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LTE;
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Stage 3
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Foreword

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1 Scope

This document defines a mobile device 3GPP IMS Management Object. The management object is compatible with OMA Device Management protocol specifications, version 1.2 and upwards, and is defined using the OMA DM Device Description Framework as described in the Enabler Release Definition OMA-ERELED_DM-V1_2 [12].

The 3GPP IMS Management Object consists of relevant parameters that can be managed for the IM CN Subsystem. This includes the basic framework defined in 3GPP TS 23.228 [4] and 3GPP TS 24.229 [5], and early IMS as defined in 3GPP TS 23.221 [3]. This also includes relevant parameters that can be managed for the application of SMS over IP networks defined in 3GPP TS 24.341 [5a].

The IMS Management Object defines a repository of data into the ME including parameters that are provisioned from the ISIM application (i.e. 3GPP TS 31.103 [11]) or, after derivation, from the USIM application (i.e. 3GPP TS 31.102 [10]).

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the 3GPP IMS Management Object document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 23.003: "Numbering, addressing and identification".
- [3] 3GPP TS 23.221: "Architectural requirements".
- [4] 3GPP TS 23.228: "IP Multimedia Subsystem (IMS); Stage 2".
- [5] 3GPP TS 24.229: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3".
- [5a] 3GPP TS 24.341: "Support of SMS over IP networks; Stage 3".
- [6] Void.
- [7] Void.
- [8] Void.
- [9] Void.
- [10] 3GPP TS 31.102: "Characteristics of the USIM application".
- [11] 3GPP TS 31.103: "Characteristics of the IP Multimedia Services Identity Module; (ISIM) Application".
- [12] OMA-ERELED-DM-V1_2-20070209-A : "Enabler Release Definition for OMA Device Management, Version 1.2".
- [13] Void.
- [14] 3GPP TS 23.221: "Architectural requirements".
- [15] 3GPP TS 24.301: "Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS); Stage 3".

- [16] 3GPP TS 24.292: "IP Multimedia (IM) Core Network (CN) subsystem Centralized Services (ICS); Stage 3".
- [17] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core Network Protocols; Stage 3".
- [18] RFC 5626: "Managing Client-Initiated Connections in the Session Initiation Protocol (SIP)".
- [19] 3GPP TS 22.173: "IP Multimedia Core Network Subsystem (IMS) Multimedia Telephony Service and supplementary services; Stage 1".
- [20] 3GPP TS 24.623: "Extensible Markup Language (XML) Configuration Access Protocol (XCAP) over the Ut interface for Manipulating Supplementary Services".
- [21] 3GPP TS 24.238: "Session Initiation Protocol (SIP) based user configuration; Stage 3".
- [22] 3GPP TS 29.292: "Interworking between the IP Multimedia (IM) Core Network (CN) subsystem and MSC Server for IMS Centralized Services (ICS)".
- [23] RFC 3261: "SIP: Session Initiation Protocol".
- [24] RFC 4566: "SDP: Session Description Protocol".
- [25] 3GPP TS 23.122: "Non-Access-Stratum functions related to Mobile Station (MS) in idle mode".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] apply.

Default QoS Flow: The 5G QoS Flow associated with the default QoS rule.

For the purposes of the present document, the following terms and definitions given in 3GPP TS 23.122 [25] apply.

Equivalent Home PLMN (EHPLMN)
Home PLMN (HPLMN)
Visited PLMN (VPLMN)

3.2 Abbreviations

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

AC	Application Characteristics
CN	Core Network
CP	Client Provisioning
CSCF	Call Session Control Function
DDF	Device Description Framework
DM	Device Management
FQDN	Fully Qualified Domain Name
ICSI	IMS Communication Service Identifier
IMS	IP Multimedia core network Subsystem
IP	Internet Protocol
ISIM	IM Services Identity Module
MO	Management Object
OMA	Open Mobile Alliance
P-CSCF	Proxy – CSCF
PDP	Packet Data Protocol
SIP	Session Initiation Protocol
SS	Supplementary Services
UE	User Equipment
USIM	Universal Subscriber Identity Module

4 3GPP IMS Management Object

The 3GPP IMS Management Object is used to manage settings of the UE for IM CN Subsystem protocols. The Management Object covers generic parameters for the IM CN subsystem. The Management Object enables the management of the settings on behalf of the end user.

The Management Object Identifier is: urn:oma:mo:ext-3gpp-ims:1.0.

Protocol compatibility: This MO is compatible with OMA DM 1.2.

The following nodes and leaf objects are possible under the 3GPP_IMS node:

