup>  Can be either a:  Restricted SIP URI or TEL URL, Wildcard SIP URI or Wildcard TEL URL, Wildcard Extended SIP URI or Wildcard Extended TEL URL.  Examples:  • <b>sip -</b> sip:impul@operator.com  • <b>tel -</b> tel:+34657881898  Can be derived from IMSI or MSISDN.  Examples:  • <b>sip -</b> sip:IMSI@ims.mncXXX.mccXXX.3gppnetwork.org sip:+MSISDN@ims.mncXXX.mccXXX.3gppnetwork.org  • <b>tel -</b> tel:+MSISDN  Wildcard can be used in both SIP URI and TEL URL. The wildcard has the format !.*!  For SIP URI, the wildcard is to be placed before the “@” character. For TEL URL, the wildcard is to be placed at the end of the parameter.  Examples of SIP URI with wildcard:  • sip:department1!.*!@operator.com  • sip:!.*!@operator.com  Examples of TEL URL with wildcard:  • tel:+34657!.*!  • tel:+!.*!  Wildcard Extended is supported from 12B, and must be indicated as such with the isWildcardExtended parameter.  The wildcard extended has the format of a TEL URL or a SIP URI that can be defined with an extended regular expression.  Examples of Wildcard Extended are:  • tel:+34!91[0-9]{7,7}!  • tel:+34!91[0-9]{7,7}!4  • sip:ExW.Us![a-zA-Z]{2,2}[0-9]!@operator.com  • sip:ExW.Us![a-zA-Z]{2,2}[0-9]!_public@operator.com
privateUserId	String  minLength value="5"  maxLength value="70"	Optional (0-1)	This attribute indicates the associated PrivateUser to this PublicUser. If this attribute is not present, all PrivateUsers belonging to the subscriber which the PublicUser belongs to are associated to this PublicUser.





Table 4 Create IMSAssociation Parameters

Parameter	Type	Occurrence	Description
xcapAllowed	Boolean {true, false}	Optional (0-1)	States if the Public Identity can also be used in XCAP authentication.  Default value is: false.  If the IMPU is a PSI or if it is a wildcarded public identity or a TEL URL, then XCAP authentication must be set to false.
xcapPassword	String minLength value="4" maxLength value="255"	Optional (0-1)	Used for XCAP authentication service purposes.  If value is not provisioned and xcapAllowed = TRUE, then the IMPI userPassword is used for XCAP authentication.
implicitRegSet	Integer	Mandatory	Identifies the Implicit Registration Set (IRS) which the Public Identity belongs to.  The first defined Public Identity of an ISR automatically becomes the default Public Identity in the ISR.  If the Public Identity does not belong to an IRS, the value of this attribute must be 0.  A wildcarded IMPU must belong to an IRS set to a value different from 0.
serviceProfileId	String maxLength value="66"	Optional (0-1)	Serves as a reference to identify the Subscriber Service Profile assigned for the specific Public Identity.
wirelineAccessAllowed	String Enumeration value = "ALLOWED_FROM_ANY_LOCATION" Enumeration value = "ALLOWED_ONLY_FROM_RAL" Enumeration value = "ALLOWED_FROM_AUTHORIZED_LOCATIONS" Enumeration value = "ALLOWED_FROM_ANY_LOCATION_EXCEPT_IF_NO_PANI" Enumeration value = "ALLOWED_ONLY_IF_PANI_INCL_AUTH_LOCATION"	Optional (0-1)	Indicates if the Public Identity is allowed to access from nomad locations.  The default value is ALLOWED_FROM_ANY_LOCATION.
authorizedVisitedAccessLine	String maxLength value="255"	Optional (0-n)	Contains a list of userAccessLineIdentifier sub-MO identifiers, indicating the access lines that are allowed to be connected.
sessionBarringInd	Boolean {true, false}	Optional (0-1)	Indicates if the Public Identity is barred for HSS session establishment.  Default value is: false

**Table 4 Create IMSAssociation Parameters**

Parameter	Type	Occurrence	Description
maxNumberOfContacts	Integer When configuration parameter ExMaxNumberOfContacts is set to true: minInclusive value="1" maxInclusive value="200" When configuration parameter ExMaxNumberOfContacts is set to false: minInclusive value="1" Pattern value = "\d{1}" maxInclusive value="5"	Optional (0-1)	Indicates the maximum number of contacts that are allowed.  When configuration parameter ExMaxNumberOfContacts is set to false, default value is 1.
priorityLevel	Integer minLength value="0" maxLength value="4"	Optional (0-1)	Indicates the service priority level for the IMS Public Identity (IMPU).
isWildcardExtended	Boolean {true, false}	Optional (0-1)	This attribute indicates if the IMPU is defined as a Wildcard Extended public identity (using extended regular expression to define the identity).  true or false
aliasGroupId	String	Optional	Indicates which Alias Group the Public Identity belongs to.  When adding the IMPU to an Alias Group, the IMPU must already belong to an IRS. Also, the <code>ImIrs</code> and <code>ImServProfileId</code> attributes of the IMPU must have the same values as other IMPUs in the Alias Group.  It is not allowed to move the IMPU between Alias Groups in a single operation just by changing the <code>ImAliasGroupId</code> attribute from one non-zero value to another.  If the IMPU stores Transparent Data specific to the IMPU, then it is not allowed to add the IMPU to an Alias Group.
<b>subscriberServiceProfile</b>	Sub-MO	Optional (0-n)	A list of subscriber service profiles associated to a public identity.
serviceProfileId	String maxLength value="66"	Mandatory	Identifies the subscriber service profile.
<b>configuredServiceProfile</b>	Sub-MO	Optional (0-n)	Contains a list of all the Service Profiles in HSS-FE associated to the Subscriber Service Profile.
configuredServiceProfileId	String maxLength value="255"	Mandatory	Identifies the configured service profile.
subscribedMediaProfile	Unsigned integer	Optional (0-1)	Used to identify the set of session description parameters that the multiServiceConsumer (Private User) is authorized to request.
maxNumberSessions	Unsigned integer	Optional (0-1)	Defines the maximum number of simultaneous sessions allowed for the user equipment.  Default value is: 1



Table 4 Create IMSAssociation Parameters

Parameter	Type	Occurrence	Description
phoneContext	String minLength Value = "0" maxLength value = "255"	Optional (0-1)	<p>Defines the default dialing context used by the S-CSCF to determine which dialing plan rules that applies to a request originating from a specific Public Identity when the terminating party is identified by local phone number. If a domain name is used, it does not need to be a routable domain since it is used for logically scooping dialing plans and not for IP routing.<sup>(5)</sup></p> <p>To pass validation, phoneContext must be: 1 to 15 digits with + at the beginning, or a Domain (where a . is mandatory).</p> <p>1-15 digits</p> <p>Example: +3586675550123</p> <p>Domain</p> <p>Example: fc3c399fb513f501c36b6dca35c7105de336b296d0.it</p>
<b>individualServiceProfile</b>	Sub-MO	Optional (0-n)	Contains a list of individual service profiles associated to a specific subscriber service profile.
individualServiceProfileId	String minLength value="5" maxLength value="63"	Mandatory	Used to identify an individual service profile.
individualCapability	Unsigned integer	Optional (0-n)	<p>Contains a list of capabilities needed for the execution of the service associated with this individual service profile.</p> <p>It can only take values in the range [1 - 100].</p> <p>The values in the set formed by individualCapability and individualOptionalCapability cannot be repeated.</p>
individualOptionalCapability	Unsigned integer	Optional (0-n)	<p>Contains a list of optional capabilities needed for the execution of the service associated with this individual service profile</p> <p>The values in the set formed by individualCapability and individualOptionalCapability cannot be repeated.</p>
<b>individualTrigger</b>	Sub-MO	Optional (0-n)	A list of individual triggers associated to a specific individual service profile.
triggerDescription	String maxLength value="69"	Mandatory	Identifies the trigger.
triggerPriority	Unsigned integer	Mandatory	<p>Identifies the priority of the trigger. The priority must be unique for a certain subscriber service profile.</p> <p>Only even values are allowed.</p>
isActive	Boolean {true, false}	Optional (0-1)	<p>Indicates that this specific trigger is enabled.</p> <p>Default value is: false</p>

**Table 4** *Create IMSAssociation Parameters*

Parameter	Type	Occurrence	Description
triggerType	String Enumeration value = "ORIGINATING" Enumeration value = "TERMINATING_REGISTERED" Enumeration value = "TERMINATING_UNREGISTERED" Enumeration value = "ORIGINATING_UNREGISTERED" Enumeration value = "NOT_ORIGINATING" Enumeration value = "NOT_TERMINATING_REGISTERED" Enumeration value = "NOT_TERMINATING_UNREGISTERED" Enumeration value = "NOT_ORIGINATING_UNREGISTERED" Enumeration value = "ORIGINATING_CDIV" Enumeration value = "NOT_ORIGINATING_CDIV"	Optional (0-1)	Used to identify the type of the trigger. If this attribute is empty, the trigger applies to all registration cases.  The trigger criteria belong to the group 0.
detectionPoint	String maxLength = "255"	Optional (0-1)	Indicates when the trigger is evaluated.  The trigger criteria belong to the group 0.
negatedDetectionPoint	Boolean {true, false}	Optional (0-1)	Indicates if the Detection Point is negated or not.
conditionType	String Enumeration value = "AND" Enumeration value = "OR"	Optional (0-1)	This attribute indicates the relationship among the different criteria within the same trigger criteria group. The condition applies only to the attributes: triggerType, detectionPoint, requestedURI, sipHeader, and registrationType.  "AND" means that the trigger criteria are linked by an AND operator.  "OR" means that the trigger criteria are linked by an OR operator.  The opposite as the one defined applies to the relation among the different groups.
requestedURI	String maxLength = "255"	Optional (0-1)	Defines a trigger condition based on the content of the Request-uri for the request.  The trigger criteria belong to the group 0.
negatedRequestedURI	Boolean {true, false}	Optional (0-1)	Indicates if the Requested URI is negated or not.



Table 4 Create IMSAssociation Parameters

Parameter	Type	Occurrence	Description
sipHeader	String maxLength = "255"	Optional (0-n)	<p>Contains a list of structures identifying a SIP Header of this specific trigger.</p> <p>The trigger criteria belong to the group 0.</p> <p><b>Format:</b></p> <p>The format shown below <b>MUST</b> be written on the same line.</p> <p>&lt;NegatedHeader&gt;:&lt;SIPHeaderName&gt;:&lt;SIPHeaderContent&gt;</p> <p>If a “.” character is used in the &lt;SIPHeaderContent&gt;, it needs to be escape, since this character is acting as a delimiter. The “.” character need to be written as “\.”</p> <p><b>Example -</b></p> <p>FALSE:Event:/presence/</p> <p>TRUE:Refer-To:sip\:user2@ericsson.com</p> <p>Or</p> <p>&lt;NegatedHeader&gt;:&lt;SIPHeaderName&gt;</p> <p>Type:</p> <p>&lt;Boolean&gt;:&lt;String&gt;:&lt;String&gt;</p>
applicationServer	String maxLength = "255"	Mandatory	Presents the Application Server that is applied for this specific trigger.
registrationType	String Enumeration value = "INITIAL_REGISTRATION" Enumeration value = "RE-REGISTRATION" Enumeration value = "DE-REGISTRATION"	Optional (0-2)	Contains a list of registration cases that restrict the trigger conditions when the trigger criteria group is 0. <sup>(6)</sup>
defaultHandling	String Enumeration value = "SESSION_CONTINUE" Enumeration value = "SESSION_TERMINATED"	Optional (0-1)	Represents the default handling of the S-CSCF when the connection with the Application Server of the current trigger cannot be established.
includeRegisterRequest	Boolean {true, false}	Optional (0-1)	This parameter indicates whether the tag IncludeRegisterRequest is included or not in the 3GPP User-Data AVP.
includeRegisterResponse	Boolean {true, false}	Optional (0-1)	This parameter indicates whether the tag IncludeRegisterResponse is included or not in the 3GPP User-Data AVP.
triggerCriteriaGroup	Sub-MO	Optional (0-n)	A list of trigger criteria groups associated to a specific individual TriggerA
groupId	Integer	Mandatory	This attribute identifies each SPT Group. The value cannot be 0.



Table 4 Create IMSAssociation Parameters

Parameter	Type	Occurrence	Description
sessionDescription	String maxLength = "255"	Optional (0-n)	Defines the trigger criteria for the content of any Session Description Protocol (SDP) field within the body of a SIP method. Format: <NegatedSessionDescription>:<SDLine>: <Content>  <b>Example:</b>  FALSE:m:audio49170 RTP/AVP 0 Or FALSE:m  <b>Type:</b> <Boolean>:<String>:<String>
sessionCase	String Enumeration value = "ORIGINATING" Enumeration value = "TERMINATING_REGISTERED" Enumeration value = "TERMINATING_UNREGISTERED" Enumeration value = "ORIGINATING_UNREGISTERED" Enumeration value = "NOT_ORIGINATING" Enumeration value = "NOT_TERMINATING_REGISTERED" Enumeration value = "NOT_TERMINATING_UNREGISTERED" Enumeration value = "NOT_ORIGINATING_UNREGISTERED" Enumeration value = "ORIGINATING_CDIV" Enumeration value = "NOT_ORIGINATING_CDIV"	Optional (0-n)	Defines the trigger criteria for the session cases. If this attribute is empty, the trigger applies to all registration cases.
sipMethod	String maxLength = "255"	Optional (0-n)	Indicates when the trigger is evaluated. It includes the SIP method and the registration type when applies.  <b>Format:</b> <NegatedSipMethod>:<SipMethod>: <RegistrationType>  <b>Example:</b>  FALSE:Subscribe  Or  FALSE:Register:2  <b>Type:</b> <Boolean>:<String>:<enumerated>



Table 4 Create IMSAssociation Parameters

Parameter	Type	Occurrence	Description
groupRequestedURI	String maxLength = "255"	Optional (0-n)	<p>Defines a trigger condition based on the content of the Request-uri for the request.</p> <p><b>Format:</b></p> <p>&lt;NegatedGroupRequestedUri&gt;:&lt;GroupRequestedUri&gt;</p> <p><b>Example:</b></p> <p>FALSE:intranet.ericsson.com</p> <p><b>Type:</b></p> <p>&lt;Boolean&gt;:&lt;String&gt;</p>
sipHeader	String maxLength = "255"	Optional (0-n)	<p>Contains a list of structures identifying a SIP Header of this specific trigger.</p> <p><b>Format:</b></p> <p>The format shown below <b>MUST</b> be written on the same line.</p> <p>&lt;NegatedHeader&gt;:&lt;SIPHeaderName&gt;:&lt;SIPHeaderContent&gt;</p> <p>If a ":" character is used in the &lt;SIPHeaderContent&gt;, it needs to be escape, since this character is acting as a delimiter. The ":" character need to be written as "\:"</p> <p><b>Example -</b></p> <p>FALSE:Event:/presence/</p> <p>TRUE:Refer-To:sip\:user2@ericsson.com</p> <p>Or</p> <p>&lt;NegatedHeader&gt;:&lt;SIPHeaderName&gt;</p> <p><b>Type:</b></p> <p>&lt;Boolean&gt;:&lt;String&gt;:&lt;String&gt;</p>

(1) The format of this attribute is IMPI.