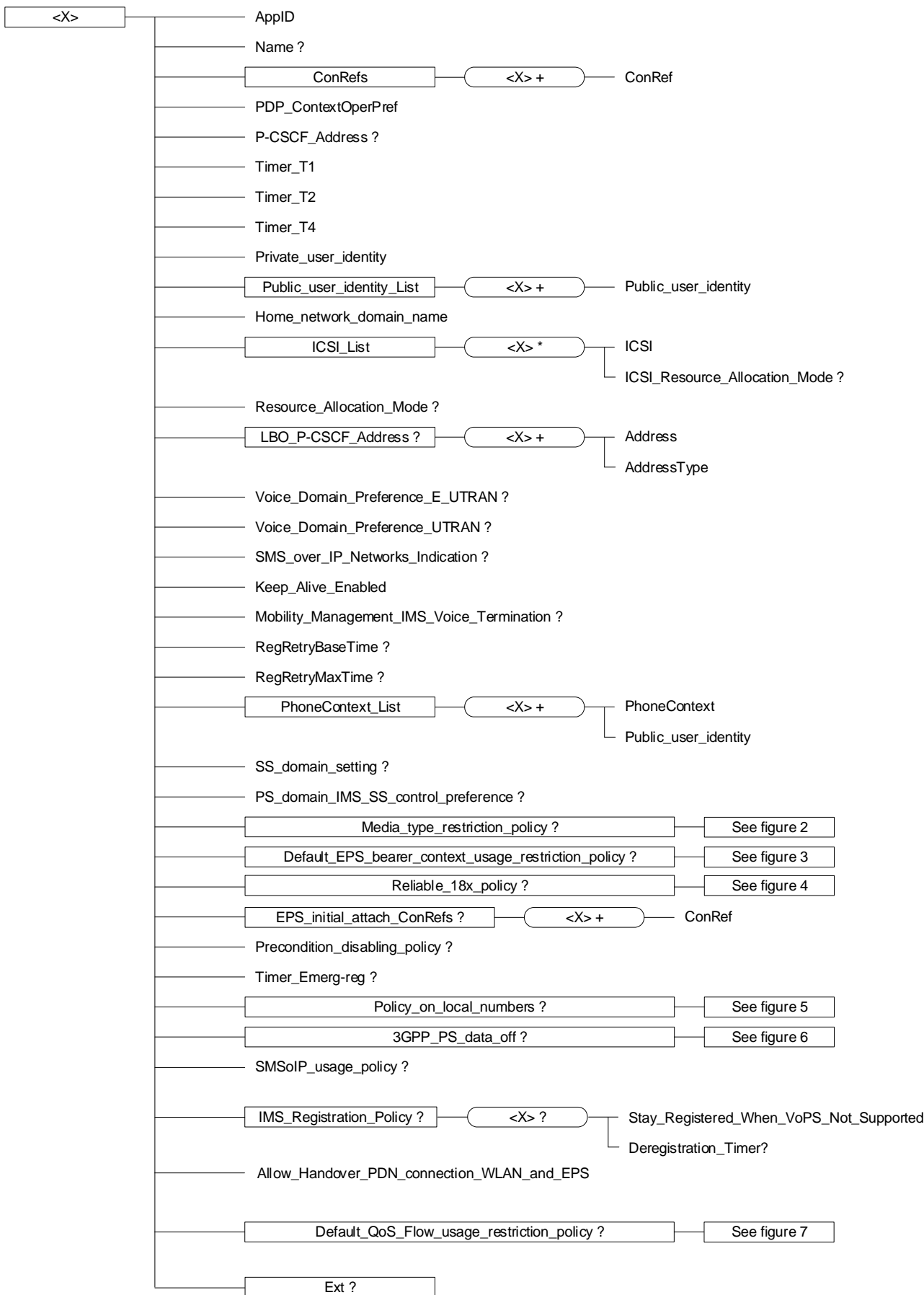


Figure 1: The 3GPP IMS Management Object

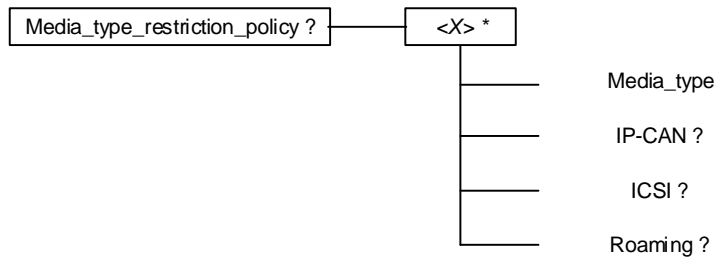


Figure 2: Media type restriction policy

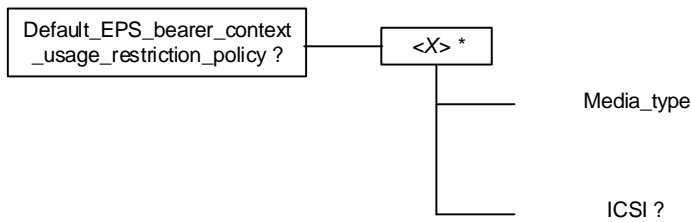


Figure 3: Default EPS bearer context usage restriction policy

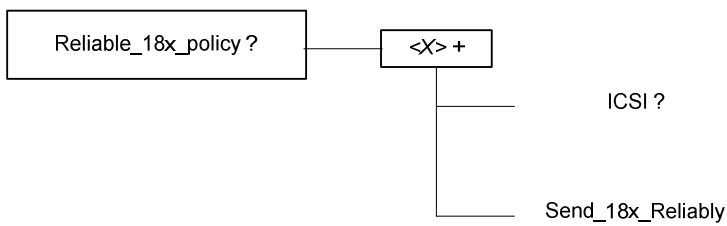


Figure 4: Reliable 18x policy

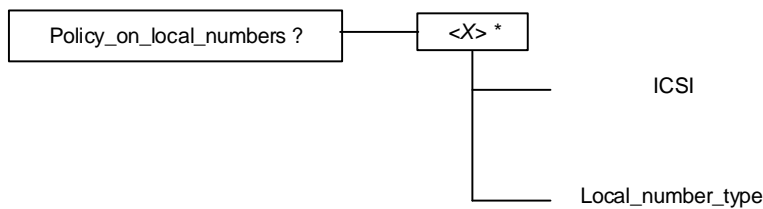


Figure 5: Policy on local numbers

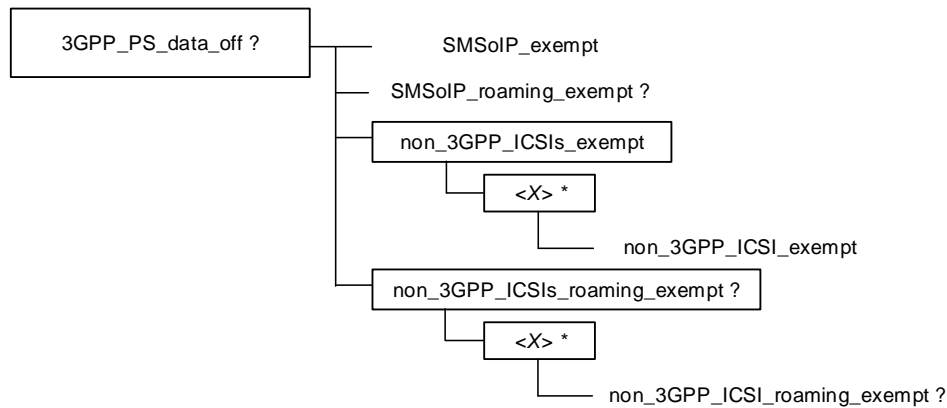


Figure 6: 3GPP PS data off

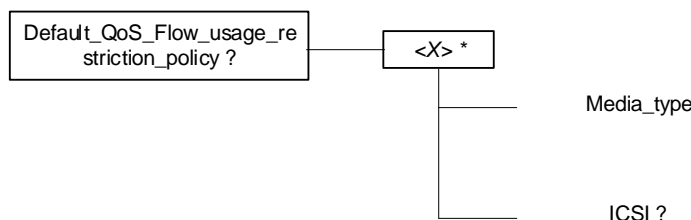


Figure 7: Default QoS Flow usage restriction policy

5 Management Object parameters

5.1 General

This clause describes the parameters for the 3GPP IMS Management Object.

5.2 Node: /<X>

This interior node acts as a placeholder for one or more accounts for a fixed node.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get
- Values: N/A

The interior node is mandatory if the UE supports the IM CN Subsystem. Support for a UE is defined by the user agent role as defined in 3GPP TS 24.229 [5].

NOTE: One node is normally used. More nodes are only used in case the terminal supports multiple UICCs.

5.3 /<X>/AppID

The AppID identifies the type of the application service available at the described application service access point. The value is globally unique.

- Occurrence: One
- Format: chr
- Access Types: Get
- Value: <ap2001>

NOTE: The value of the 3GPP_IMS/AppID is determined by OMA.

5.4 /<X>/Name

The Name leaf is a name for the 3GPP_IMS settings.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get
- Values: <User displayable name>

5.5 /<X>/ConRefs/

The ConRefs interior node is used to allow a reference to a list of network access point objects.

- Occurrence: One
- Format: node
- Access Types: Get
- Values: N/A

5.6 /<X>/ConRefs/<X>

This run-time node acts as a placeholder for one or more network access point objects.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get
- Values: N/A

5.7 /<X>/ConRefs/<X>/ConRef

The ConRef leaf represents a network access point object.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <A network access point object>

5.8 /<X>/PDP_ContextOperPref

The PDP_ContextOperPref leaf indicates an operator's preference to have a dedicated PDP context for SIP signalling.

- Occurrence: One
- Format: bool

- Access Types: Get, Replace
- Values: 0, 1
 - 0 – Indicates that the operator has no preference for a dedicated PDP context for SIP signalling.
 - 1 – Indicates that the operator has preference for a dedicated PDP context for SIP signalling.

The PDP_ContextOperPref leaf indicates a preference only. 3GPP TS 24.229 [5] describes the normative options and the procedures for establishment of a dedicated PDP context for SIP signalling.

5.9 /<X>/P-CSCF_Address

The P-CSCF_Address leaf defines an FQDN or an IPv4 address to an IPv4 P-CSCF.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: <A FQDN> or <an IPv4 address>

The P-CSCF_Address leaf shall only be used in early IMS implementations as described in 3GPP TS 23.221 [3].

The FQDN, or host name as defined in subclause 25.1 of RFC 3261 [23].