(2) Only needed when an IMSI must be provisioned, where the IMPI is not derived from the IMSI. An IMSI must be provisioned if IMS service is provisioned for a subscriber that is defined in LTE, CSPA, AUC, or AVG.

(3) The format of this attribute is IMPU.

(4) If *privateUserId* is set to shared, this attribute has the format *privateUserId\$lineName*

(5) The format of this attribute is global phone number or domain name.

(6) If this attribute is not present, the trigger applies to all registration cases.

The attribute, *maxNumberOfContacts* included in the table above, has different allowed type definitions, depending on which release of HSS-FE Dynamic Activation is configured to provision. To know which one to use there is a configuration parameter, *ExMaxNumberOfContacts*, in the activation logic function that must be set to indicate which HSS-FE release to provision. If the *ExMaxNumberOfContacts* parameter is set to true, Dynamic Activation is set up to provision HSS-FE 14A and onwards, using the extended range of this attribute. If it is set to false, Dynamic Activation is set up to provision HSS 12B or earlier releases. For more information, refer to *Configuration Manual for Resource Activation*, Reference [5], and *User Guide for Resource Activation*, Reference [6].



## 2.2 Examples

### Request Example

This section gives an example of a CreateIMSAssociation request message, as shown in Example 2.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3="http://schemas.ericsson.com/cai3gl.2/" xmlns:hss="http://schemas.ericsson.com/ma/HSS/">
  <soapenv:Header>
    <cai3:SessionId>123456</cai3:SessionId>
  </soapenv:Header>
  <soapenv:Body>
    <cai3:Create xmlns:cai3="http://schemas.ericsson.com/cai3gl.2/"
      xmlns:hss="http://schemas.ericsson.com/ma/HSS/"
      xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
      xmlns:xm1="http://www.w3.org/XML/1998/namespace">
      <cai3:MOType>IMSAssociation@http://schemas.ericsson.com/ma/HSS/</cai3:MOType>
      <cai3:MOId>
        <hss:associationId>Assoc1</hss:associationId>
      </cai3:MOId>
      <cai3:MOAttributes>
        <hss:CreateIMSAssociation associationId="Assoc1">
          <hss:associationId>Assoc1</hss:associationId>
          <hss:chargingProfId>aaa://charging.node:3868;transport=tcp</hss:chargingProfId>
          <hss:chargingId>657881898</hss:chargingId>
          <hss:isPsi>false</hss:isPsi>
          <hss:tenantId>55</hss:tenantId>
          <hss:looseRouteId>LOOSE_ROUTE_REQUIRED</hss:looseRouteId>
          <hss:privateUser privateUserId="sip:2800856789@ims.mnc08.mcc280.3gppnetwork.org">
            <hss:privateUserId>sip:2800856789@ims.mnc08.mcc280.3gppnetwork.org
          </hss:privateUserId>
          <hss:userPassword>password</hss:userPassword>
          <hss:secondPrivateUserId secondPrivateUserId="
            sip:2800856789@ics.mnc08.mcc280.3gppnetwork.org ">
            <hss:secondPrivateUserId> sip:2800856789@ics.mnc08.mcc280.3gppnetwork.org
          </hss:secondPrivateUserId>
          <hss:secondPrivateUserId>
          <hss:allowedAuthMechanism>SSO</hss:allowedAuthMechanism>
          <hss:allowedAuthMechanism>DIGEST</hss:allowedAuthMechanism>
          <hss:userBarringInd>false</hss:userBarringInd>
          <hss:roamingAllowed>true</hss:roamingAllowed>
          <hss:msisdn>657882009</hss:msisdn>
          <hss:looseRouteId>LOOSE_ROUTE_NOT_REQUIRED</hss:looseRouteId>
          <hss:ssoMsisdn ssoMsisdn="657881898">
            <hss:ssoMsisdn>657881898</hss:ssoMsisdn>
          </hss:ssoMsisdn>
          <hss:ssoMsisdn ssoMsisdn="657881897">
            <hss:ssoMsisdn>657881897</hss:ssoMsisdn>
          </hss:ssoMsisdn>
          <hss:privateUser>
            <hss:publicData publicIdValue="sip:user@operator.com">
              <hss:publicIdValue>sip:user@operator.com</hss:publicIdValue>
              <hss:privateUserId>sip:2800856789@ims.mnc08.mcc280.3gppnetwork.org
            </hss:privateUserId>
            <hss:xcapAllowed>true</hss:xcapAllowed>
            <hss:implicitRegSet>1</hss:implicitRegSet>
            <hss:serviceProfileId>SubscriberServiceProfile1</hss:serviceProfileId>
            <hss:maxNumberOfContacts>4</hss:maxNumberOfContacts>
            <hss:isWildcardExtended>false</hss:isWildcardExtended>
            <hss:aliasGroupId>ImsAliasGroup</hss:aliasGroupId>
          </hss:publicData>
          <hss:publicData publicIdValue="tel:+34657881222">
            <hss:publicIdValue>tel:+34657881222</hss:publicIdValue>
            <hss:privateUserId>sip:2800856789@ims.mnc08.mcc280.3gppnetwork.org
          </hss:privateUserId>
          <hss:xcapAllowed>false</hss:xcapAllowed>
          <hss:implicitRegSet>1</hss:implicitRegSet>
          <hss:serviceProfileId>SubscriberServiceProfile1</hss:serviceProfileId>
        </hss:publicData>
      </hss:CreateIMSAssociation>
    </cai3:Create>
  </soapenv:Body>
</soapenv:Envelope>
```





```

<hss:serviceProfileId>SubscriberServiceProfile1</hss:serviceProfileId>
<hss:configuredServiceProfile configuredServiceProfileId=
  "ConfiguredServiceProfile1">
  <hss:configuredServiceProfileId>ConfiguredServiceProfile1
</hss:configuredServiceProfileId>
</hss:configuredServiceProfile>
<hss:maximumSessions>5</hss:maximumSessions>
<hss:individualServiceProfile individualServiceProfileId="IndividualServiceProfile1">
  <hss:individualServiceProfileId>IndividualServiceProfile1
</hss:individualServiceProfileId>
  <hss:individualCapability>3</hss:individualCapability>
  <hss:individualTrigger triggerDescription="IndividualTrigger">
    <hss:triggerDescription>IndividualTrigger</hss:triggerDescription>
    <hss:triggerPriority>6</hss:triggerPriority>
    <hss:isActive>true</hss:isActive>
    <hss:triggerType>ORIGINATING</hss:triggerType>
    <hss:detectionPoint>PUBLISH</hss:detectionPoint>
    <hss:negatedDetectionPoint>false</hss:negatedDetectionPoint>
    <hss:conditionType>OR</hss:conditionType>
    <hss:sipHeader>FALSE:Event:/presence</hss:sipHeader>
    <hss:applicationServer>sip:pgm@operator.com</hss:applicationServer>
  </hss:individualTrigger>
</hss:individualServiceProfile>
</hss:subscriberServiceProfile>
</hss:CreateIMSAssociation>
</cai3:MOAttributes>
</cai3:Create>
</soapenv:Body>
</soapenv:Envelope>

```

### Example 2 Create IMSAssociation Request Message

An association is created, called Assoc1, with private users

"sip:2800856789@ims.mnc08.mcc280.3gppnetwork.org" and  
 "sip:2800856789@ics.mnc08.mcc280.3gppnetwork.org" and the  
 public Id "sip:user@operator.com" and "tel:+34657881222".

### Response Example

This section gives an example of a CreateIMSAssociation response message, as shown in Example 3.

```

<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3g="http://schemas.ericsson.com/cai3g1.2/"
  xmlns:hss="http://schemas.ericsson.com/ma/HSS/">
  <s:Header>
    <cai3:TransactionId xmlns:cai3="http://schemas.ericsson.com/
      cai3g1.2/">22998</cai3:TransactionId>
    <cai3:SessionId xmlns:cai3="http://schemas.ericsson.com/
      cai3g1.2/">"24262627782"</cai3:SessionId>
  </s:Header>
  <s:Body>
    <ns2:CreateResponse xmlns:ns2="http://schemas.ericsson.com/
      cai3g1.2/">
      <ns2:MOId>
        <hss:associationId xmlns:hss="http://schemas.ericsson.com/ma/HSS/" >
          "imssub"</hss:associationId>
        </ns2:MOId>
      </ns2:CreateResponse>
    </s:Body>
  </s:Envelope>

```

### Example 3 Create IMSAssociation Response Message





## 3 Get IMSAssociation

This section covers the command `GetIMSAssociation`.

### MOType

`IMSAssociation@http://schemas.ericsson.com/ma/HSS/`

## 3.1 Request Data

### 3.1.1 Parameters

The following table covers the parameters that can be received in a `GetIMSAssociation` request. One of the following three parameters needs to be chosen as `MOld`.

*Table 5 Get IMSAssociation Parameters*

Parameter	Type	Occurrence	Description
associationId	String maxLength value = "32"	Optional	Contains the identifier of the Association (subscriber).  Note that <code>associationId</code> is a new parameter to provision in UDC compared to Monolithic solution. The customer system should be properly adapted to make sure that the <code>associationId</code> does not exceed the maximum length 32. This means that it is not a good idea to use the <code>subscriberId</code> from Monolithic as <code>associationId</code> in UDC. The recommendation is also to NOT use any of the subscriber Identifiers (like <code>IMSI</code> , <code>MSISDN</code> , <code>IMPI</code> , <code>IMPU</code> ) as <code>associationId</code> . This, since features like <code>IMSI Changeover</code> will only change impacted subscriber Identifiers, it will not change the <code>associationId</code> . Use any random value or other value the customer has.

Table 5 Get IMSAssociation Parameters

Parameter	Type	Occurrence	Description
impi	String minLength value="5" maxLength value="70"	Optional	Identifies the Private User.
impu	String  SIP URI (restricted)= sip:userinfo host where userinfo=user or telephone-subscriber and in both cases followed by an @  User and telephone-sub scriber do not allow the following: “\”, “<”, “>”, “@”, “[” or “]”, “ ”, “ ” (space), Tab, CR, or LF.  In case of a Wildcard SIP URI, the user or telephone-subscriber ends in “!.*!”  In case of a Wildcard Extended SIP URI, the user or telephone-subscriber contains an Extended Regular Expression placed between a pair of exclamation marks (“!”).  Host=hostname or IPv4address or IPv6reference. See Reference [8] for detailed description of host contents.  or  TEL URL (restricted)= tel:g lobal-phone-number where global-phone-number="+" followed by digits 0-9. In case of a Wildcard TEL URL the global-phone-number ends in “!.*!”  In case of a Wildcard Extended TEL URI, the global-phone-number contains an Extended Regular Expression placed between a pair of exclamation marks (“!”).  Maximum length = 255	Optional	Identifies the Public Identity. <sup>(1)</sup>  During an on going IMSICHO, only new IMPU will be returned.  Can be either a:  Restricted SIP URI or TEL URL, Wildcard SIP URI or Wildcard TEL URL, Wildcard Extended SIP URI or Wildcard Extended TEL URL.  Examples:  • sip - sip:impul@operator.com  • tel - tel:+34657881898  Can be derived from IMSI or MSISDN.  Examples:  • sip - sip:IMSI@ims.mncXXX.mccXXX. 3gppnetwork.org sip:+MSISDN@ims.mncXXX.mccXXX. 3gppnetwork.org  • tel - tel:+MSISDN  Wildcard can be used in both SIP URI and TEL URL. The wildcard has the format !.*!.  For SIP URI, the wildcard is to be placed before the “@” character. For TEL URL, the wildcard is to be placed at the end of the parameter.  Examples of SIP URI with wildcard:  • sip:department1!.*!@operator.com  • sip:!.*!@operator.com  Examples of TEL URL with wildcard:  • tel:+34657!.*!  • tel:+!.*!  Wildcard Extended is supported from 12B, and must be indicated as such with the isWildcardExtended parameter.  The wildcard extended has the format of a TEL URL or a SIP URI that can be defined with an extended regular expression.  Examples of Wildcard Extended are:  • tel:+34!91[0-9]{7,7}!  • tel:+34!91[0-9]{7,7}!4  • sip:ExW.Us![a-zA-Z]{2,2}[0-9]!@ope rator.com  • sip:ExW.Us![a-zA-Z]{2,2}[0-9]!_pub lic@operator.com



*Table 5 Get IMSAssociation Parameters*

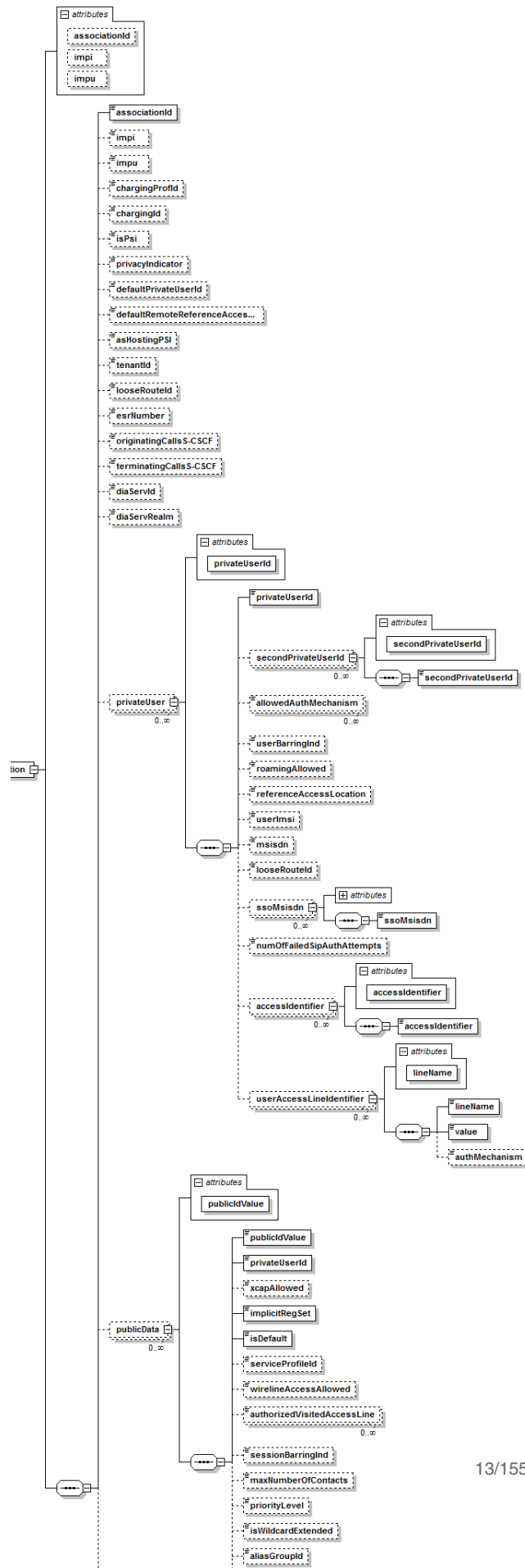
*(1) The format of this attribute is IMPU.*

## 3.2 Response Data

### 3.2.1 Parameters

#### **MOAttributes**

The parameters that are used in the operation are shown in Figure 2.





The following table covers the parameters that can be received in a GetIMSAssociation response.

**Note:** The attributes `userPassword`, `userPrimaryHALPassword`, `userSecondaryHALPassword`, and `xcapPassword` are not returned in a Get IMSAssociation response.

*Table 6 Get Response IMSAssociation Parameters*

Parameter	Type	Occurrence	Description
associationId	String maxLength value = "32"	Mandatory	Contains the identifier of the Association (subscriber).  Note that <code>associationId</code> is a new parameter to provision in UDC compared to Monolithic solution. The customer system should be properly adapted to make sure that the <code>associationId</code> does not exceed the maximum length 32. This means that it is not a good idea to use the <code>subscriberId</code> from Monolithic as <code>associationId</code> in UDC. The recommendation is also to NOT use any of the subscriber Identifiers (like IMSI, MSISDN, IMPI, IMPU) as <code>associationId</code> . This, since features like IMSI Changeover will only change impacted subscriber Identifiers, it will not change the <code>associationId</code> . Use any random value or other value the customer has.
impi	String minLength value="5" maxLength value="70"	Optional	Identifies the Private User.

Table 6 Get Response IMSAssociation Parameters

Parameter	Type	Occurrence	Description
impu	String  SIP URI (restricted)= sip:userinfo host where userinfo=user or telephone-subscriber and in both cases followed by an @  User and telephone-subscriber do not allow the following: “\”, “<” or “>”, “@”, “[” or “]”, “ ”, “ ” (space), Tab, CR, or LF.  In case of a Wildcard SIP URI, the user or telephone-subscriber ends in “!.*!”  In case of a Wildcard Extended SIP URI, the user or telephone-subscriber contains an Extended Regular Expression placed between a pair of exclamation marks (“!”).  Host=hostname or IPv4address or IPv6reference. See Reference [8] for detailed description of host contents.  or  TEL URL (restricted)= tel:g lobal-phone-number where global-phone-number=“+” followed by digits 0-9. In case of a Wildcard TEL URL the global-phone-number ends in “!.*!”  In case of a Wildcard Extended TEL URI, the global-phone-number contains an Extended Regular Expression placed between a pair of exclamation marks (“!”).  Maximum length = 255	Optional	Identifies the Public Identity. <sup>(1)</sup>  During an on going IMSICHO, only new IMPU will be returned.  Can be either a:  Restricted SIP URI or TEL URL, Wildcard SIP URI or Wildcard TEL URL, Wildcard Extended SIP URI or Wildcard Extended TEL URL.  Examples:  • sip - sip:impul@operator.com  • tel - tel:+34657881898  Can be derived from IMSI or MSISDN.  Examples:  • sip - sip:IMSI@ims.mncXXX.mccXXX. 3gppnetwork.org sip:+MSISDN@ims.mncXXX.mccXXX. 3gppnetwork.org  • tel - tel:+MSISDN  Wildcard can be used in both SIP URI and TEL URL. The wildcard has the format !.*!.  For SIP URI, the wildcard is to be placed before the “@” character. For TEL URL, the wildcard is to be placed at the end of the parameter.  Examples of SIP URI with wildcard:  • sip:department1!.*!@operator. com  • sip:!.*!@operator.com  Examples of TEL URL with wildcard:  • tel:+34657!.*!  • tel:+!.*!  Wildcard Extended is supported from 12B, and must be indicated as such with the isWildcardExtended parameter.  The wildcard extended has the format of a TEL URL or a SIP URI that can be defined with an extended regular expression.  Examples of Wildcard Extended are:  • tel:+34!91[0-9]{7,7}!  • tel:+34!91[0-9]{7,7}!4  • sip:ExW.Us![a-zA-Z]{2,2}[0-9 ]!@operator.com  • sip:ExW.Us![a-zA-Z]{2,2}[0-9 ]!_public@operator.com





Table 6 Get Response IMSAssociation Parameters

Parameter	Type	Occurrence	Description
chargingProfileId	String maxLength value= "255"	Optional (0-1)	Identifies the Charging Profile configured in HSS-FE.  Default value is: DefaultChargingProfile
chargingId	String Pattern value = "\d{5,15}" 5-15 digits Each digit is 0-9	Optional (0-1)	The MSISDN to use for charging purposes.
isPsi	Boolean {true, false}	Optional (0-1)	Indicates if the IMS users belonging to this subscriber are Public Service Identities, either Distinct or Wildcarded.  Default value is: false
privacyIndicator	Boolean {true, false}	Optional (0-1)	Indicates if data sharing with the Application Servers (AS) is allowed.  privacyIndicator = false, means that data sharing with the AS is allowed.  privacyIndicator = true, means that the data is protected.  Default value is: false
defaultPrivateUserId	String minLength value="5" maxLength value="70"	Optional (0-1)	Describes the private user identity that is applied by default.  During an ongoing IMSICHO, only new IMPI will be returned.
defaultRemoteReferenceAccessLocation	String maxLength value="255"	Optional (0-1)	Describes the default physical line identifier of the end equipment in the wireline access network.
asHostingPSI	String maxLength value="255"	Optional	This attribute indicates the application server name hosting the PSI user used for Routing Purposes.
tenantId	Integer minInclusive value = "1" maxInclusive value = "100"	Optional	Indicates the identifier of the Tenant Configuration associated to the IMS subscriber.  It can only take values in the range [1-100].
looseRouteId	String Enumeration value = "LOOSE_ROUTE_REQUIRED" Enumeration value = "LOOSE_ROUTE_NOT_REQUIRED"	Optional (0-1)	Indicates to the S-CSCF whether Loose Routing mechanism is to be applied or not.  This attribute can also be included in the IMS IMPI object.
esrNumber	String Pattern value="([0-9]{7}) ([0-9]{10})/"	Optional	Indicates the Emergency Services Routing Number (ESRN) for a user with a public identity belonging to this subscriber.  This attribute is only applicable if routing of emergency calls based on ESRN is supported in the network.
originatingCallsS-CSCF	String maxLength value="255"	Optional	This attribute identifies the S-CSCF that serves the registered Public Identities for originating calls.

Table 6 Get Response IMSAssociation Parameters

Parameter	Type	Occurrence	Description
terminatingCallsS-CSCF	String maxLength value="255"	Optional	This attribute identifies the S-CSCF that serves the registered Public Identities for terminating calls.
diaServId	String maxLength value="255"	Optional	This attribute indicates the Diameter Identity of the S-CSCF serving this Private Identity.
diaServRealm	String maxLength value="255"	Optional	This attribute indicates the Diameter realm of the S-CSCF serving this Private Identity.
privateUser	Sub-MO	Optional (0-n)	A list of PrivateUsers
privateUserId	String minLength value="5" maxLength value="70"	Mandatory	Identifies the PrivateUser. <sup>(2)</sup>  During an ongoing IMSICHO, only new IMPI will be returned.
secondPrivateUserId	Sub-MO	Optional (0-n)	A list of second Private User Id
secondPrivateUserId	String minLength value="1" maxLength value="255"	Mandatory	Identifies an additional IMPI associated to the Multi Service Consumer, a second private user id.  It must be derived from an IMSI.
allowedAuthMechanism	String Enumeration value = "DIGEST" Enumeration value = "SSO" Enumeration value = "NBA"	Optional (0-n)	Contains a list of authentication mechanisms supported by the multiServiceConsumer (Private User).  If isPsi = FALSE: <ul style="list-style-type: none"> <li>IMS-AKA is always supported as default value in the list, regardless of this attribute.</li> <li>If DIGEST is provide, either userPassword or userPrimaryHA1Password must be input as well.</li> </ul> If isPsi = TRUE: <ul style="list-style-type: none"> <li>userPassword, userPrimaryHA1Password, and allowedAuthMechanism do not take effect in the HSS traffic handling.</li> </ul>
userBarringInd	Boolean {true, false}	Optional (0-1)	Indicates if the multiServiceConsumer (Private User) is barred or not.  Default value is: false
roamingAllowed	Boolean {true, false}	Optional (0-1)	Indicates whether the multiServiceConsumer (Private User) is allowed to roam or not.  Default value is: false
referenceAccessLocation	String maxLength value="255"	Optional (0-1)	Describes the physical line identifier of the end-user equipment in the wireline access network.  Cannot be provisioned if isPsi = TRUE.
userImsi	String Pattern value = [0-9]* minLength value = "6" maxLength value = "15"	Optional (0-1)	Contains the IMSI <sup>(3)</sup> associated to the PrivateUser.  During an ongoing IMSICHO, only new IMSI will be returned.



**Table 6** *Get Response IMSAssociation Parameters*

Parameter	Type	Occurrence	Description
msisdn	String Pattern value = [0-9]* minLength value = "5" maxLength value = "15"	Optional (0-1)	Identifies the Mobile Station ISDN number assigned to a multiServiceConsumer.
looseRouteId	String Enumeration value = "LOOSE_ROUTE_REQUIRED" Enumeration value = "LOOSE_ROUTE_NOT_REQUIRED"	Optional (0-1)	Indicates to the S-CSCF whether Loose Routing mechanism is to be applied or not.  This attribute can also be included in the IMS Subscriber object.
ssoMsisdn	Sub-MO	Optional (0-n)	A list of MSISDN used for Single Sign-On (SSO) authentication.
ssoMsisdn	String Pattern value = [0-9]* minLength value = "5" maxLength value = "15"	Mandatory	Identifies an MSISDN used for SSO authentication.
numOfFailedSipAuthAttempts	Integer	Optional (0-1)	Contains the number of failed authentication attempts.
accessIdentifier	Sub-MO	Optional (0-n)	A list of Network Access Identifier assigned to the multiServiceConsumer (Private User).
accessIdentifier	String maxLength value = "255"	Mandatory	Contains a Network Access Identifier assigned to the multiServiceConsumer (Private User).
userAccessLineIdentifier	Sub-MO	Optional (0-n)	Contains a list of physical line identifiers of end-user equipment in a wireline access network.
lineName	String minLength value="1" maxLength value="15"	Mandatory	Identifies the Access Line
value	String maxLength value="255"	Mandatory	Identifies the Access Line, physically.
authMechanism	String Enumeration value = "NBA" Enumeration value = "NBA_LINE_PROFILE" Enumeration value = "DIGEST_LINE_PROFILE"	Optional (0-1)	Contains the authentication type to be supported by the Access Line.
publicData	Sub-MO	Optional (0-n)	A list of public data related to one or more MultiSCs (Private Users).

Table 6 Get Response IMSAssociation Parameters

Parameter	Type	Occurrence	Description
publicIdValue	<p>String</p> <p>SIP URI (restricted)= sip:userinfo host where userinfo=user or telephone-subscriber and in both cases followed by an @</p> <p>User and telephone-subscriber do not allow the following: “\”, “&lt;” or “&gt;”, “@”, “[” or “]”, “””, “ ” (space), Tab, CR, or LF.</p> <p>In case of a Wildcard SIP URI, the user or telephone-subscriber ends in “!.*!”</p> <p>In case of a Wildcard Extended SIP URI, the user or telephone-subscriber contains an Extended Regular Expression placed between a pair of exclamation marks (“!”).</p> <p>Host=hostname or IPv4address or IPv6reference. See Reference [8] for detailed description of host contents.</p> <p>or</p> <p>TEL URL (restricted)= tel:global-phone-number where global-phone-number=“+” followed by digits 0-9. In case of a Wildcard TEL URL the global-phone-number ends in “!.*!”</p> <p>In case of a Wildcard Extended TEL URL, the global-phone-number contains an Extended Regular Expression placed between a pair of exclamation marks (“!”).</p> <p>Maximum length = 255</p>	Mandatory	<p>Identifies the Public Identity. <sup>(4)</sup></p> <p>During an on going IMSICHO, only new IMPU will be returned.</p> <p>Can be either a:</p> <p>Restricted SIP URI or TEL URL, Wildcard SIP URI or Wildcard TEL URL, Wildcard Extended SIP URI or Wildcard Extended TEL URL.</p> <p>Examples:</p> <ul style="list-style-type: none"> <li>• <b>sip</b> - sip:impul@operator.com</li> <li>• <b>tel</b> - tel:+34657881898</li> </ul> <p>Can be derived from IMSI or MSISDN.</p> <p>Examples:</p> <ul style="list-style-type: none"> <li>• <b>sip</b> - sip:IMSI@ims.mncXXX.mccXXX.3gppnetwork.org sip:+MSISDN@ims.mncXXX.mccXXX.3gppnetwork.org</li> <li>• <b>tel</b> - tel:+MSISDN</li> </ul> <p>Wildcard can be used in both SIP URI and TEL URL. The wildcard has the format !.*!.</p> <p>For SIP URI, the wildcard is to be placed before the “@” character. For TEL URL, the wildcard is to be placed at the end of the parameter.</p> <p>Examples of SIP URI with wildcard:</p> <ul style="list-style-type: none"> <li>• sip:department1!.*!@operator.com</li> <li>• sip:!.*!@operator.com</li> </ul> <p>Examples of TEL URL with wildcard:</p> <ul style="list-style-type: none"> <li>• tel:+34657!.*!</li> <li>• tel:+!.*!</li> </ul> <p>Wildcard Extended is supported from 12B, and must be indicated as such with the isWildcardExtended parameter.</p> <p>The wildcard extended has the format of a TEL URL or a SIP URI that can be defined with an extended regular expression.</p> <p>Examples of Wildcard Extended are:</p> <ul style="list-style-type: none"> <li>• tel:+34!91[0-9]{7,7}!</li> <li>• tel:+34!91[0-9]{7,7}!4</li> <li>• sip:ExW.Us![a-zA-Z]{2,2}[0-9]!@operator.com</li> <li>• sip:ExW.Us![a-zA-Z]{2,2}[0-9]!_public@operator.com</li> </ul>



Table 6 Get Response IMSAssociation Parameters

Parameter	Type	Occurrence	Description
privateUserId	String minLength value="5" maxLength value="70"	Mandatory	This attribute indicates the associated PrivateUser to this PublicUser <sup>(2)</sup> . If the PublicUser is connected to multiple PrivateUsers, then the value will be shared.  During an ongoing IMSICHO, only new IMPI will be returned.
xcapAllowed	Boolean {true, false}	Optional (0-1)	States if the Public Identity can also be used in XCAP authentication.  Default value is: false.  If the IMPU is a PSI or if it is a wildcarded public identity or a TEL URL, then XCAP authentication must be set to false.
implicitRegSet	Integer	Mandatory	Identifies the Implicit Registration Set (IRS) which the Public Identity belongs to.  The first defined Public Identity of an ISR automatically becomes the default Public Identity in the ISR.  If the Public Identity does not belong to an IRS, the value of this attribute must be 0.  A wildcarded IMPU must belong to an IRS set to a value different from 0.
isDefault	Boolean {true, false}	Mandatory	This attribute indicates if the Public Identity is the default of its IRS.  When an IMPU of a specific type is set to default, the former one of the same types is unmarked automatically as such. Only one IMPU of each type (SIP URI or TEL URL) can be defined as default in a set. The first IMPU of an IRS must be marked as default.
serviceProfileId	String maxLength value="66"	Optional (0-1)	Serves as a reference to identify the Subscriber Service Profile assigned for the specific Public Identity.
wirelineAccessAllowed	String Enumeration value = "ALLOWED_FROM_ANY_LOCATION" Enumeration value = "ALLOWED_ONLY_FROM_RAL" Enumeration value = "ALLOWED_FROM_AUTHORIZED_LOCATIONS" Enumeration value = "ALLOWED_FROM_ANY_LOCATION_EXCEPT_IF_NO_PANI" Enumeration value = "ALLOWED_ONLY_IF_PANI_INCL_AUTH_LOCATION"	Optional (0-1)	Indicates if the Public Identity is allowed to access from nomad locations.
authorizedVisitedAccessLine	String maxLength value = "255"	Optional (0-n)	Contains a list of userAccessLineIdentifier sub-MO identifiers, indicating the access lines that are allowed to be connected. <sup>(5)</sup>
sessionBarringInd	Boolean {true, false}	Optional (0-1)	Indicates if the Public Identity is barred for HSS session establishment.  Default value is: false



Table 6 Get Response IMSAssociation Parameters

Parameter	Type	Occurrence	Description
maxNumberOfContacts	Integer When configuration parameter ExMaxNumberOfContacts is set to true: minInclusive value="1" maxInclusive value="200" When configuration parameter ExMaxNumberOfContacts is set to false: minInclusive value="1" Pattern value = "\d{1}" maxInclusive value="5"	Optional (0-1)	Indicates the maximum number of contacts that are allowed.  When configuration parameter ExMaxNumberOfContacts is set to false, default value is 1.
priorityLevel	Integer minLength value="0" maxLength value="4"	Optional (0-1)	Indicates the service priority level for the IMS Public Identity (IMPU).
isWildcardExtended	Boolean {true, false}	Optional (0-1)	This attribute indicates if the IMPU is defined as a Wildcard Extended public identity (using extended regular expression to define the identity).  true or false
aliasGroupId	String	Optional	Indicates which Alias Group the Public Identity belongs to.  When adding the IMPU to an Alias Group, the IMPU must already belong to an IRS. Also, the ImsIrs and ImsServProfId attributes of the IMPU must have the same values as other IMPUs in the Alias Group.  It is not allowed to move the IMPU between Alias Groups in a single operation just by changing the ImsAliasGroupId attribute from one non-zero value to another.  If the IMPU stores Transparent Data specific to the IMPU, then it is not allowed to add the IMPU to an Alias Group.
privateUserIdState	Sub-MO	Optional (0-1)	Contains a list of structures indicating the registration state of each of the Private Identities associated to a specific Public Identity.
	privateUserId	String minLength value="5" maxLength value="70"	Mandatory Identifies the PrivateUser
	state	String Enumeration value = "NOT_REGISTERED"	Mandatory Contains the registration state.  State can only be set to NOT_REGISTERED
numOfFailedXcapAuthAttempts	Integer	Optional (0-1)	Contains the number of failed XCAP authentication attempts.  numOfFailedXcapAuthAttempts can only be set to 0.



Table 6 Get Response IMSAssociation Parameters

Parameter	Type	Occurrence	Description
<b>subscriberServiceProfile</b>	Sub-MO	Optional (0-n)	A list of subscriber service profiles associated to a public identity.
serviceProfileId	String maxLength value="66"	Mandatory	Identifies the subscriber service profile.
<b>configuredServiceProfile</b>	Sub-MO	Optional (0-n)	Contains a list of all the Service Profiles in HSS-FE associated to the Subscriber Service Profile.
configuredServiceProfileId	String maxLength value="255"	Mandatory	Identifies the configured service profile.
subscribedMediaProfile	Unsigned integer	Optional (0-1)	Used to identify the set of session description parameters that the multiServiceConsumer (Private User) is authorized to request.
maxNumberSessions	Unsigned integer	Optional (0-1)	Defines the maximum number of simultaneous sessions allowed for the user equipment.  Default value is: 1
phoneContext	String minLength Value = "0" maxLength value = "255"	Optional (0-1)	Defines the default dialing context used by the S-CSCF to determine which dialing plan rules that applies to a request originating from a specific Public Identity when the terminating party is identified by local phone number. If a domain name is used, it does not need to be a routable domain since it is used for logically scooping dialing plans and not for IP routing.  Can consist of digits or domain value:  1-15 digits  Example: +3586675550123  Domain  Example: fc3c399fb513f501c36b6dca35c7105de336b296d0.it
<b>individualServiceProfile</b>	Sub-MO	Optional (0-n)	Contains a list of individual service profiles associated to a specific subscriber service profile.
individualServiceProfileId	String minLength value="5" maxLength value="63"	Mandatory	Used to identify an individual service profile.
individualCapability	Unsigned integer	Optional (0-n)	Contains a list of capabilities needed for the execution of the service associated with this individual service profile.
individualOptionalCapability	Unsigned integer	Optional (0-n)	Contains a list of optional capabilities needed for the execution of the service associated with this individual service profile.
<b>individualTrigger</b>	Sub-MO	Optional (0-n)	A list of individual triggers associated to a specific individual service profile.
triggerDescription	String maxLength value="69"	Mandatory	Identifies the trigger.

**Table 6** *Get Response IMSAssociation Parameters*

Parameter	Type	Occurrence	Description
triggerPriority	Unsigned integer	Mandatory	Identifies the priority of the trigger. The priority must be unique for a certain subscriber service profile.  Only even values are allowed.
isActive	Boolean {true, false}	Optional (0-1)	Indicates that this specific trigger is enabled.  Default value is: false
triggerType	String Enumeration value = "ORIGINATING" Enumeration value = "TERMINATING_REGISTERED" Enumeration value = "TERMINATING_UNREGISTERED" Enumeration value = "ORIGINATING_UNREGISTERED" Enumeration value = "NOT_ORIGINATING" Enumeration value = "NOT_TERMINATING_REGISTERED" Enumeration value = "NOT_TERMINATING_UNREGISTERED" Enumeration value = "NOT_ORIGINATING_UNREGISTERED" Enumeration value = "ORIGINATING_CDIV" Enumeration value = "NOT_ORIGINATING_CDIV"	Optional (0-1)	Used to identify the type of the trigger. If this attribute is empty, the trigger applies to all registration cases.  The trigger criteria belong to the group 0.
detectionPoint	String maxLength = "255"	Optional (0-1)	Indicates when the trigger is evaluated.  The trigger criteria belong to the group 0.
negatedDetectionPoint	Boolean {true, false}	Optional (0-1)	Indicates if the Detection Point is negated or not.
conditionType	String Enumeration value = "AND" Enumeration value = "OR"	Optional (0-1)	This attribute indicates the relationship among the different criteria within the same trigger criteria group. The condition applies only to the attributes: triggerType, detectionPoint, requestedURI, sipHeader, and registrationType.  "AND" means that the trigger criteria are linked by an AND operator.  "OR" means that the trigger criteria are linked by an OR operator.  The opposite as the one defined applies to the relation among the different groups.
requestedURI	String maxLength = "255"	Optional (0-1)	Defines a trigger condition based on the content of the Request-uri for the request.  The trigger criteria belong to the group 0.
negatedRequestedURI	Boolean {true, false}	Optional (0-1)	Indicates if the Requested URI is negated or not.





Table 6 Get Response IMSAssociation Parameters

Parameter	Type	Occurrence	Description
sipHeader	String maxLength = "255"	Optional (0-n)	<p>Contains a list of structures identifying a SIP Header of this specific trigger.</p> <p>The trigger criteria belong to the group 0.</p> <p><b>Format:</b></p> <p>The format shown below <b>MUST</b> be written on the same line.</p> <p>&lt;NegatedHeader&gt;:&lt;SIPHeaderName&gt;:&lt;SIPHeaderContent&gt;</p> <p>If a "." character is used in the &lt;SIPHeaderContent&gt;, it needs to be escape, since this character is acting as a delimiter. The "." character need to be written as "\."</p> <p><b>Example -</b></p> <p>FALSE:Event:/presence/</p> <p>TRUE:Refer-To:sip:user2@ericsson.com</p> <p>Or</p> <p>&lt;NegatedHeader&gt;:&lt;SIPHeaderName&gt;</p> <p>Type:</p> <p>&lt;Boolean&gt;:&lt;String&gt;:&lt;String&gt;</p>
applicationServer	String maxLength = "255"	Mandatory	Presents the Application Server that is applied for this specific trigger.
registrationType	String Enumeration value = "INITIAL_REGISTRATION" Enumeration value = "RE-REGISTRATION" Enumeration value = "DE-REGISTRATION"	Optional (0-2)	Contains a list of registration cases that restrict the trigger conditions when the trigger criteria group is 0. (1)
defaultHandling	String Enumeration value = "SESSION_CONTINUED" Enumeration value = "SESSION_TERMINATED"	Optional (0-1)	Represents the default handling of the S-CSCF when the connection with the Application Server of the current trigger cannot be established.
includeRegisterRequest	Boolean {true, false}	Optional (0-1)	This parameter indicates whether the tag IncludeRegisterRequest is included or not in the 3GPP User-Data AVP.
includeRegisterResponse	Boolean {true, false}	Optional (0-1)	This parameter indicates whether the tag IncludeRegisterResponse is included or not in the 3GPP User-Data AVP.
triggerCriteriaGroup	Sub-MO	Optional (0-n)	A list of trigger criteria groups associated to a specific individual TriggerA
groupId	Integer	Mandatory	This attribute identifies each SPT Group. The value cannot be 0.



Table 6 Get Response IMSAssociation Parameters

Parameter	Type	Occurrence	Description
sessionDescription	String maxLength = "255"	Optional (0-n)	Defines the trigger criteria for the content of any Session Description Protocol (SDP) field within the body of a SIP method. Format: <NegatedSessionDescription>:<SDLine>: <Content>  <b>Example:</b>  FALSE:m:audio49170 RTP/AVP 0 Or FALSE:m  <b>Type:</b>  <Boolean>:<String>:<String>
sessionCase	String Enumeration value = "ORIGINATING" Enumeration value = "TERMINATING_REGISTERED" Enumeration value = "TERMINATING_UNREGISTERED" Enumeration value = "ORIGINATING_UNREGISTERED" Enumeration value = "NOT_ORIGINATING" Enumeration value = "NOT_TERMINATING_REGISTERED" Enumeration value = "NOT_TERMINATING_UNREGISTERED" Enumeration value = "NOT_ORIGINATING_UNREGISTERED" Enumeration value = "ORIGINATING_CDIV" Enumeration value = "NOT_ORIGINATING_CDIV"	Optional (0-n)	Defines the trigger criteria for the session cases. If this attribute is empty, the trigger applies to all registration cases.
sipMethod	String maxLength = "255"	Optional (0-n)	Indicates when the trigger is evaluated. It includes the SIP method and the registration type when applies.  <b>Format:</b>  <NegatedSipMethod>:<SipMethod>: <RegistrationType>  <b>Example:</b>  FALSE:Subscribe  Or  FALSE:Register:2  <b>Type:</b>  <Boolean>:<String>:<enumerated>



Table 6 Get Response IMSAssociation Parameters

Parameter	Type	Occurrence	Description
groupRequestedUR	String maxLength = "255"	Optional (0-n)	Defines a trigger condition based on the content of the Request-uri for the request.  <b>Format:</b>  <NegatedGroupRequestedUri>:<GroupRequestedUri>  <b>Example:</b>  FALSE:intranet.ericsson.com  <b>Type:</b>  <Boolean>:<String>
sipHeader	String maxLength = "255"	Optional (0-n)	Contains a list of structures identifying a SIP Header of this specific trigger.  <b>Format:</b>  The format shown below <b>MUST</b> be written on the same line.  <NegatedHeader>:<SIPHeaderName>:<SIPHeaderContent> If a ":" character is used in the <SIPHeaderContent>, it needs to be escape, since this character is acting as a delimiter. The ":" character need to be written as "\:" <b>Example -</b> FALSE:Event:/presence/  TRUE:Refer-To:sip\:user2@ericsson.com  Or  <NegatedHeader>:<SIPHeaderName>  <b>Type:</b>  <Boolean>:<String>:<String>
aliasGroup	Sub-MO	Optional (0-n)	A list of alias groups associated to a public identity.
aliasGroupId	String	Mandatory	Identifies the Alias Group assigned to a subscriber (public identity).

(1) The format of this attribute is IMPU.

(2) The format of this attribute is IMPI.

(3) Only needed when an IMSI must be provisioned, where the IMPI is not derived from the IMSI.

(4) The format of this attribute is IMPU.

(5) If *privateUserId* is set to *shared*, this attribute has the format *privateUserId\$lineName*

(6) The format of this attribute is global phone number or domain name.

(7) If this attribute is not present, the trigger applies to all registration cases.



## 3.3 Examples

### Request Example

The following is an example of a GetIMSAssociation request message by associationId.