EXAMPLE: pscf.operator.com

5.10 /<X>/Timer_T1

The Timer_T1 leaf defines the SIP timer T1 – the RTT estimate.

- Occurrence: One
- Format: int
- Access Types: Get, Replace
- Values: <The round trip time>

The Timer_T1 leaf is an estimate for the round trip time in the system (UE – P-CSCF). The timer value shall be given in milliseconds. The default value is recommended in 3GPP TS 24.229 [5]. The Timer_T1 is a 32 bits unsigned integer.

EXAMPLE: 2000 (milliseconds)

5.11 /<X>/Timer_T2

The Timer_T2 leaf defines the SIP timer T2 – the maximum retransmit interval for non-INVITE requests and INVITE responses.

- Occurrence: One
- Format: int
- Access Types: Get, Replace
- Values: <The maximum retransmit interval for non-INVITE requests and INVITE responses>

The Timer_T2 leaf is an estimate for the maximum retransmit interval for non-INVITE requests and INVITE responses. The timer value shall be given in milliseconds. The default value is recommended in 3GPP TS 24.229 [5]. The Timer_T2 is a 32 bits unsigned integer.

EXAMPLE: 16000 (milliseconds)

5.12 /<X>/Timer_T4

The Timer_T4 leaf defines the SIP timer T4 – the maximum duration a message will remain in the network.

- Occurrence: One
- Format: int
- Access Types: Get, Replace
- Values: <The maximum duration a message will remain in the network>

The Timer_T4 leaf is an estimate for the maximum duration a message will remain in the network. The timer value shall be given in milliseconds. The default value is recommended in 3GPP TS 24.229 [5]. The Timer_T4 is a 32 bits unsigned integer.

EXAMPLE: 17000 (milliseconds)

5.13 /<X>/Private_user_identity

The Private_user_identity leaf represents the private user identity.

- Occurrence: One
- Format: chr
- Access Types: Get
- Values: <A private user identity>

NOTE: The Private_user_identity leaf value is populated by the UE using the procedures to obtain the private user identity specified in 3GPP TS 24.229 [5].

The format of the private user identity is defined by 3GPP TS 23.003 [2].

EXAMPLE: 23415099999999@ims.mnc015.mcc234.3gppnetwork.org

5.14 /<X>/Public_user_identity_List/

The Public_user_identity_List interior node is used to allow a reference to a list of public user identities.

- Occurrence: One
- Format: node
- Access Types: Get
- Values: N/A

5.15 /<X>/Public_user_identity_List/<X>

This run-time node acts as a placeholder for one or more public user identities.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get
- Values: N/A

5.16 /<X>/Public_user_identity_List/<X>/Public_user_identity

The Public_user_identity leaf represents a public user identity.

- Occurrence: One
- Format: chr
- Access Types: Get
- Values: <A public user identity>

NOTE: The Public_user_identity leaf value is populated by the UE using the procedures to obtain the public user identity specified in 3GPP TS 24.229 [5].

The temporary public user identity if derived is populated and stored as the topmost element in the Public_user_identity_List as specified in 3GPP TS 24.229 [5].

The format of the public user identity is defined by 3GPP TS 23.003 [2].

EXAMPLE: sip: 23415099999999@ims.mnc015.mcc234.3gppnetwork.org

5.17 /<X>/Home_network_domain_name

The Home_network_domain_name leaf indicates the operator's home network domain.

- Occurrence: One
- Format: chr
- Access Types: Get
- Values: <The home network domain name>

NOTE: The Home_network_domain_name leaf value is populated by the UE using the procedures to obtain the home network domain name specified in 3GPP TS 24.229 [5].

The format of the home network domain name is defined by 3GPP TS 23.003 [2].

EXAMPLE: ims.mnc015.mcc234.3gppnetwork.org

5.18 /<X>/Ext/

The Ext is an interior node for where the vendor specific information about the 3GPP-IMS MO is being placed (vendor meaning application vendor, device vendor etc.). Usually the vendor extension is identified by vendor specific name under the ext node. The tree structure under the vendor identified is not defined and can therefore include one or more un-standardized sub-trees.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get
- Values: N/A

5.19 /<X>/ICSI_List/

The ICSI_List interior node is used to allow a reference to a list of IMS communication service identifiers that are supported by a subscriber's network for that subscriber.

- Occurrence: One
- Format: node
- Access Types: Get
- Values: N/A

5.20 /<X>/ICSI_List/<X>

This run-time node acts as a placeholder for zero or more IMS communication service identifiers that are supported by a subscriber's network for that subscriber.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.21 /<X>/ICSI_List/<X>/ICSI

The ICSI leaf represents one IMS communication service identifier that is supported by a subscriber's network for that subscriber.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <A communication services identifier>

The format of the communication services identifier is defined by 3GPP TS 24.229 [2]

5.21A /<X>/ICSI_List/<X>/ICSI_Resource_Allocation_Mode

The ICSI_Resource_Allocation_Mode leaf indicates whether UE initiates resource allocation for the media controlled by IM CN subsystem when a certain ICSI is used for the IMS session and when both UE and network can initiate resource allocation.

- Occurrence: ZeroOrOne
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1

0 – Indicates that the UE attempts to initiate resource allocation for the media controlled by IM CN subsystem.

1 – Indicates that the UE does not attempt to initiate resource allocation for the media controlled by IM CN subsystem.

NOTE: When value 1 is set, the network initiates resource allocation for the media controlled by IM CN subsystem.

In absence of the parameter, UE attempts to initiate resource allocation for the media controlled by IM CN subsystem when a certain ICSI is used for the IMS session and when both UE and network can initiate resource allocation.

5.22 /<X>/LBO_P-CSCF_Address/

The LBO_P-CSCF_Address interior node is used to allow a reference to a list of P-CSCFs.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.23 /<X>/LBO_P-CSCF_Address/<X>

This run-time node acts as a placeholder for one or more P-CSCF Addresses. Note that the order in which these nodes appear implies the priority of the address, where the first appearing has the highest priority.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get
- Values: N/A

5.24 /<X>/LBO_P-CSCF_Address/<X>/Address

The Address leaf defines the FQDN, the IPv4 address or the IPv6 address of a P-CSCF.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <A FQDN>, <an IPv4 address>, <an IPv6 address>

The FQDN, or host name as defined in subclause 25.1 of RFC 3261 [23].

EXAMPLE: pscf.operator.com

5.25 /<X>/LBO_P-CSCF_Address/<X>/AddressType

The AddressType leaf defines the type of address stored in the Address leaf node.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: 'FQDN', 'IPv4', 'IPv6'.

EXAMPLE: 'FQDN'

NOTE: Populating P-CSCF address list with only entries having AddressType values of either 'IPv4' or 'IPv6' results in coupling of the home operator's network topology to the data stored in the IMS MO in the UE. Unless the list also contains at least one entry of type FQDN, any changes in the network topology will have to be followed by the update of the IMS MO of each affected UE before service could be restored for that UE.

5.26 /<X>/Resource_Allocation_Mode

The Resource_Allocation_Mode leaf indicates whether UE initiates resource allocation for the media controlled by IM CN subsystem for all IMS sessions not covered by any "ICSI Resource Allocation Mode", when both UE and network can initiate resource allocation.

- Occurrence: ZeroOrOne
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1

0 – Indicates that the UE attempts to initiate resource allocation for the media controlled by IM CN subsystem.

- 1 – Indicates that the UE does not attempt to initiate resource allocation for the media controlled by IM CN subsystem.

NOTE: When value 1 is set, the network initiates resource allocation for the media controlled by IM CN subsystem.

In absence of the parameter, UE attempts to initiate resource allocation for the media controlled by IM CN subsystem for all IMS sessions not covered by any "ICSI Resource Allocation Mode", when both UE and network can initiate resource allocation.

5.27 /<X>/Voice_Domain_Preference_E_UTRAN

The Voice_Domain_Preference_E_UTRAN leaf indicates network operator's preference for selection of the domain to be used for voice communication services by the UE.

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: 1, 2, 3, 4

- 1 – Indicates that the UE does not attempt to initiate voice sessions over the IM CN Subsystem using an E-UTRAN bearer. This value equates to "CS Voice only" as described in 3GPP TS 23.221 [14].
- 2 – Indicates that the UE preferably attempts to use the CS domain to originate voice sessions. In addition, a UE, in accordance with 3GPP TS 24.292 [16], upon receiving a request for a session including voice, preferably attempts to use the CS domain for the audio media stream. This value equates to "CS Voice preferred, IMS PS Voice as secondary" as described in 3GPP TS 23.221 [14].
- 3 – Indicates that the UE preferably attempts to use the IM CN Subsystem using an E-UTRAN bearer to originate sessions including voice. In addition, a UE, in accordance with 3GPP TS 24.292 [16], upon receiving a request for a session including voice, preferably attempts to use an E-UTRAN bearer for the audio media stream. This value equates to "IMS PS Voice preferred, CS Voice as secondary" as described in 3GPP TS 23.221 [14].
- 4 – Indicates that the UE attempts to initiate voice sessions over IM CN Subsystem using an E-UTRAN bearer. In addition, a UE, upon receiving a request for a session including voice, attempts to use an E-UTRAN bearer for all the the audio media stream(s). This value equates to "IMS PS Voice only" as described in 3GPP TS 23.221 [14].

NOTE: For Voice_Domain_Preference_E_UTRAN leaf values 2, 3 and 4, whether the UE does attempt to use the IM CN subsystem using an E-UTRAN bearer for voice session initiation or termination is further guided by the "IMS Voice over PS session" indicator. See 3GPP TS 24.301 [15] and 3GPP TS 24.292 [16].

5.28 /<X>/SMS_Over_IP_Networks_Indication

The SMS_Over_IP_Networks_Indication leaf indicates network operator's preference for selection of the domain to be used for short message service (SMS) originated by the UE.

- Occurrence: ZeroOrOne
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1

- 0 – Indicates that the SMS service is not to be invoked over the IP networks.
- 1 – Indicates that the SMS service is preferred to be invoked over the IP networks.

5.29 /<X>/Keep_Alive_Enabled

The Keep_Alive_Enabled leaf indicates whether the UE sends keep alives.

- Occurrence: One
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 – Indicates that the UE does not send keep alives.
 - 1 – Indicates that the UE is to send keep alives.

3GPP TS 24.229 [5] describes the normative behaviour for the UE sending keep alives when the Keep_Alive_Enabled leaf indicates that sending keep alives is enabled.

5.30 /<X>/Voice_Domain_Preference_UTRAN

The Voice_Domain_Preference_UTRAN leaf indicates network operator's preference for selection of the domain to be used for voice communication services by the UE.

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: 1, 2, 3
 - 1 – Indicates that the UE does not attempt to initiate voice sessions over the IM CN Subsystem using an UTRAN PS bearer. This value equates to "CS Voice only" as described in 3GPP TS 23.221 [14].
 - 2 – Indicates that the UE preferably attempts to use the CS domain to originate voice sessions. In addition, a UE, in accordance with 3GPP TS 24.292 [16], upon receiving a request for a session including voice, preferably attempts to use the CS domain for the audio media stream. This value equates to "CS Voice preferred, IMS PS Voice as secondary" as described in 3GPP TS 23.221 [14].
 - 3 – Indicates that the UE preferably attempts to use the IM CN Subsystem using an UTRAN PS bearer to originate sessions including voice. In addition, a UE, in accordance with 3GPP TS 24.292 [16], upon receiving a request for a session including voice, preferably attempts to use an UTRAN PS bearer for the audio media stream. This value equates to "IMS PS Voice preferred, CS Voice as secondary" as described in 3GPP TS 23.221 [14].

5.31 /<X>/Mobility_Management_IMS_Voice_Termination

This leaf applies if a UE utilises the services provided by EPS or GPRS to provide packet-mode communication between the UE and the IM CN subsystem.

The Mobility_Management_IMS_Voice_Termination leaf indicates whether the UE mobility management performs additional procedures as specified in 3GPP TS 24.008 [17] and 3GPP TS 24.301 [15] to support terminating access domain selection by the network.

- Occurrence: ZeroOrOne
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 – Mobility Management for IMS Voice Termination disabled.

1 – Mobility Management for IMS Voice Termination enabled.

5.32 void

5.33 void

5.34 void

5.35 /<X>/RegRetryBaseTime

The RegRetryBaseTime leaf represents the value of the base-time (if all failed) parameter of the algorithm defined in subclause 4.5 of RFC 5626 [18].

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: <base-time >

The base-time value shall be given in seconds.

5.36 /<X>/RegRetryMaxTime

The RegRetryMaxTime leaf represents the value of the max-time parameter of the algorithm defined in subclause 4.5 of RFC 5626 [18].

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: <maximum time >

The maximum time value shall be given in seconds.

5.37 /<X>/PhoneContext_List/

The PhoneContext_List interior node is used to allow a reference to a list of phone-context parameter values for other local numbers, than geo-local or home-local numbers, as defined in subclause 5.1.2A.1.5 of 3GPP TS 24.229 [5].

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.38 /<X>/PhoneContext_List/<X>

This run-time node acts as a placeholder for one or more phone-context parameter values.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get
- Values: N/A

5.39 /<X>/PhoneContext_List/<X>/PhoneContext

The PhoneContext leaf defines the value of the phone-context parameter.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <phone-context>

5.40 /<X>/PhoneContext_List/<X>/Public_user_identity

The Public_user_identity leaf defines zero or more public user identities to which the phone-context parameter value is associated.

- Occurrence: OneOrMore
- Format: chr
- Access Types: Get, Replace
- Values: <A public user identity>.

5.41 /<X>/SS_domain_setting

The SS_domain_setting leaf indicates the network operator's preference for the selection of the domain used by the UE when performing supplementary services (SS) setting control for voice services.

NOTE 1: The SS_domain_setting leaf does not provide a mechanism for the network operator to select the domain used for mobile originating USSD requests.

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: 0, 1, 2

0 – Indicates that the UE only uses the PS domain for SS setting control

1 – Indicates that the UE only uses the CS domain for SS setting control

2 - Indicates that the UE uses the PS domain for SS setting control when the PS domain is being used by the UE for voice services, and the UE uses the CS domain for SS setting control when the CS domain is being used by the UE for voice services

The network operator can select the preference for the selection of the domain used by the UE when performing supplementary services (SS) setting control for voice services, according to the domain(s) where the supplementary services are provisioned. For example:

- if the supplementary services are provisioned only in the PS domain, the UE can be restricted to configure only the supplementary services part of the IMS multimedia telephony communication service by setting value "0";

NOTE 2: If voice services are centralized in IMS, and if the UE accesses the CS domain for voice services, the supplementary services part of the IMS multimedia telephony communication service can also be configured in the PS domain by the UE.