```
<soapenv:Envelope
xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:cai3g="http://schemas.ericsson.com/cai3g1.2/"
xmlns:hss="http://schemas.ericsson.com/ma/HSS/">
  <soapenv:Header>
    <cai3g:SessionId>123456</cai3g:SessionId>
  </soapenv:Header>
  <soapenv:Body>
    <cai3g:Get>
      <cai3g:MOType>
        IMSAssociation@http://schemas.ericsson.com/ma/HSS/
      </cai3g:MOType>
      <cai3g:MOId>
        <hss:associationId>xy</hss:associationId>
      </cai3g:MOId>
    </cai3g:Get>
  </soapenv:Body>
</soapenv:Envelope>
```

#### *Example 4 Get IMSAssociation Request Message by associationId*

The following is an example of a GetIMSAssociation request message by impi.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:cai3="http://schemas.ericsson.com/cai3g1.2/"
xmlns:hss="http://schemas.ericsson.com/ma/HSS/">
  <soapenv:Header>
    <cai3:SessionId>ac6f05cb8fd24cf4a0f5531e6992c854</cai3:SessionId>
  </soapenv:Header>
  <soapenv:Body>
    <cai3:Get>
      <cai3:MOType>IMSAssociation@http://schemas.ericsson.com/ma/HSS/</cai3:MOType>
      <cai3:MOId>
        <hss:impi>460080100031076@ims.mnc008.mcc460.3gppnetwork.org</hss:impi>
      </cai3:MOId>
    </cai3:Get>
  </soapenv:Body>
</soapenv:Envelope>
```

#### *Example 5 Get IMSAssociation Request Message by impi*

The following is an example of a GetIMSAssociation request message by impu.



```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3="http://schemas.ericsson.com/cai3g1.2/"
  xmlns:hss="http://schemas.ericsson.com/ma/HSS/">
  <soapenv:Header>
    <cai3:SessionId>ac6f05cb8fd24cf4a0f5531e6992c854</cai3:SessionId>
  </soapenv:Header>
  <soapenv:Body>
    <cai3:Get>
      <cai3:MOType>IMSAssociation@http://schemas.ericsson.com/ma/HSS/</cai3:MOType>
      <cai3:MOId>
        <hss:impu>sip:460080100031077@ims.mnc008.mcc460.3gppnetwork.org</hss:impu>
      </cai3:MOId>
    </cai3:Get>
  </soapenv:Body>
</soapenv:Envelope>
```

### Example 6 Get IMSAssociation Request Message by impu

### Response Example

This section gives an example of a GetIMSAssociation response message, as shown in Example 7.