- if the supplementary services are provisioned only in the CS domain, the UE can be restricted to configure only the supplementary services for CS speech by setting value "1"; and

NOTE 3: If the supplementary services are provisioned in the PS domain, then the supplementary services part of the IMS multimedia telephony communication service can also be configured by a UE accessing the CS domain towards an MSC server enhanced for ICS implementing the interworking between call independent supplementary service signalling and the XCAP application usage for manipulating supplementary services data, as specified in 3GPP TS 29.292 [22].

- if the supplementary services are provisioned in both the CS domain and PS domain, then value "2" can be set to restrict the UE to:
 - a) configure the supplementary services for CS speech when the UE is using the CS domain for voice services; and
 - b) configure the supplementary services part of the IMS multimedia telephony communication service when the UE is using the PS domain for voice services.

5.42 /<X>/PS_domain_IMS_SS_control_preference

The PS_domain_IMS_SS_control_preference leaf provides a means to define the method for which Supplementary Services as defined by 3GPP TS 22.173 [19] are controlled by the UE when SS setting control is to be invoked over the PS domain.

- Occurrence: ZeroOrOne
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 – Indicates that the IMS SS setting control for services defined by 3GPP TS 22.173 [19] is to be invoked using XCAP/Ut as defined by 3GPP TS 24.623 [20]
 - 1 – Indicates that the IMS SS setting control for services defined by 3GPP TS 22.173 [19] is to be invoked using SIP-based user configuration as defined by 3GPP TS 24.238 [21]

NOTE: The usage of other methods for controlling the IMS SS setting control are out of the scope of this parameter.

The UE uses the information stored in the PS_domain_IMS_SS_control_preference leaf either when the SS_domain_setting leaf is set to "0", or when SS_domain_setting is set to "2" and the domain currently used for voice services is the PS domain.

5.43 /<X>/Media_type_restriction_policy

This interior node describes the media type restriction policy.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

The media type restriction policy consists of zero or more media type restriction policy parts. Each media type restriction policy part is described by a child node.

A media type is restricted from inclusion in a SDP message according to the media type restriction policy indicated by this interior node, if at least one child node restricts inclusion of the media type in the SDP message.

The media type restriction policy does not influence SDP messages exchanged in an IMS emergency call.

5.44 /<X>/Media_type_restriction_policy/<X>/

This interior node describes the media type restriction policy part.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

The media type restriction policy part consists of a mandatory media type in the Media_type child node and zero or more conditions in child nodes other than the Media_type child node.

NOTE: If the Media_type child node is the sole child node, the media type indicated in the Media_type child node is restricted from inclusion in a SDP message according to the media type restriction policy part in all circumstances.

The media type restriction policy part indicated by this interior node restricts inclusion of a media type in an SDP message if:

- a) the media type is indicated in the Media_type child node;
- b) the following is true:
 - 1) this node does not have an IP-CAN child node; or
 - 2) the following is true:
 - A) the SDP message contains an "m=" SDP line of the media type;
 - B) the "m=" SDP line is associated with a "c=" SDP line;
 - C) the "c=" SDP line indicates an IP address;
 - D) the IP address is associated with an IP-CAN bearer; and
 - E) the IP-CAN bearer is of an IP-CAN indicated in the IP-CAN child node;
- c) the following is true:
 - 1) this node does not have an ICSI child node; or
 - 2) the SDP message describes session offered or established by SIP signalling related to an IMS communication service identified in the ICSI child node; and
- d) the following is true:
 - 1) this node does not have a Roaming child node; or
 - 2) the following is true:
 - A) this node has a Roaming child node;
 - B) the SDP message contains an "m=" SDP line of the media type;
 - C) the "m=" SDP line is associated with a "c=" SDP line;
 - D) the "c=" SDP line indicates an IP address;
 - E) the IP address is associated with an IP-CAN bearer; and
 - F) the UE roams in the IP-CAN of the IP-CAN bearer.

5.45 /<X>/Media_type_restriction_policy/<X>/Media_type

This leaf indicates a restriction applicable for a media type.

- Occurrence: One
- Format: chr

- Access Types: Get, Replace
- Values: a media type as described in RFC 4566 [rfc4566], subclause 8.2.1

5.46 /<X>/Media_type_restriction_policy/<X>/IP-CAN

This leaf indicates a restriction applicable for an IP-CAN.

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: one of the values specified in table 5.45-1.

Table 5.46-1: Possible values for the IP-CAN leaf

Value	Description
1	Evolved Packet System (EPS)
2	Evolved Packet Core (EPC) via Wireless Local Access Network (WLAN)
3	General Packet Radio Service (GPRS)
4	5G core (5GC) via NG-RAN
5	5G core (5GC) via non-3GPP access
6	5G core (5GC) via E-UTRA
0, 7-255	Not assigned

5.47 /<X>/Media_type_restriction_policy/<X>/ICSI

This leaf indicates a restriction applicable for an ICSI.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: an IMS communication service identifier as defined by 3GPP TS 24.229 [2].

5.48 /<X>/Media_type_restriction_policy/<X>/Roaming

This leaf indicates a restriction applicable when media are transported to or from an IP-CAN where the UE roams.

- Occurrence: ZeroOrOne
- Format: null
- Access Types: Get, Replace
- Values: null

5.49

/<X>/Default_EPS_bearer_context_usage_restriction_policy

This interior node describes the default EPS bearer context usage restriction policy.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace

- Values: N/A

Editor's note (WI: IOC_UE_conf, CR: 0181): it is FFS whether the default EPS bearer context usage restriction policy influences sending of media in an IMS emergency call. If configurable, further configuration parameter is needed.

5.50

`/<X>/Default_EPS_bearer_context_usage_restriction_policy/<X>/`

This interior node describes the default EPS bearer context usage restriction policy part.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.51

`/<X>/Default_EPS_bearer_context_usage_restriction_policy/<X>/Media_type`

This leaf indicates a media type condition.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: a media type as described in RFC 4566 [rfc4566], subclause 8.2.1

5.52

`/<X>/Default_EPS_bearer_context_usage_restriction_policy/<X>/ICSI`

This leaf indicates an ICSI condition.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: an IMS communication service identifier as defined by 3GPP TS 24.229 [2].

5.53 `/<X>/Reliable_18x_policy`

This interior node describes the reliable 18x policy. In the absence of this node, the UE sends SIP 18x response reliably or not up to the implementation.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

NOTE 1: If the INVITE request is subject to an IMS communication service which does not match the ICSI condition in any of the reliable 18x policy parts and if there is no reliable 18x policy part without ICSI, it is IMS communication service and/or implementation dependent whether to send the SIP 18x responses reliably.

NOTE 2: Some IMS communication services require that SIP 18x responses are not sent reliably. Mandating that the UE send all SIP 18x responses reliably could prevent those IMS communication services from operating correctly.

5.54 /<X>/ Reliable_18x_policy /<X>/

This interior node describes the reliable 18x policy part.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.55 /<X>/ Reliable_18x_policy /<X>/ ICSI

This leaf indicates an ICSI condition.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: an IMS communication service identifier as defined by 3GPP TS 24.229 [2].

In absence of the parameter, UE applies the reliable 18x policy indicated in the Send_18x_Reliably parameter on all IMS services.

5.56 /<X>/ Reliable_18x_policy /<X>/ Send_18x_Reliably

This leaf indicates whether the SIP 18x responses (other than SIP 183 response) against an INVITE request subject to the IMS service indicated in the ICSI leaf are to be sent reliably.

- Occurrence: One
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 – Indicates that the SIP 18x responses (other than SIP 183 response) are to be sent unreliably.
 - 1 – Indicates that the SIP 18x responses (other than SIP 183 response) are to be sent reliably.

5.57 /<X>/EPS_initial_attach_ConRefs

This interior node describes the policy on the PDN connection established during the EPS attach procedure.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.58 /<X>/EPS_initial_attach_ConRefs/<X>

This run-time node acts as a placeholder for one or more network access point objects.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get
- Values: N/A

5.59 /<X>/EPS_initial_attach_ConRefs/<X>/ConRef

The ConRef leaf represents a network access point object.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <A network access point object>

5.60 /<X>/Precondition_disabling_policy

This leaf contains the precondition disabling policy.

- Occurrence: ZeroOrOne
- Format: bool
- Access Types: Get, Replace
- Values: one of the values specified in table 5.60-1.

Table 5.60-1: Possible values for the Precondition_disabling_policy leaf

Value	Description
0	the UE is allowed to use the precondition mechanism
1	the UE is not allowed to use the precondition mechanism

The default value is '0'.

5.61 /<X>/Timer_Emerg-reg

The optional Timer_Emerg-reg leaf defines the operator's emergency registration request timeout policy.

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: <The maximum time before the UE consider the emergency REGISTER request or the emergency call attempt as failed.>

The Timer_Emerg-reg leaf is the maximum time from deciding that an emergency service is to be established via the IM CN subsystem until completion of the emergency registration procedure, including any required IP-CAN procedures. Upon timer expiry the UE considers the emergency REGISTER request or the emergency call attempt as failed (see 3GPP TS 24.229 [5]). The timer value shall be given in seconds. The configurable value is between 8 and 20 seconds as defined in 3GPP TS 24.229 [5]. The Timer_Emerg-reg is a 16 bits unsigned integer.

NOTE: If the maximum time is set to a value smaller than 10 seconds, the Timer_Emerg-reg can expire before the supervision timer of a necessary IP-CAN procedure, e.g. an EPS attach procedure (see 3GPP TS 24.301 [14]), expires.

5.62 /<X>/Policy_on_local_numbers

This interior node describes the policy on local numbers.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.63 /<X>/Policy_on_local_numbers/<X>/

This interior node describes a part of the policy on local numbers.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.64 /<X>/Policy_on_local_numbers/<X>/ICSI

This leaf indicates an ICSI.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: an IMS communication service identifier as defined by 3GPP TS 24.229 [2].

5.65 /<X>/Policy_on_local_numbers/<X>/Local_number_type

This leaf indicates a local number type.

- Occurrence: One
- Format: int
- Access Types: Get, Replace
- Values: values indicate in table 5.d-1.

Table 5.65-1: Possible values for the Local_number_type leaf

Value	Description
1	home-local number
2	geo-local number
0, 3-255	not assigned

5.66 /<X>/3GPP_PS_data_off

The interior node contains configuration parameters for 3GPP PS data off.

- Occurrence: ZeroOrOne

- Format: node
- Access Types: Get, Replace
- Values: N/A

5.67 /<X>/3GPP_PS_data_off/SMSoIP_exempt

The leaf indicates whether the SMS over IP is a 3GPP PS data off exempt service.

- Occurrence: One
 - Format: bool
 - Access Types: Get, Replace
 - Values: 0, 1
- 0 - Indicates that the SMS over IP is not a 3GPP PS data off exempt service.
- 1 - Indicates that the SMS over IP is a 3GPP PS data off exempt service.

NOTE: This MO is used when the UE is in the home PLMN or the EHPLMN, or the SMSoIP_roaming_exempt node is not configured when the UE is in the VPLMN.

5.67a /<X>/3GPP_PS_data_off/SMSoIP_roaming_exempt

The leaf indicates whether the SMS over IP is a 3GPP PS data off exempt service when the UE is in the VPLMN:

- Occurrence: ZeroOrOne
 - Format: bool
 - Access Types: Get, Replace
 - Values: 0, 1
- 0 - Indicates that the SMS over IP is not a 3GPP PS data off roaming exempt service.
- 1 - Indicates that the SMS over IP is a 3GPP PS data off roaming exempt service.

5.68 /<X>/3GPP_PS_data_off/non_3GPP_ICSI_exempt

Editor's note (CR#0187, WID: PS_DATA_OFF-CT): TS 22.011 has requirement for "particular IMS services not defined by 3GPP, where each such IMS service is identified by an IMS communication service identifier". It is for further study to define which IMS communication service identifiers are identified as "particular".

The interior node contains IMS communication service identifiers of the IMS communication services not defined by 3GPP which are 3GPP PS data off exempt services.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: n/a

NOTE: This MO is used when the UE is in the home PLMN or the EHPLMN, or the non_3GPP_ICSI_exempt node is not configured when the UE is in the VPLMN.

5.68a

`/<X>/3GPP_PS_data_off/non_3GPP_ICSI_s_roaming_exempt`

The interior node contains IMS communication service identifiers of the IMS communication services not defined by 3GPP which are 3GPP PS data off exempt services when the UE is in the VPLMN.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: n/a

5.69 `/<X>/3GPP_PS_data_off/non_3GPP_ICSI_s_exempt/<X>`

The interior node contains an IMS communication service identifier of the IMS communication service not defined by 3GPP which is a 3GPP PS data off exempt service.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: n/a

5.69a

`/<X>/3GPP_PS_data_off/non_3GPP_ICSI_s_roaming_exempt/<X>`

The interior node contains an IMS communication service identifier of the IMS communication service not defined by 3GPP which is a 3GPP PS data off exempt service when the UE is in the VPLMN.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: n/a

5.70

`/<X>/3GPP_PS_data_off/non_3GPP_ICSI_s_exempt/<X>/non_3GPP_ICSI_exempt`

The interior node contains an IMS communication service identifier of the IMS communication service not defined by 3GPP which is a 3GPP PS data off exempt service.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: an IMS communication service identifier as defined by 3GPP TS 24.229 [2].

5.70a

`/<X>/3GPP_PS_data_off/non_3GPP_ICSI roaming_exempt/<X>/non_3GPP_ICSI_roaming_exempt`

The interior node contains an IMS communication service identifier of the IMS communication service not defined by 3GPP which is a 3GPP PS data off exempt service when the UE is in the VPLMN.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: an IMS communication service identifier as defined by 3GPP TS 24.229 [2].

5.71 `/<X>/SMSoIP_usage_policy`

The SMSoIP_usage_policy leaf indicates the policy on usage of SMS over IP.

If the SMS_Over_IP_Networks_Indication leaf specified in subclause 5.28 is set to the "0: Indicates that the SMS service is not to be invoked over the IP networks" value, then the SMSoIP_usage_policy leaf has no effect.

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: 0, 1, 2
 - 0 – Indicates that SMS over IP is used only if voice over PS is available and only on the IP-CAN bearer that is used for the transport of SIP signalling associated with voice over PS.
 - 1 – Indicates that SMS over IP is used only if voice over PS is available and on any IP-CAN bearer.
 - 2 - Indicates that SMS over IP is used irrespective of whether voice over PS is available and on any IP-CAN bearer.

5.72 Void

5.73 `/<X>/Timer_Emerg-request`

The optional Timer_Emerg-request leaf defines the operator's emergency request timeout policy.

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: <The maximum time between sending of an initial INVITE request for an emergency session and receiving an 18x response to the INVITE request.>

The Timer_Emerg-request leaf is the maximum time between sending of an initial INVITE request for an emergency session and receiving an 18x response to the INVITE request. The timer value shall be given in seconds. The configurable value is between 5 and 15 seconds as defined in 3GPP TS 24.229 [5]. The Timer_Emerg-request is an 8 bits unsigned integer.