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3g="http://schemas.ericsson.com/cai3g1.2/">
  <S:Header>
    <cai3g:SessionId>123456</cai3g:SessionId>
  </S:Header>
  <S:Body>
    <ns2:GetResponse xmlns:ns2="http://schemas.ericsson.com/cai3g1.2/">
      <ns2:MOAttributes>
        <ns:GetResponseIMSAssociation associationId="Assoc1"
          xmlns:ns="http://schemas.ericsson.com/ma/HSS/">
          <ns:associationId>Assoc1</ns:associationId>
          <ns:chargingProfId>aaa</ns:chargingProfId>
          <ns:chargingId>657997722</ns:chargingId>
          <ns:isPsi>false</ns:isPsi>
          <ns:privacyIndicator>false</ns:privacyIndicator>
          <ns:looseRouteId>LOOSE_ROUTE_REQUIRED</ns:looseRouteId>
          <ns:privateUser privateUserId="sip:molly@ims.operator.org">
            <ns:privateUserId>sip:molly@ims.operator.org</ns:privateUserId>
            <ns:secondPrivateUserId>sip:2800856789@ics.mnc08.mcc280.3gppnetwork.org
              <ns:secondPrivateUserId>sip:2800856789@ics.mnc08.mcc280.3gppnetwork.org
            </ns:secondPrivateUserId>
          </ns:privateUser>
          <ns:allowedAuthMechanism>DIGEST</ns:allowedAuthMechanism>
          <ns:allowedAuthMechanism>NBA</ns:allowedAuthMechanism>
          <ns:allowedAuthMechanism>SSO</ns:allowedAuthMechanism>
          <ns:userBarringInd>true</ns:userBarringInd>
          <ns:roamingAllowed>true</ns:roamingAllowed>
          <ns:referenceAccessLocation>adsl;line-id=33</ns:referenceAccessLocation>
          <ns:msisdn>234562347623</ns:msisdn>
          <ns:looseRouteId>LOOSE_ROUTE_REQUIRED</ns:looseRouteId>
          <ns:ssoMsisdn ssoMsisdn="657997722">
            <ns:ssoMsisdn>657997722</ns:ssoMsisdn>
          </ns:ssoMsisdn>
          <ns:ssoMsisdn ssoMsisdn="657997723">
            <ns:ssoMsisdn>657997723</ns:ssoMsisdn>
          </ns:ssoMsisdn>
          <ns:numOfFailedSipAuthAttempts>0</ns:numOfFailedSipAuthAttempts>
          <ns:accessIdentifier accessIdentifier="user17@realm.org">
            <ns:accessIdentifier>user17@realm.org</ns:accessIdentifier>
          </ns:accessIdentifier>
          <ns:accessIdentifier accessIdentifier="user27@realm.org">
            <ns:accessIdentifier>user27@realm.org</ns:accessIdentifier>
          </ns:accessIdentifier>
          <ns:userAccessLineIdentifier lineName="airport">
            <ns:lineName>airport</ns:lineName>
            <ns:value>adsl;line-id=00077</ns:value>
            <ns:authMechanism>NBA</ns:authMechanism>
          </ns:userAccessLineIdentifier>
        </ns2:MOAttributes>
      </ns2:GetResponse>
    </S:Body>
  </S:Envelope>
```



```
<ns:userAccessLineIdentifier lineName="away">
  <ns:lineName>away</ns:lineName>
  <ns:value>adsl;line-id=00066</ns:value>
  <ns:authMechanism>NBA</ns:authMechanism>
</ns:userAccessLineIdentifier>
<ns:userAccessLineIdentifier lineName="home">
  <ns:lineName>home</ns:lineName>
  <ns:value>adsl;line-id=44</ns:value>
  <ns:authMechanism>NBA</ns:authMechanism>
</ns:userAccessLineIdentifier>
<ns:userAccessLineIdentifier lineName="office">
  <ns:lineName>office</ns:lineName>
  <ns:value>adsl;line-id=33</ns:value>
  <ns:authMechanism>NBA</ns:authMechanism>
</ns:userAccessLineIdentifier>
</ns:privateUser>
<ns:privateUser privateUserId="sip:polly@ims.operator.org">
  <ns:privateUserId>sip:polly@ims.operator.org</ns:privateUserId>
  <ns:allowedAuthMechanism>DIGEST</ns:allowedAuthMechanism>
  <ns:userBarringInd>false</ns:userBarringInd>
  <ns:roamingAllowed>false</ns:roamingAllowed>
  <ns:referenceAccessLocation>adsl;line-id=41</ns:referenceAccessLocation>
  <ns:looseRouteId>LOOSE_ROUTE_NOT_REQUIRED</ns:looseRouteId>
  <ns:numOfFailedSipAuthAttempts>0</ns:numOfFailedSipAuthAttempts>
  <ns:userAccessLineIdentifier lineName="airport">
    <ns:lineName>airport</ns:lineName>
    <ns:value>adsl;line-id=000876w</ns:value>
    <ns:authMechanism>NBA</ns:authMechanism>
  </ns:userAccessLineIdentifier>
  <ns:userAccessLineIdentifier lineName="away">
    <ns:lineName>away</ns:lineName>
    <ns:value>adsl;line-id=000876z</ns:value>
    <ns:authMechanism>NBA</ns:authMechanism>
  </ns:userAccessLineIdentifier>
  <ns:userAccessLineIdentifier lineName="home">
    <ns:lineName>home</ns:lineName>
    <ns:value>adsl;line-id=000876t</ns:value>
    <ns:authMechanism>NBA</ns:authMechanism>
  </ns:userAccessLineIdentifier>
  <ns:userAccessLineIdentifier lineName="office">
    <ns:lineName>office</ns:lineName>
    <ns:value>adsl;line-id=000873i</ns:value>
    <ns:authMechanism>NBA</ns:authMechanism>
  </ns:userAccessLineIdentifier>
</ns:privateUser>
<ns:publicData publicIdValue="sip:alice@operator.com">
  <ns:publicIdValue>sip:alice@operator.com</ns:publicIdValue>
  <ns:privateUserId>shared</ns:privateUserId>
  <ns:xcapAllowed>true</ns:xcapAllowed>
  <ns:implicitRegSet>0</ns:implicitRegSet>
  <ns:isDefault>false</ns:isDefault>
  <ns:serviceProfileId>SubscriberServiceProfile1</ns:serviceProfileId>
  <ns:wirelineAccessAllowed>ALLOWED_FROM_AUTHORIZED_LOCATIONS
</ns:wirelineAccessAllowed>
  <ns:sessionBarringInd>true</ns:sessionBarringInd>
  <ns:maxNumberOfContacts>4</ns:maxNumberOfContacts>
  <ns:isWildcardExtended>false</ns:isWildcardExtended>
  <ns:aliasGroupId>Test</ns:aliasGroupId>
  <ns:privateUserIdState privateUserId="sip:molly@ims.operator.org">
    <ns:privateUserId>sip:molly@ims.operator.org</ns:privateUserId>
    <ns:state>REGISTERED</ns:state>
  </ns:privateUserIdState>
  <ns:privateUserIdState privateUserId="sip:polly@ims.operator.org">
    <ns:privateUserId>sip:polly@ims.operator.org</ns:privateUserId>
    <ns:state>REGISTERED</ns:state>
  </ns:privateUserIdState>
</ns:publicData>
<ns:publicData publicIdValue="tel:+565659999">
  <ns:publicIdValue>tel:+565659999</ns:publicIdValue>
  <ns:privateUserId>sip:molly@ims.operator.org</ns:privateUserId>
  <ns:xcapAllowed>true</ns:xcapAllowed>
  <ns:implicitRegSet>0</ns:implicitRegSet>
  <ns:isDefault>false</ns:isDefault>
  <ns:serviceProfileId>SubscriberServiceProfile1</ns:serviceProfileId>
  <ns:wirelineAccessAllowed>ALLOWED_FROM_AUTHORIZED_LOCATIONS
</ns:wirelineAccessAllowed>
```



```

<ns:sessionBarringInd>true</ns:sessionBarringInd>
<ns:maximumNumberOfContacts>4</ns:maximumNumberOfContacts>
<ns:privateUserIdState privateUserId="sip:molly@ims.operator.org">
  <ns:privateUserId>sip:molly@ims.operator.org</ns:privateUserId>
  <ns:state>REGISTERED</ns:state>
</ns:privateUserIdState>
</ns:publicData>
<ns:subscriberServiceProfile serviceProfileId="SubscriberServiceProfile1">
  <ns:serviceProfileId>SubscriberServiceProfile1
</ns:serviceProfileId>
  <ns:configuredServiceProfile configuredServiceProfileId=
    "ConfServProfile33">
    <ns:configuredServiceProfileId>ConfServProfile33
  </ns:configuredServiceProfileId>
</ns:configuredServiceProfile>
  <ns:configuredServiceProfile configuredServiceProfileId=
    "ConfServProfile44">
    <ns:configuredServiceProfileId>ConfServProfile44
  </ns:configuredServiceProfileId>
</ns:configuredServiceProfile>
  <ns:configuredServiceProfile configuredServiceProfileId=
    "ConfServProfile55">
    <ns:configuredServiceProfileId>ConfServProfile55
  </ns:configuredServiceProfileId>
</ns:configuredServiceProfile>
<ns:maximumSessions>4</ns:maximumSessions>
<ns:individualServiceProfile individualServiceProfileId=
  "IndividualServiceProfile1">
  <ns:individualServiceProfileId>IndividualServiceProfile1
</ns:individualServiceProfileId>
  <ns:individualCapability>2</ns:individualCapability>
  <ns:individualCapability>3</ns:individualCapability>
  <ns:individualTrigger triggerDescription="IndividualTrigger">
    <ns:triggerDescription>IndividualTrigger</ns:triggerDescription>
    <ns:triggerPriority>6</ns:triggerPriority>
    <ns:isActive>true</ns:isActive>
    <ns:triggerType>ORIGINATING</ns:triggerType>
    <ns:detectionPoint>REGISTER</ns:detectionPoint>
    <ns:negatedDetectionPoint>false</ns:negatedDetectionPoint>
    <ns:conditionType>OR</ns:conditionType>
    <ns:sipHeader>FALSE:Event:/presence</ns:sipHeader>
    <ns:sipHeader>TRUE:Reply-To:sip:user2@ericsson.com</ns:sipHeader>
    <ns:applicationServer>sip:pgm@operator.com</ns:applicationServer>
    <ns:registrationType>INITIAL_REGISTRATION</ns:registrationType>
    <ns:registrationType>RE-REGISTRATION</ns:registrationType>
  </ns:individualTrigger>
</ns:individualServiceProfile>
</ns:subscriberServiceProfile>
<ns:aliasGroup aliasGroupId="Test">
  <ns:aliasGroupId>Test</ns:aliasGroupId>
</ns:aliasGroup>
</ns:GetResponseIMSAssociation>
</ns2:MOAttributes>
</ns2:GetResponse>
</S:Body>
</S:Envelope>

```

### Example 7 Get IMSAssociation Response Message

Data stored for association, Assoc1, is returned. It contains the following private users:

- "sip:molly@ims.operator.org"
- "sip:polly@ims.operator.org"
- "sip:2800856789@ics.mnc08.mcc280.3gppnetwork.org"

These private users are returned (shared) together with the public ids "sip:alice@operator.com" and "tel:+565659999".







## 4 Set IMSAssociation

This section covers the command `SetIMSAssociation`.

If the command fails or gets partly executed, depending on the exact request, it can be resolved by resending the same command. If the problem persists, it must be deleted and recreated again.

It is not allowed to send a `setIMSAssociation` request that impacts the old IMPI/IMPUs (derived from the old IMSI) during an ongoing IMSICHO. Otherwise, this request will be rejected.

### **MOType**

`IMSAssociation@http://schemas.ericsson.com/ma/HSS/`

## 4.1 Request Data

**Note:** It is not allowed to do a set on services for a Subscriber (Multi Service Consumer, privateUser) when the Subscriber (Multi Service Consumer) is involved in an ongoing IMSI Changeover. This applies to both the old and new IMSI.

When performing a Set operation with a Sub-MO, there is a difference between a 'Set-Set' operation and a 'Set-Add' operation. When performing a Set operation and adding new data (Set-Add) the Sub-MOs id attribute must be present, for example, when adding individualServiceProfile, individualServiceProfileId must be present. When performing a Set operation on an already existing data (Set-Set) the Sub-MOs id attribute must be omitted.

If the wish is to delete a parameter, a new set operation (Set-Delete) is to be sent:

- 1 The Heading is to include the path, marked in **bold** in the following example:

```
<soapenv:Envelope xmlns:soapenv="http://
schemas.xmlsoap.org\
/soap/envelope/"
xmlns:cai3="http://schemas.ericsson.com/cai3g1.2/"
xmlns:hss="http://schemas.ericsson.com/ma/HSS/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
```

- 2 The definition, marked with **bold** in the following example, is to be included in the affected attribute.