5.74 `/<X>/IMS_Registration_Policy`

The interior node contains configuration parameters for the IMS registration handling.

- Occurrence: ZeroOrOne

- Format: node
- Access Types: Get, Replace
- Values: N/A

5.75 /<X>/IMS_Registration_Policy/<X>/

The interior node describes the IMS registration handling policy part.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

The IMS registration handling policy part consists of a mandatory Stay_Registered_When_VoPS_Not_Supported child node indicating whether the UE stays registered when VoPS is not supported. If it is set to false, the Deregistration_Timer child node indicates the time duration in second before deregistration.

5.76

/<X>/IMS_Registration_Policy/<X>/Stay_Registered_When_VoPS_Not_Supported

The leaf indicates whether the UE stays registered or not from IMS when moving to area where IMS Voice Over PS Session is not supported.

- Occurrence: One
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1

1 - Indicates that the UE maintains the registration as required for IMS services;

0 - Indicates that the UE deregisters from IMS as defined in annex B and annex L in 3GPP TS 24.229 [5].

Editor's note: [WID: TEI15, CR#0192]: Whether annex U is also applied is FFS.

NOTE: The value 1 implicitly indicates that there is no services other than voice is to be provided based on IMS, thus if the value 1 is set then the UE does not perform the initial IMS registration when camps on the network and gets the indication that IMS voice over PS session is not supported.

5.77 /<X>/IMS_Registration_Policy/<X>/Deregistration_Timer

The Deregistration_Timer leaf indicates the time before deregistration on the UE when moving to area where IMS Voice Over PS Session is not supported.

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: <The time a UE stays registered when VoPS_Not_Supported is received>

The use of this leaf is as defined in annex B and annex L in 3GPP TS 24.229 [5]. The timer value shall be given in seconds. The Deregistration_Timer is a 16 bits unsigned integer.

NOTE 1: Setting the value '0' leads to immediate deregistration

NOTE 2: Setting small timer values can lead to frequent registrations and deregistrations with significant impact on UE battery life and network load especially in areas of fringe coverage for IMS Voice Over PS.

5.78 /<X>/Allow_Handover_PDN_connection_WLAN_and_EPS

The leaf indicates options for when a UE roaming in a VPLMN, is allowed to transfer the PDN connection providing access to IMS between EPC via WLAN and EPS.

- Occurrence: ZeroOrOne
 - Format: int
 - Access Types: Get, Replace
 - Values: 0, 1, 2
- 0 - Indicates that a UE roaming in a VPLMN and having an ongoing session, is not allowed to transfer the PDN connection providing access to IMS between EPC via WLAN and EPS.
- 1 - Indicates that a UE roaming in a VPLMN and having an ongoing session, is allowed to transfer the PDN connection providing access to IMS between EPC via WLAN and EPS;
- 2 - Indicates that a UE roaming in a VPLMN is not allowed to transfer the PDN connection providing access to IMS between EPC via WLAN and EPS using handover procedures, irrespective of if the UE is in a session or not.

NOTE 1: When handover is restricted a UE can select another IP-CAN type in idle mode, e.g. due to UE domain preference using the procedures to re-establish PDN connectivity for IMS access specified in 3GPP TS 24.229 [5].

NOTE 2: If this MO is configured, it is assumed that ANDSF objects are configured consistent with this MO.

5.79 /<X>/Default_QoS_Flow_usage_restriction_policy

This interior node describes the default QoS Flow usage restriction policy. The policy is used to control whether the UE is allowed to send media on the 5G QoS Flow associated with the default QoS rule.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

Editor's note (WI: 5GS_Ph1-IMSo5G, CR: 0202): it is FFS whether the default QoS Flow usage restriction policy influences sending of media in an IMS emergency call. If configurable, further configuration parameter is needed.

5.80 /<X>/Default_QoS_Flow_usage_restriction_policy/<X>/

This interior node describes the default QoS Flow usage restriction policy part.

- Occurrence: ZeroOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.81

`/<X>/Default_QoS_Flow_usage_restriction_policy/<X>/Media_type`

This leaf indicates a media type condition.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: a media type as described in RFC 4566 [24], subclause 8.2.1

5.82 `/<X>/Default_QoS_Flow_usage_restriction_policy/<X>/ICSI`

This leaf indicates an ICSI condition.

- Occurrence: ZeroOrOne
- Format: chr
- Access Types: Get, Replace
- Values: an IMS communication service identifier as defined by 3GPP TS 24.229 [2].

Annex A (informative): Management Object DDF

This DDF is the standardized minimal set. A vendor can define its own DDF for the complete device. This DDF can include more features than this minimal standardized version.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE MgmtTree PUBLIC "-//OMA//DTD-DM-DDF 1.2//EN"
"http://www.openmobilealliance.org/tech/DTD/DM-DDF-V1_2.dtd">
<MgmtTree>
  <VerDTD>1.2</VerDTD>
  <Man>--The device manufacturer--</Man>
  <Mod>--The device model--</Mod>
  <Node>
    <NodeName>3GPP_IMS</NodeName>
    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <Description>3GPP IMS settings</Description>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <OneOrMore/>
      </Occurrence>
      <Scope>
        <Permanent/>
      </Scope>
      <DFTitle>The 3GPP IMS Management Object.</DFTitle>
      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>
  </Node>
  <Node>
    <NodeName>AppID</NodeName>
    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <DFFormat>
        <chr/>
      </DFFormat>
      <Occurrence>
        <One/>
      </Occurrence>
      <Scope>
        <Permanent/>
      </Scope>
      <DFTitle>The Application ID.</DFTitle>
      <DFType>
        <MIME>text/plain</MIME>
      </DFType>
    </DFProperties>
  </Node>
  <Node>
    <NodeName>Name</NodeName>
    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <DFFormat>
        <chr/>
      </DFFormat>
      <Occurrence>
        <ZeroOrOne/>
      </Occurrence>
      <Scope>
        <Dynamic/>
      </Scope>
      <DFTitle>User displayable name for the node.</DFTitle>
      <DFType>
        <MIME>text/plain</MIME>
      </DFType>
    </DFProperties>
  </Node>
</MgmtTree>
```

```

</Node>
<Node>
  <NodeName>ConRefs</NodeName>
  <!-- The ConRefs node starts here. -->
  <DFProperties>
    <AccessType>
      <Get/>
    </AccessType>
    <DFFormat>
      <node/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>A collection of network access point objects.</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>
  <Node>
    <NodeName/>
    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <OneOrMore/>
      </Occurrence>
      <Scope>
        <Dynamic/>
      </Scope>
      <DFTitle>The "name" node for a network access point object.</DFTitle>
      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>
    <Node>
      <NodeName>ConRef</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <chr/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
        <Scope>
          <Permanent/>
        </Scope>
        <DFTitle>The ConRef (network access point object).</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </Node>
  </Node>
</Node>
<Node>
  <NodeName>PDP_ContextOperPref</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
  </DFProperties>

```

```

        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle>Indication of the operator's preference for a dedicated PDP context for IMS
signalling.</DFTitle>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
    </DFProperties>
</Node>
<Node>
    <NodeName>P-CSCF_Address</NodeName>
    <DFProperties>
        <AccessType>
            <Get/>
            <Replace/>
        </AccessType>
        <DFFormat>
            <chr/>
        </DFFormat>
        <Occurrence>
            <ZeroOrOne/>
        </Occurrence>
        <Scope>
            <Dynamic/>
        </Scope>
        <DFTitle>The address of the P-CSCF.</DFTitle>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
    </DFProperties>
</Node>
<Node>
    <NodeName>Timer_T1</NodeName>
    <DFProperties>
        <AccessType>
            <Get/>
            <Replace/>
        </AccessType>
        <DFFormat>
            <int/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle>RFC 3261, timer T1.</DFTitle>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
    </DFProperties>
</Node>
<Node>
    <NodeName>Timer_T2</NodeName>
    <DFProperties>
        <AccessType>
            <Get/>
            <Replace/>
        </AccessType>
        <DFFormat>
            <int/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle>RFC 3261, timer T2.</DFTitle>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
    </DFProperties>
</Node>
</Node>

```