```
<hss:includeRegisterResponse
xsi:nil="true">
</includeRegisterResponse>
```

### 4.1.1 Parameters

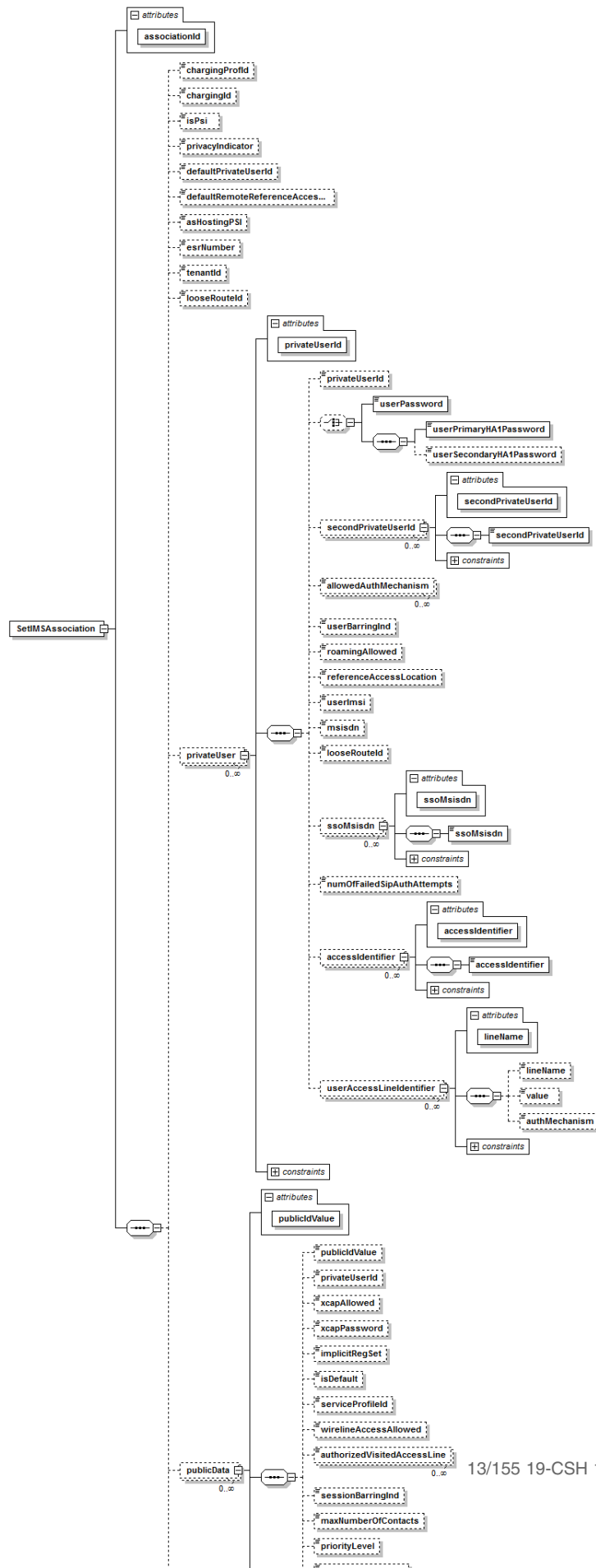
#### MOld

*Table 7 Set IMSAssociation Parameters*

Parameter	Type	Occurrence	Description
associationId	String maxLength value = "32"	Mandatory	<p>Contains the identifier of the Association (subscriber).</p> <p>Note that associationId is a new parameter to provision in UDC compared to Monolithic solution. The customer system should be properly adapted to make sure that the associationId does not exceed the maximum length 32. This means that it is not a good idea to use the subscriberId from Monolithic as associationId in UDC. The recommendation is also to NOT use any of the subscriber Identifiers (like IMSI, MSISDN, IMPI, IMPU) as associationId. This, since features like IMSI Changeover will only change impacted subscriber Identifiers, it will not change the associationId. Use any random value or other value the customer has.</p>

### MOAttributes

The parameters that are used in the operation are shown in Figure 3.





The following table covers the parameters that only apply when sending a SetIMSAssociation request.

**Table 8** Set IMSAssociation Parameters

Parameter	Type	Occurrence	Description
associationId	String maxLength value = "32"	Mandatory	Contains the identifier of the Association (subscriber).  Note that associationId is a new parameter to provision in UDC compared to Monolithic solution. The customer system should be properly adapted to make sure that the associationId does not exceed the maximum length 32. This means that it is not a good idea to use the subscriberId from Monolithic as associationId in UDC. The recommendation is also to NOT use any of the subscriber Identifiers (like IMSI, MSISDN, IMPI, IMPU) as associationId. This, since features like IMSI Changeover will only change impacted subscriber Identifiers, it will not change the associationId. Use any random value or other value the customer has.
chargingProfileId	String maxLength value = "255"	Optional (0-1)	Identifies the Charging Profile configured in HSS-FE.  Default value is: DefaultChargingProfile
chargingId	String Pattern value = "\d{5,15}" 5-15 digits Each digit is 0-9	Optional (0-1)	The MSISDN to use for charging purposes.
isPsi	Boolean {true, false}	Optional (0-1)	Indicates if the IMS users belonging to this subscriber are Public Service Identities, either Distinct or Wildcarded.  Default value is: false
privacyIndicator	Boolean {true, false}	Optional (0-1)	Indicates if data sharing with the Application Servers (AS) is allowed.  privacyIndicator = false, means that data sharing with the AS is allowed.  privacyIndicator = true, means that the data is protected.  Default value is: false
defaultPrivateUserId	String minLength value = "5" maxLength value = "70"	Optional (0-1)	Describes the private user identity that is applied by default. <sup>(1)</sup>
defaultRemoteReferenceAccessLocation	String maxLength value = "255"	Optional (0-1)	Describes the default physical line identifier of the end equipment in the wireline access network.  Cannot be provisioned if isPsi = TRUE.



Table 8 Set IMSAssociation Parameters

Parameter	Type	Occurrence	Description
asHostingPSI	String maxLength value = "255"	Optional	This attribute indicates the application server name hosting the PSI user used for Routing Purposes.
esrNumber	String Pattern value="([0-9]{7}) ([0-9]{10})/"	Optional	Indicates the Emergency Services Routing Number (ESRN) for a user with a public identity belonging to this subscriber.  This attribute is only applicable if routing of emergency calls based on ESRN is supported in the network.
tenantId	Integer minInclusive value = "1" maxInclusive value = "100"	Optional	Indicates the identifier of the Tenant Configuration associated to the IMS subscriber.  It can only take values in the range [1-100].
looseRouteId	String Enumeration value = "LOOSE_ROUTE_REQUIRED" Enumeration value = "LOOSE_ROUTE_NOT_REQUIRED"	Optional (0-1)	Indicates to the S-CSCF whether Loose Routing mechanism is to be applied or not.  This attribute may also be included in the IMS IMPI object.
<b>privateUser</b>	Sub-MO [nillable]	Optional (0-n)	A list of PrivateUsers
privateUserId	String minLength value="5" maxLength value="70"	Optional (0-1)  Can only be added	Identifies the PrivateUser.
userPassword	String minLength value="4" maxLength value="255"	Optional (0-1)	Used for SIP Digest authentication service purposes.  userPassword and userPrimaryHA1 Password cannot be present at the same time. One of them must be set if allowedAuthMechanism = Digest and isPsi = FALSE.  <b>Note:</b> If isPsi = TRUE, userPassword, userPrimaryHA1Password, and allowedAuthMechanism do not take effect in the HSS traffic handling.
userPrimaryHA1Password	String Pattern value="[0-9A-F]{1,32}"	Optional (0-1)	Contains the A1 hashed value to be used in SIP Digest authentication when the digest username received matches the privateUserId.  userPassword and userPrimaryHA1 Password cannot be present at the same time. One of them must be set if allowedAuthMechanism = Digest and isPsi = FALSE.  <b>Note:</b> If isPsi = TRUE, userPassword, userPrimaryHA1Password, and allowedAuthMechanism do not take effect in the HSS traffic handling.
userSecondaryHA1Password	String Pattern value="[0-9A-F]{1,32}"	Optional (0-1)	Contains the A1 hashed value to be used in SIP Digest authentication when the digest username received matches with the user part (not the realm part) of the privateUserId.
<b>secondPrivateUserId</b>	Sub-MO [nillable]	Optional (0-n)	A list of second Private User Id



Table 8 Set IMSAssociation Parameters

Parameter	Type	Occurrence	Description
secondPrivateUserId	String minLength value="1" maxLength value="255"	Mandatory	Identifies an additional IMPI associated to the Multi Service Consumer, a second private user id. It is not allowed to modify the value of secondPrivateUserId. It must be deleted and then created with the new value.  It must be derived from an IMSI.
allowedAuthMechanism	String Enumeration value = "DIGEST" Enumeration value = "SSO" Enumeration value = "NBA" Enumeration value = ""	Optional (0-n)	Contains a list of authentication mechanisms supported by the multiServiceConsumer (Private User).  If isPsi = FALSE: <ul style="list-style-type: none"> <li>IMS-AKA is always supported as default value in the list, regardless of this attribute.</li> <li>The Set operation uses value "" to clear up the list. Then only IMS-AKA is supported.</li> <li>If DIGEST is provide, either userPassword or userPrimaryHA1Password must be input as well.</li> </ul> If isPsi = TRUE: <ul style="list-style-type: none"> <li>userPassword, userPrimaryHA1Password, and allowedAuthMechanism do not take effect in the HSS traffic handling.</li> </ul>
userBarringInd	Boolean {true, false}	Optional (0-1)	Indicates if the multiServiceConsumer (Private User) is barred or not.  Default value is: false
roamingAllowed	Boolean {true, false}	Optional (0-1)	Indicates whether the multiServiceConsumer (Private User) is allowed to roam or not.  Default value is: false
referenceAccessLocation	String maxLength value = "255"	Optional (0-1)	Describes the physical line identifier of the end-user equipment in the wireline access network.  Cannot be provisioned if isPsi = TRUE.
userImsi	String Pattern value = [0-9]* minLength value = "6" maxLength value = "15"	Optional (0-1) Can only be added	Contains the IMSI associated to the PrivateUser <sup>(2)</sup>
msisdn	String Pattern value = [0-9]* minLength value = "5" maxLength value = "15"	Optional (0-1) Can only be added	Identifies the Mobile Station ISDN number assigned to a PrivateUser.

**Table 8** *Set IMSAssociation Parameters*

Parameter	Type	Occurrence	Description
looseRouteId	String Enumeration value = "LOOSE_ROUTE_REQUIRED" Enumeration value = "LOOSE_ROUTE_NOT_REQUIRED"	Optional (0-1)	Indicates to the S-CSCF whether Loose Routing mechanism is to be applied or not.  This attribute may also be included in the IMS Subscriber object.
<b>ssoMsisdn</b>	Sub-MO [nillable]	Optional (0-n)	A list of MSISDN used for Single Sign-On (SSO) authentication.
ssoMsisdn	String Pattern value = [0-9]* minLength value = "5" maxLength value = "15"	Mandatory	Identifies an MSISDN used for SSO authentication.
numOfFailedSipAuthAttempts	Integer	Optional (0-1)	Contains the number of failed authentication attempts.
<b>accessIdentifier</b>	Sub-MO [nillable]	Optional (0-n)	A list of Network Access Identifier assigned to the multiServiceConsumer (Private User).
accessIdentifier	String maxLength value = "255"	Mandatory	Contains a Network Access Identifier assigned to the multiServiceConsumer (Private User).
<b>userAccessLineIdentifier</b>	Sub-MO [nillable]	Optional (0-n)	Contains a list of physical line identifiers of end-user equipment in a wireline access network.
lineName	String minLength value="1" maxLength value="15"	Optional (0-1)	Identifies the Access Line
value	String maxLength value = " 255"	Optional (0-1)	Identifies the Access Line, physically.
authMechanism	String Enumeration value = "NBA" Enumeration value = "NBA_LINE_PROFILE" Enumeration value = "DIGEST_LINE_PROFILE"	Optional (0-1)	Contains the authentication type to be supported by the Access Line.
<b>publicData</b>	Sub-MO [nillable]	Optional (0-n)	A list of public data related to one or more MultiSCs (Private Users).





Table 8 Set IMSAssociation Parameters

Parameter	Type	Occurrence	Description
publicIdValue	<p>String</p> <p>SIP URI (restricted)= sip:userinfo host where userinfo=user or telephone-subscriber and in both cases followed by an @</p> <p>User and telephone-subscriber do not allow the following: “\”, “&lt;” or “&gt;”, “@”, “[” or “]”, “ ”, “ ” (space), Tab, CR, or LF.</p> <p>In case of a Wildcard SIP URI, the user or telephone-subscriber ends in “!.*!”</p> <p>In case of a Wildcard Extended SIP URI, the user or telephone-subscriber contains an Extended Regular Expression placed between a pair of exclamation marks (“!”).</p> <p>Host=hostname or IPv4address or IPv6reference. See Reference [8] for detailed description of host contents. When the configuration parameter AllowSipUriWithoutDomain is set to true, host is not mandatory.</p> <p>or</p> <p>TEL URL (restricted)= tel:global-phone-number where global-phone-number=“+” followed by digits 0-9 . In case of a Wildcard TEL URL the global-phone-number ends in “!.*!”</p> <p>In case of a Wildcard Extended TEL URI, the global-phone-number contains an Extended Regular Expression placed between a pair of exclamation marks (“!”).</p> <p>Maximum length = 255</p>	<p>Mandatory</p> <p>Can only be added</p>	<p>Identifies the Public Identity. <sup>(3)</sup></p> <p>Can be either a:</p> <p>Restricted SIP URI or TEL URL, Wildcard SIP URI or Wildcard TEL URL, Wildcard Extended SIP URI or Wildcard Extended TEL URL.</p> <p>Examples:</p> <ul style="list-style-type: none"> <li>• <b>sip -</b> sip:impul@operator.com</li> <li>• <b>tel -</b> tel:+34657881898</li> </ul> <p>Can be derived from IMSI or MSISDN.</p> <p>Examples:</p> <ul style="list-style-type: none"> <li>• <b>sip -</b> sip:IMSI@ims.mncXXX.mccXXX.3gppnetwork.org sip:+MSISDN@ims.mncXXX.mccXXX.3gppnetwork.org</li> <li>• <b>tel -</b> tel:+MSISDN</li> </ul> <p>Wildcard can be used in both SIP URI and TEL URL. The wildcard has the format !.*!.</p> <p>For SIP URI, the wildcard is to be placed before the “@” character. For TEL URL, the wildcard is to be placed at the end of the parameter.</p> <p>Examples of SIP URI with wildcard:</p> <ul style="list-style-type: none"> <li>• sip:department1!.*!@operator.com</li> <li>• sip:!.*!@operator.com</li> </ul> <p>Examples of TEL URL with wildcard:</p> <ul style="list-style-type: none"> <li>• tel:+34657!.*!</li> <li>• tel:+!.*!</li> </ul> <p>Wildcard Extended is supported from 12B, and must be indicated as such with the isWildcardExtended parameter.</p> <p>The wildcard extended has the format of a TEL URL or a SIP URI that can be defined with an extended regular expression.</p> <p>Examples of Wildcard Extended are:</p> <ul style="list-style-type: none"> <li>• tel:+34!91[0-9]{7,7}!</li> <li>• tel:+34!91[0-9]{7,7}!4</li> <li>• sip:ExW.Us![a-zA-Z]{2,2}[0-9]!@operator.com</li> <li>• sip:ExW.Us![a-zA-Z]{2,2}[0-9]!_public@operator.com</li> </ul>

**Table 8** Set IMSAssociation Parameters

Parameter	Type	Occurrence	Description
privateUserId	String minLength value="5" maxLength value="70"	Optional (0-1) Can only be added	This attribute indicates the associated PrivateUser to this PublicUser. If this attribute is not present, all PrivateUsers belonging to the subscriber which the PublicUser belongs to are associated to this PublicUser.
xcapAllowed	Boolean {true, false}	Optional (0-1)	States if the Public Identity can also be used in XCAP authentication.  Default value is: false.  If the IMPU is a PSI or if it is a wildcarded public identity or a TEL URL, then XCAP authentication must be set to false.
xcapPassword	String [nillable] minLength value="4" minLength value="255"	Optional (0-1)	Used for XCAP authentication service purposes.  If value is not provisioned and xcapAllowed = TRUE, then the IMPI userPassword is used for XCAP authentication.
implicitRegSet	Integer	Mandatory	Identifies the Implicit Registration Set (IRS) which the Public Identity belongs to.  The first defined Public Identity of an ISR automatically becomes the default Public Identity in the ISR.  If the Public Identity does not belong to an IRS, the value of this attribute must be 0.  A wildcarded IMPU must belong to an IRS set to a value different from 0.
isDefault	Boolean {true, false}	Optional (0-1)	This attribute indicates if the Public Identity is the default of its IRS.  When an IMPU of a specific type is set to default, the former one of the same types is unmarked automatically as such. Only one IMPU of each type (SIP URI or TEL URL) can be defined as default in a set. The first IMPU of an IRS must be marked as default.
serviceProfileId	String maxLength value="66"	Optional (0-1)	Serves as a reference to identify the Subscriber Service Profile assigned for the specific Public Identity.



Table 8 Set IMSAssociation Parameters

Parameter	Type	Occurrence	Description
wirelineAccessAllowed	String Enumeration value = "ALLOWED_FROM_ANY_LOCATION" Enumeration value = "ALLOWED_ONLY_FROM_RAL" Enumeration value = "ALLOWED_FROM_AUTHORIZED_LOCATIONS" Enumeration value = "ALLOWED_FROM_ANY_LOCATION_EXCEPT_IF_NO_PANI" Enumeration value = "ALLOWED_ONLY_IF_PANI_INCL_AUTH_LOCATION"	Optional (0-1)	Indicates if the Public Identity is allowed to access from nomad locations.
authorizedVisitedAccessLine	String maxLength value="255"	Optional (0-n)	Contains a list of <code>userAccessLineIdentifier</code> sub-MO identifiers, indicating the access lines that are allowed to be connected. <sup>(4)</sup>
sessionBarringInd	Boolean {true, false}	Optional (0-1)	Indicates if the Public Identity is barred for HSS session establishment. Default value is: false
maxNumberOfContacts	Integer When configuration parameter <code>ExMaxNumberOfContacts</code> is set to true: minInclusive value="1" maxInclusive value="200" When configuration parameter <code>ExMaxNumberOfContacts</code> is set to false: minInclusive value="1" Pattern value = "\d{1}" maxInclusive value="5"	Optional (0-1)	Indicates the maximum number of contacts that are allowed. When configuration parameter <code>ExMaxNumberOfContacts</code> is set to false, default value is 1.
priorityLevel	Integer [nillable] minLength value="0" maxLength value="4"	Optional (0-1)	Indicates the service priority level for the IMS Public Identity (IMPU).
isWildcardExtended	Boolean {true, false}	Optional (0-1)	This attribute indicates if the IMPU is defined as a Wildcard Extended public identity (using extended regular expression to define the identity).  true or false



Table 8 Set IMSAssociation Parameters

Parameter	Type	Occurrence	Description
aliasGroupId	String [nillable]	Optional	<p>Indicates which Alias Group the Public Identity belongs to.</p> <p>When adding the IMPU to an Alias Group, the IMPU must already belong to an IRS. Also, the <code>ImSIrs</code> and <code>ImServProfId</code> attributes of the IMPU must have the same values as other IMPUs in the Alias Group.</p> <p>It is not allowed to move the IMPU between Alias Groups in a single operation just by changing the <code>ImAliasGroupId</code> attribute from one non-zero value to another.</p> <p>If the IMPU stores Transparent Data specific to the IMPU, then it is not allowed to add the IMPU to an Alias Group.</p>
<b>privateUserIdState</b>	Sub-MO	Optional (0-1)	Contains a list of structures indicating the registration state of each of the Private Identities associated to a specific Public Identity.
privateUserId	String minLength value="5" maxLength value="70"	Mandatory	Identifies the PrivateUser
state	String Enumeration value = "NOT_REGISTERED"	Mandatory	Contains the registration state. State can only be set to NOT_REGISTERED
numOfFailedXcapAuthAttempts	Integer	Optional (0-1)	<p>Contains the number of failed XCAP authentication attempts.</p> <p><code>numOfFailedXcapAuthAttempts</code> can only be set to 0.</p>
<b>subscriberServiceProfile</b>	Sub-MO [nillable]	Optional (0-n)	A list of subscriber service profiles associated to a public identity.
serviceProfileId	String maxLength value="66"	Optional (0-1)	Identifies the subscriber service profile.
<b>configuredServiceProfile</b>	Sub-MO [nillable]	Optional (0-n)	Contains a list of all the Service Profiles in HSS-FE associated to the Subscriber Service Profile.
configuredServiceProfileId	String maxLength value="255"	Mandatory	Identifies the configured service profile.
subscribedMediaProfile	Unsigned integer	Optional (0-1)	Used to identify the set of session description parameters that the PrivateUser is authorized to request.
maxNumberSessions	Unsigned integer	Optional (0-1)	<p>Defines the maximum number of simultaneous sessions allowed for the user equipment.</p> <p>Default value is: 1</p>



Table 8 Set IMSAssociation Parameters

Parameter	Type	Occurrence	Description
phoneContext	String minLength Value = "0" maxLength value = "255"	Optional (0-1)	<p>Defines the default dialing context used by the S-CSCF to determine which dialing plan rules that applies to a request originating from a specific Public Identity when the terminating party is identified by local phone number. If a domain name is used, it does not need to be a routable domain since it is used for logically scooping, dialing plans and not for IP routing. <sup>(5)</sup></p> <p>To pass validation, phoneContext must be: 1 to 15 digits with + at the beginning, or a Domain (where a . is mandatory).</p> <p>1-15 digits</p> <p>Example: +3586675550123</p> <p>Domain</p> <p>Example: fc3c399fb513f501c36b6dca35c7105de336b296d0.it</p>
<b>individualServiceProfile</b>	Sub-MO [nillable]	Optional (0-n)	Contains a list of individual service profiles associated to a specific subscriber service profile.
individualServiceProfileId	String minLength value="5" maxLength value="63"	Optional (0-1)	Used to identify an individual service profile.
individualCapability	Unsigned integer [nillable]	Optional (0-n)	<p>Contains a list of capabilities needed for the execution of the service associated with this individual service profile.</p> <p>It can only take values in the range [1 - 100].</p> <p>The values in the set formed by individualCapability and individualOptionalCapability cannot be repeated.</p>
individualOptionalCapability	Unsigned integer [nillable]	Optional (0-n)	<p>Contains a list of optional capabilities needed for the execution of the service associated with this individual service profile</p> <p>The values in the set formed by individualCapability and individualOptionalCapability cannot be repeated.</p>
<b>individualTrigger</b>	Sub-MO [nillable]	Optional (0-n)	A list of individual triggers associated to a specific individual service profile.
triggerDescription	String maxLength value="69"	Optional (0-1)	Identifies the trigger.
triggerPriority	Unsigned integer	Optional (0-1)	<p>Identifies the priority of the trigger. The priority must be unique for a certain subscriber service profile.</p> <p>Only even values are allowed.</p>



Table 8 Set IMSAssociation Parameters

Parameter	Type	Occurrence	Description
isActive	Boolean {true, false}	Optional (0-1)	Indicates that this specific trigger is enabled.  Default value is: false
triggerType	String  Enumeration value = "ORIGINATING"  Enumeration value = "TERMINATING_REGISTERED"  Enumeration value = "TERMINATING_UNREGISTERED"  Enumeration value = "ORIGINATING_UNREGISTERED"  Enumeration value = "NOT_ORIGINATING"  Enumeration value = "NOT_TERMINATING_REGISTERED"  Enumeration value = "NOT_TERMINATING_UNREGISTERED"  Enumeration value = "NOT_ORIGINATING_UNREGISTERED"  Enumeration value = "ORIGINATING_CDIV"  Enumeration value = "NOT_ORIGINATING_CDIV"	Optional (0-1)	Used to identify the type of the trigger. If this attribute is empty, the trigger applies to all registration cases.  The trigger criteria belong to the group 0.
detectionPoint	String  maxLength value="255"	Optional (0-1)	Indicates when the trigger is evaluated.  The trigger criteria belong to the group 0.
negatedDetectionPoint	Boolean {true, false}	Optional (0-1)	Indicates if the Detection Point is negated or not.
conditionType	String  Enumeration value = "AND"  Enumeration value = "OR"	Optional (0-1)	This attribute indicates the relationship among the different criteria within the same trigger criteria group. The condition applies only to the attributes :triggerType, detectionPoint, requestedURI, sipHeader, and registrationType.  "AND" means that the trigger criteria are linked by an AND operator.  "OR" means that the trigger criteria are linked by an OR operator.  The opposite as the one defined applies to the relation among the different groups.
requestedURI	String  maxLength value="255"	Optional (0-1)	Defines a trigger condition based on the content of the Request-uri for the request.  The trigger criteria belong to the group 0.
negatedRequestedURI	Boolean {true, false}	Optional (0-1)	Indicates if the Requested URI is negated or not.



Table 8 Set IMSAssociation Parameters

Parameter	Type	Occurrence	Description
sipHeader	String [nillable] maxLength value="255"	Optional (0-n)	<p>Contains a list of structures identifying a SIP Header of this specific trigger.</p> <p>The trigger criteria belong to the group 0.</p> <p><b>Format:</b></p> <p>The format shown below <b>MUST</b> be written on the same line.</p> <p>&lt;NegatedHeader&gt;:&lt;SIPHeaderName&gt;:&lt;SIPHeaderContent&gt; If a "." character is used in the &lt;SIPHeaderContent&gt;, it needs to be escape, since this character is acting as a delimiter. The "." character need to be written as "\."</p> <p><b>Example -</b> FALSE:Event:/presence/  TRUE:Refer-To:sip:user2@ericsson.com</p> <p>Or</p> <p>&lt;NegatedHeader&gt;:&lt;SIPHeaderName&gt;</p> <p><b>Type:</b> &lt;Boolean&gt;:&lt;String&gt;:&lt;String&gt;</p>
applicationServer	String maxLength value="255"	Optional (0-1)	Presents the Application Server that is applied for this specific trigger.
registrationType	String [nillable] Enumeration value = "INITIAL_REGISTRATION"  Enumeration value = "RE-REGISTRATION"  Enumeration value = "DE-REGISTRATION"	Optional (0-2)	Contains a list of registration cases that restrict the trigger conditions when the trigger criteria group is 0. <sup>(6)</sup>
defaultHandling	String Enumeration value = "SESSION_CONTINUED"  Enumeration value = "SESSION_TERMINATED"	Optional (0-1)	Represents the default handling of the S-CSCF when the connection with the Application Server of the current trigger cannot be established.
includeRegisterRequest	Boolean {true, false} [nillable]	Optional (0-1)	This parameter indicates if whether the tag IncludeRegisterRequest is included or not in the 3GPP User-Data AVP.
includeRegisterResponse	Boolean {true, false} [nillable]	Optional (0-1)	This parameter indicates whether the tag IncludeRegisterResponse is included or not in the 3GPP User-Data AVP.
triggerCriteriaGroup	Sub-MO [nillable]	Optional (0-n)	A list of trigger criteria groups associated to a specific individual TriggerA
groupId	Integer	Optional (0-1)	This attribute identifies each SPT Group. The value cannot be 0.



Table 8 Set IMSAssociation Parameters

Parameter	Type	Occurrence	Description
sessionDescription	String [nillable] maxLength value="255"	Optional (0-1)	<p>Defines the trigger criteria for the content of any Session Description Protocol (SDP) field within the body of a SIP method. Format: &lt;NegatedSessionDescription&gt;:&lt;SDLine&gt;:&lt;Content&gt;</p> <p><b>Example:</b></p> <p>FALSE:m:audio49170 RTP/AVP 0 Or FALSE:m</p> <p><b>Type:</b></p> <p>&lt;Boolean&gt;:&lt;String&gt;:&lt;String&gt;</p>
sessionCase	String [nillable] Enumeration value = "ORIGINATING" Enumeration value = "TERMINATING_REGISTERED" Enumeration value = "TERMINATING_UNREGISTERED" Enumeration value = "ORIGINATING_UNREGISTERED" Enumeration value = "NOT_ORIGINATING" Enumeration value = "NOT_TERMINATING_REGISTERED" Enumeration value = "NOT_TERMINATING_UNREGISTERED" Enumeration value = "NOT_ORIGINATING_UNREGISTERED" Enumeration value = "ORIGINATING_CDIV" Enumeration value = "NOT_ORIGINATING_CDIV"	Optional (0-1)	<p>Defines the trigger criteria for the session cases. If this attribute is empty, the trigger applies to all registration cases.</p>
sipMethod	String [nillable] maxLength value="255"	Optional (0-1)	<p>Indicates when the trigger is evaluated. It includes the SIP method and the registration type when applies.</p> <p><b>Format:</b></p> <p>&lt;NegatedSipMethod&gt;:&lt;SipMethod&gt;:&lt;RegistrationType&gt;</p> <p><b>Example:</b></p> <p>FALSE:Subscribe Or FALSE:Register:2</p> <p><b>Type:</b></p> <p>&lt;Boolean&gt;:&lt;String&gt;:&lt;enumerated&gt;</p>





Table 8 Set IMSAssociation Parameters

Parameter	Type	Occurrence	Description
groupRequestedURI	String [nillable] maxLength value="255"	Optional (0-1)	<p>Defines a trigger condition based on the content of the Request-uri for the request.</p> <p><b>Format:</b></p> <pre>&lt;NegatedGroupRequestedUri&gt;: &lt;GroupRequestedUri&gt;</pre> <p><b>Example:</b></p> <pre>FALSE:intranet.ericsson.com</pre> <p><b>Type:</b></p> <pre>&lt;Boolean&gt;:&lt;String&gt;</pre>
sipHeader	String [nillable] maxLength value="255"	Optional (0-1)	<p>Contains a list of structures identifying a SIP Header of this specific trigger.</p> <p><b>Format:</b></p> <p>The format shown below <b>MUST</b> be written on the same line.</p> <pre>&lt;NegatedHeader&gt;:&lt;SIPHeaderName&gt;:&lt;SIPHeaderContent&gt;</pre> <p>If a "." character is used in the &lt;SIPHeaderContent&gt;, it needs to be escape, since this character is acting as a delimiter. The "." character need to be written as "\".</p> <p><b>Example -</b></p> <pre>FALSE:Event:/presence/</pre> <pre>TRUE:Refer-To:sip\:user2@ericsson.com</pre> <p>Or</p> <pre>&lt;NegatedHeader&gt;:&lt;SIPHeaderName&gt;</pre> <p><b>Type:</b></p> <pre>&lt;Boolean&gt;:&lt;String&gt;:&lt;String&gt;</pre>

(1) The format of this attribute is IMPI.

(2) Only needed when an IMSI must be provisioned, where the IMPI is not derived from the IMSI.

(3) The format of this attribute is IMPU.

(4) If *privateUserId* is set to *shared*, this attribute has the format *privateUserId\$lineName*

(5) The format of this attribute is global phone number or domain name.

(6) If this attribute is not present, the trigger applies to all registration cases.

The attribute, *maxNumberOfContacts* included in the table above, has different allowed type definitions, depending on which release of HSS-FE Dynamic Activation is configured to provision. To know which one to use there is a configuration parameter, *ExMaxNumberOfContacts*, in the activation logic function that must be set to indicate which HSS-FE release to provision. If the *ExMaxNumberOfContacts* parameter is set to true, Dynamic Activation is set up to provision HSS-FE 14A and onwards, using the extended range of this attribute. If it is set to false, Dynamic Activation is set up to provision HSS 12B or earlier releases. For more information, refer to *Configuration Manual for Resource Activation*, Reference [5], and *User Guide for Resource Activation*, Reference [6].



## 4.2 Examples

### Request Example

This section shows examples of a Set-Add `individualServiceProfileId` request, as shown in Example 8, and a Set-Set `individualServiceProfileId` request, as shown in Example 9.

To add a new `individualServiceProfileId` (Set-Add), add a new leaf in the database. Both the `individualServiceProfileId` element level and the `individualServiceProfileId` attribute level are needed. In Example 8, a new `individualServiceProfileId` `IndividualServiceProfile1` is added with MO attribute `individualServiceProfileId` set to `IndividualServiceProfile1` and some additional parameters.

To set an attribute on an existing `individualServiceProfileId` (Set-Set), update an entry in an existing leaf in the database. Only attribute level is needed. The attribute level is left and the element is omitted. In Example 9, the `individualServiceProfileId` `IndividualServiceProfile1` is set to `individualCapacity 1`.

To remove an `aliasGroupId` (Set-Remove), delete an entry in an existing leaf in the database. See Example 10.



```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3="http://schemas.ericsson.com/cai3g1.2/" xmlns:hss=
    "http://schemas.ericsson.com/ma/HSS/" xmlns:xsi="http://www.w3.org/
    2001/XMLSchema-instance">
  <soapenv:Header>
    <cai3:SessionId>123456</cai3:SessionId>
  </soapenv:Header>
  <soapenv:Body>
    <cai3:Set xmlns:cai3="http://schemas.ericsson.com/cai3g1.2/"
      xmlns:hss="http://schemas.ericsson.com/ma/HSS/"
      xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
      xmlns:xml="http://www.w3.org/XML/1998/namespace"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <cai3:MOType>IMSAssociation@http://schemas.ericsson.com/ma/HSS/</cai3:MOType>
      <cai3:MOId>
        <hss:associationId>Assoc1</hss:associationId>
      </cai3:MOId>
      <cai3:MOAttributes>
        <hss:SetIMSAssociation associationId="Assoc1">
          <hss:tenantId>66</hss:tenantId>
          <hss:looseRouteId>LOOSE_ROUTE_NOT_REQUIRED</hss:looseRouteId>
          <hss:privateUser privateUserId="sip:2800856789@ims.mnc08.mcc280.3gppnetwork.org">
            <hss:looseRouteId>LOOSE_ROUTE_REQUIRED</hss:looseRouteId>
          </hss:privateUser>
          <hss:publicData publicIdValue="sip:user@operator.com">
            <hss:implicitRegSet>1</hss:implicitRegSet>
            <hss:isWildcardExtended>false</hss:isWildcardExtended>
            <hss:aliasGroupId>ImsAliasGroupSecond</hss:aliasGroupId>
          </hss:publicData>
          <hss:subscriberServiceProfile serviceProfileId="SubscriberServiceProfile1">
            <hss:serviceProfileId>SubscriberServiceProfile1</hss:serviceProfileId>
            <hss:configuredServiceProfile configuredServiceProfileId="ServiceProfile1">
              <hss:configuredServiceProfileId>ServiceProfile1</hss:configuredServiceProfileId>
            </hss:configuredServiceProfile>
            <hss:maximumSessions>5</hss:maximumSessions>
            <hss:individualServiceProfile individualServiceProfileId="IndividualServiceProfile1">
              <hss:individualCapability>1</hss:individualCapability>
            </hss:individualServiceProfile>
          </hss:subscriberServiceProfile>
        </hss:SetIMSAssociation>
      </cai3:MOAttributes>
    </cai3:Set>
  </soapenv:Body>
</soapenv:Envelope>

```

### **Example 8** Set-Add individualServiceProfileId Request



```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3="http://schemas.ericsson.com/cai3gl.2/" xmlns:hss=
    "http://schemas.ericsson.com/ma/HSS/">
  <soapenv:Header>
    <cai3:SessionId>123456</cai3:SessionId>
  </soapenv:Header>
  <soapenv:Body>
    <cai3:Set>
      <cai3:MOType>IMSAssociation@http://schemas.ericsson.com
        /ma/HSS/</cai3:MOType>
      <cai3:MOId>
        <hss:associationId>xy</hss:associationId>
      </cai3:MOId>
      <cai3:MOAttributes>
        <hss:SetIMSAssociation associationId="xy">
          <hss:subscriberServiceProfile serviceProfileId=
            "SubscriberServiceProfile1">
            <hss:serviceProfileId>SubscriberServiceProfile1
          </hss:serviceProfileId>
            <hss:configuredServiceProfile
              configuredServiceProfileId="ServiceProfile1">
              <hss:configuredServiceProfileId>ServiceProfile1
            </hss:configuredServiceProfileId>
            </hss:configuredServiceProfile>
            <hss:maximumSessions>5</hss:maximumSessions>
            <hss:individualServiceProfile individualServiceProfileId=
              "IndividualServiceProfile1">
              <hss:individualCapability>1</hss:individualCapability>
            </hss:individualServiceProfile>
          </hss:subscriberServiceProfile>
        </hss:SetIMSAssociation>
      </cai3:MOAttributes>
    </cai3:Set>
  </soapenv:Body>
</soapenv:Envelope>
```

### Example 9 Set-Set individualServiceProfileId Request

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3="http://schemas.ericsson.com/cai3gl.2/" xmlns:hss=
    "http://schemas.ericsson.com/ma/HSS/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Header>
    <cai3:SessionId>123456</cai3:SessionId>
  </soapenv:Header>
  <soapenv:Body>
    <cai3:Set>
      <cai3:MOType>IMSAssociation@http://schemas.ericsson.com/ma/HSS/</cai3:MOType>
      <cai3:MOId>
        <hss:associationId>Assoc1</hss:associationId>
      </cai3:MOId>
      <cai3:MOAttributes>
        <hss:SetIMSAssociation associationId="Assoc1">
          <hss:tenantId>66</hss:tenantId>
          <hss:publicData publicIdValue="sip:user@operator.com">
            <hss:implicitRegSet>1</hss:implicitRegSet>
          </hss:publicData>
          <hss:aliasGroupId nil="true"></hss:aliasGroupId>
        </hss:SetIMSAssociation>
      </cai3:MOAttributes>
    </cai3:Set>
  </soapenv:Body>
</soapenv:Envelope>
```

### Example 10 Set-Remove aliasGroupId Request

## Response Example

This section gives an example of a SetIMSAssociation response message, as shown in Example 3.



```
<S:Envelope
  xmlns:S="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3g="http://schemas.ericsson.com/cai3g1.2/">
  <S:Header>
    <cai3:TransactionId xmlns:cai3="http://schemas.ericsson.com/ cai3g1.2/">22998
    </cai3:TransactionId>
    <cai3:SessionId xmlns:cai3="http://schemas.ericsson.com/ cai3g1.2/">"24262627782&"
    </cai3:SessionId>
  </S:Header>
  <S:Body>
    <ns2:SetResponse xmlns:ns2="http://schemas.ericsson.com/ cai3g1.2/"> </ns2:SetResponse>
  </S:Body>
</S:Envelope>
```

**Example 11**    *Set IMSAssociation Response Message*





## 5 Delete IMSAssociation

This section covers the command `DeleteIMSAssociation`.

This command is always capable of removing an IMS service, even if a previous `Create` or `Delete` has failed.

During an ongoing IMSICHO, this operation will also remove the old IMSI in service AUC for the subscriber that only has service AUC and IMS,

### MOType

`IMSAssociation@http://schemas.ericsson.com/ma/HSS/`

## 5.1 Request Data

### 5.1.1 Parameters

#### MOId

*Table 9 Delete IMSAssociation MOId*

Parameter	Type	Occurrence	Description
associationId	String maxLength value = "32"	Mandatory	Contains the identifier of the Association (subscriber).  Note that associationId is a new parameter to provision in UDC compared to Monolithic solution. The customer system should be properly adapted to make sure that the associationId does not exceed the maximum length 32. This means that it is not a good idea to use the subscriberId from Monolithic as associationId in UDC. The recommendation is also to NOT use any of the subscriber Identifiers (like IMSI, MSISDN, IMPI, IMPU) as associationId. This, since features like IMSI Changeover will only change impacted subscriber Identifiers, it will not change the associationId. Use any random value or other value the customer has.

### MOAttributes

The following table covers the parameters that can be used in a `DeleteIMSAssociation` request.

**Table 10** Delete IMSAssociation Parameters

Parameter	Type	Occurrence	Description
associationId	String maxLength value = "32"	Mandatory	Contains the identifier of the Association (subscriber).  Note that associationId is a new parameter to provision in UDC compared to Monolithic solution. The customer system should be properly adapted to make sure that the associationId does not exceed the maximum length 32. This means that it is not a good idea to use the subscriberId from Monolithic as associationId in UDC. The recommendation is also to NOT use any of the subscriber Identifiers (like IMSI, MSISDN, IMPI, IMPU) as associationId. This, since features like IMSI Changeover will only change impacted subscriber Identifiers, it will not change the associationId. Use any random value or other value the customer has.

## 5.2 Examples

### Request Example

This section gives an example of a DeleteIMSAssociation request message, as shown in Example 2.

```
<soapenv:Envelope
  xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3g="http://schemas.ericsson.com/cai3g1.2/"
  xmlns:hss="http://schemas.ericsson.com/ma/HSS/">
  <soapenv:Header>
    <cai3g:SessionId>123456</cai3g:SessionId>
  </soapenv:Header>
  <soapenv:Body>
    <cai3g:Delete>
      <cai3g:MOType>IMSAssociation@http://schemas.ericsson.com/ma/HSS/</cai3g:MOType>
      <cai3g:MOId><hss:associationId>xy</hss:associationId></cai3g:MOId>
    </cai3g:Delete>
  </soapenv:Body>
</soapenv:Envelope>
```

#### Example 12 Delete IMSAssociation Request Message

The Delete association request deletes all data stored for association, xy.

### Response Example

This section gives an example of a DeleteIMSAssociation response message, as shown in Example 3.





```
<S:Envelope
  xmlns:S="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3g="http://schemas.ericsson.com/cai3g1.2/">
  <S:Header>
    <cai3:TransactionId xmlns:cai3="http://schemas.ericsson.com/cai3g1.2/">22998
    </cai3:TransactionId>
    <cai3:SessionId xmlns:cai3="http://schemas.ericsson.com/cai3g1.2/">"24262627782"
    </cai3:SessionId>
  </S:Header>
  <S:Body>
    <ns2:DeleteResponse xmlns:ns2="http://schemas.ericsson.com/cai3g1.2/">
      <ns2:MOId>
        <hss:imsi xmlns:hss="http://schemas.ericsson.com/ma/HSS/" >"445009897"</hss:imsi>
      </ns2:MOId>
    </ns2:DeleteResponse>
  </S:Body>
</S:Envelope>
```

**Example 13** *Delete IMSAssociation Response Message*





## 6 Faults and Errors

The generic structure for fault responses is covered in *Generic CAI3G Interface 1.2*, Reference [2]. That document also covers the generic fault codes, which are applicable to all CAI3G operations.

This section covers the subordinate CAI3G errors. They can appear in the `errorcode` element in the error message.

Only IMS specific error codes are described in this section. These error codes are included in the Fault type `IMSFault`.

For generic error codes, and information about the different Fault types, see *CAI3G Implementation*, Reference [7].

### 6.1 Subordinate IMS Error Codes

The following table covers subordinate error codes for IMS commands over the CAI3G interface.

*Table 11 Subordinate IMS Error Codes*

Error Code	Error Message	Description	MO	Operation
12006	DATABASE LOCKED FOR BACKUP	This information varies depending on the actual error.	IMSAssociation	C/S/D
12013	OPERATION FAILED, ROLLBACK HAS BEEN PERFORMED SUCCESSFULLY	This information varies depending on the actual error.	IMSAssociation	C
12014	OPERATION FAILED, ROLLBACK WAS UNSUCCESSFUL	This information varies depending on the actual error.	IMSAssociation	C
13001	SERVICE NOT DEFINED	IMPI not defined	IMSAssociation	S
		IMPU not defined	IMSAssociation	S
13002	SERVICE ALREADY DEFINED	IMPI defined and IMS service exist	IMSAssociation	C/S
		IMSI defined and IMS service exist	IMSAssociation	C/S
		MSISDN defined and IMS service exist	IMSAssociation	S
		secIMPI already defined for this IMPI: <IMPI>	IMSAssociation	S

**Table 11 Subordinate IMS Error Codes**

Error Code	Error Message	Description	MO	Operation
13003	IDENTITY MISMATCH	MSISDN joint to other identities	IMSAssociation	C/S
		IMSI joint to other identities	IMSAssociation	C/S
		IMPU joint to other association (subscriber)	IMSAssociation	C/S
		IMSI identities are in conflict	IMSAssociation	C/S
		IMSI changeover ongoing	IMSAssociation	C/S
		This secIMPI is not valid: <secIMPI>	IMSAssociation	C/S
13004	ASSOCIATION ALREADY DEFINED	This information varies depending on the actual error.	IMSAssociation	C
13005	ASSOCIATION NOT DEFINED	This information varies depending on the actual error.	IMSAssociation	S/G/D
13006	INCONSISTENT DATA IN CUDB	This information varies depending on the actual error.	IMSAssociation	C/S/G/D
13007	SERVICE DATA DOES NOT EXIST	List of one or more MO Attributes that do not exist for this service.	IMSAssociation	S
13008	OPERATION NOT ALLOWED	Operation not allowed during IMSICHO.	IMSAssociation	S
14001	CONSTRAINT VIOLATION	MO Attributes which are incompatible <sup>(1)</sup> .	IMSAssociation	C/S

(1) See Reference [4] for information about what constraints that are checked.

## 6.2 CAI3G Error Message Example

The following, shown in Example 14, is an example of a CAI3G error message:



```

<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:cai3g="http://schemas.ericsson.com/cai3gl.2/">
  <S:Header>
    <cai3g:SessionId>8cc91b59edae48758dbfc5b4bd02ec5c</cai3g:SessionId>
  </S:Header>
  <S:Body>
    <ns2:Fault xmlns:ns2="http://schemas.xmlsoap.org/soap/envelope/"
      xmlns:ns3="http://www.w3.org/2003/05/soap-envelope">
      <faultcode>ns2:Server</faultcode>
      <faultstring>This is a server fault</faultstring>
      <detail>
        <Cai3gFault:Cai3gFault xmlns="http://schemas.ericsson.com/cai3gl.2/"
          xmlns:Cai3gFault="http://schemas.ericsson.com/cai3gl.2/">
          <faultcode>4006</faultcode>
          <faultreason>
            <reasonText>External error.</reasonText>
          </faultreason>
          <faultrole>MF</faultrole>
          <details>
            <IMSFault:IMSFault xmlns="http://schemas.ericsson.com/ma/HSS/"
              xmlns:IMSFault="http://schemas.ericsson.com/ma/HSS/">
              <errorcode>13004</errorcode>
              <errormessage>ASSOCIATION ALREADY DEFINED</errormessage>
              <errordetails>- [Processed by PG Node: CL23-PL-6]
            </errordetails>
            </IMSFault:IMSFault>
          </details>
        </Cai3gFault:Cai3gFault>
      </detail>
    </ns2:Fault>
  </S:Body>
</S:Envelope>

```

#### **Example 14**    *CAI3G Error Message*





## Reference List

### Ericsson Documents

- [1] *Glossary of Terms and Acronyms*, 0033-CSH 109 628 Uen
- [2] *Generic CAI3G Interface 1.2 Specification*, 2/155 19-FAY 302 0003 Uen
- [3] *Library Overview*, 18/1553-CSH 109 628 Uen
- [4] *Front End Provisioning Datamodel Description in HSS*, 3/155 19-CSH 150 0063/7 Uen
- [5] *Configuration Manual for Resource Activation*, 2/1543-CSH 109 628 Uen
- [6] *User Guide for Resource Activation*, 1/1553-CSH 109 628 Uen
- [7] *CAI3G Implementation*, 26/155 19-CSH 109 628 Uen

### Online References

- [8] *SIP: Session Initiation Protocol*, <https://www.ietf.org/rfc/rfc3261.txt>