```

<NodeName>Timer_T4</NodeName>
<DFProperties>
  <AccessType>
    <Get/>
    <Replace/>
  </AccessType>
  <DFFormat>
    <int/>
  </DFFormat>
  <Occurrence>
    <One/>
  </Occurrence>
  <Scope>
    <Permanent/>
  </Scope>
  <DFTitle>RFC 3261, timer T4.</DFTitle>
  <DFType>
    <MIME>text/plain</MIME>
  </DFType>
</DFProperties>
</Node>
<Node>
  <NodeName>Private_user_identity</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
    </AccessType>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>The private user identity.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName>Public_user_identity_List</NodeName>
  <!-- The Public_user_identity_List node starts here. -->
  <DFProperties>
    <AccessType>
      <Get/>
    </AccessType>
    <DFFormat>
      <node/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>A collection of public user identity objects.</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>
  <Node>
    <NodeName/>
    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <OneOrMore/>
      </Occurrence>
      <Scope>
        <Dynamic/>
      </Scope>
    </DFProperties>
  </Node>

```



```

        <DFTitle>The "name" node for a public user identity object.</DFTitle>
        <DFType>
            <DDFName/>
        </DFType>
    </DFProperties>
    <Node>
        <NodeName>Public_user_identity</NodeName>
        <DFProperties>
            <AccessType>
                <Get/>
            </AccessType>
            <DFFormat>
                <chr/>
            </DFFormat>
            <Occurrence>
                <One/>
            </Occurrence>
            <Scope>
                <Permanent/>
            </Scope>
            <DFTitle>The public user identity.</DFTitle>
            <DFType>
                <MIME>text/plain</MIME>
            </DFType>
        </DFProperties>
    </Node>
</Node>
<Node>
    <NodeName>Home_network_domain_name</NodeName>
    <DFProperties>
        <AccessType>
            <Get/>
        </AccessType>
        <DFFormat>
            <chr/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle>The home network domain name.</DFTitle>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
    </DFProperties>
</Node>
<Node>
    <NodeName>ICSI_List</NodeName>
    <!-- The ICSI_List node starts here. -->
    <DFProperties>
        <AccessType>
            <Get/>
            <Replace/>
        </AccessType>
        <DFFormat>
            <node/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle>A collection of IMS communication services identifier objects.</DFTitle>
        <DFType>
            <DDFName/>
        </DFType>
    </DFProperties>
    <Node>
        <NodeName/>
        <DFProperties>
            <AccessType>
                <Get/>
            </AccessType>
            <DFFormat>

```

```

        <node/>
      </DFFormat>
    <Occurrence>
      <OneOrMore/>
    </Occurrence>
  <Scope>
    <Dynamic/>
  </Scope>
  <DFTitle>The "name" node for an IMS communication services identifier
object.</DFTitle>
  <DFType>
    <DDFName/>
  </DFType>
</DFProperties>
<Node>
  <NodeName>ICSI</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>The IMS communication services identifier.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName>ICSI_Resource_Allocation_Mode</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>Indicates whether UE initiates resource allocation for the media
controlled by IM CN subsystem when a certain ICSI is used for the IMS session and when both UE and
network can initiate resource allocation for IMS media.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
</Node>
</Node>
<Node>
  <NodeName>LBO_P-CSCF_Address</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <node/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>

```

```

    <DFTitle>A collection of addresses of the P-CSCF for IMS Local Breakout.</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>
  <Node>
    <NodeName/>
    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <OneOrMore/>
      </Occurrence>
      <Scope>
        <Dynamic/>
      </Scope>
      <DFTitle>The "name" node for a P-CSCF address.</DFTitle>
      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>
    <Node>
      <NodeName>Address</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <chr/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
        <Scope>
          <Permanent/>
        </Scope>
        <DFTitle>The P-CSCF Address.</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </Node>
    <Node>
      <NodeName>AddressType</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <chr/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
        <Scope>
          <Permanent/>
        </Scope>
        <DFTitle>The type of P-CSCF Address.</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </Node>
  </Node>
  <Node>
    <NodeName>Resource_Allocation_Mode</NodeName>
    <DFProperties>
      <AccessType>
        <Get/>
        <Replace/>
      </AccessType>

```

```

    <DFFormat>
      <bool/>
    </DFFormat>
  </Occurrence>
  <Scope>
    <Permanent/>
  </Scope>
  <DFTitle>Indicates whether UE initiates resource allocation for the media controlled
by IM CN subsystem for all IMS sessions not covered by any "ICSI Resource Allocation Mode" when both
UE and network can initiate resource allocation.</DFTitle>
  <DFType>
    <MIME>text/plain</MIME>
  </DFType>
</DFProperties>
</Node>
<Node>
  <NodeName>Voice_Domain_Preference_EUTRAN</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <int/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>Network operator's preference for voice domain for E-UTRAN according to
3GPP TS 23.221.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName>Voice_Domain_Preference_UTRAN</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <int/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>Network operator's preference for voice domain for UTRAN according to 3GPP
TS 23.221.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName>SMS_over_IP_Networks_Indication</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
  </DFProperties>
</Node>

```

```

    </Scope>
    <DFTitle>Indicates whether the SMS service is preferred to be invoked over the IMS
domain, or it shall not be invoked over the IMS domain .</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>Keep_Alive_Enabled</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>Indication whether the sending of keep alives by the UE is
enabled.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>Mobility_Management_IMS_Voice_Termination</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>Indicates whether the UE mobility management performs additional procedures
as specified in 3GPP TS 24.008 and 3GPP TS 24.301 to support terminating access domain selection by
the network.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName> RegRetryBaseTime</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <int/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle> Represents the value of the base-time parameter of the algorithm defined
in subclause 4.5 of RFC 5626</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>

```

```

    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName> RegRetryMaxTime</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <int/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle> Represents the value of the max-time parameter of the algorithm defined in
subclause 4.5 of RFC 5626 </DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>PhoneContext_List</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <node/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>
    <DFTitle>A collection of phone-context parameters values with the associated public
user identities</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>
  <Node>
    <NodeName/>
    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <OneOrMore/>
      </Occurrence>
      <Scope>
        <Dynamic/>
      </Scope>
      <DFTitle>The "name" node for a phone-context value</DFTitle>
      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>
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  <NodeName>PhoneContext</NodeName>
  <DFProperties>
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      <Replace/>
    </AccessType>
    <DFFormat>
      <chr/>

```

```

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        </Occurrence>
        <Scope>
          <Permanent/>
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        <DFTitle>The phone-context parameter value </DFTitle>
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        </DFType>
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      <NodeName>Public_user_identity</NodeName>
      <DFProperties>
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          <Replace/>
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        <DFFormat>
          <chr/>
        </DFFormat>
        <Occurrence>
          <OneOrMore/>
        </Occurrence>
        <Scope>
          <Permanent/>
        </Scope>
        <DFTitle>The associated Public User identity URIs </DFTitle>
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        </DFType>
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  </Node>
</Node>
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      <ZeroOrOne/>
    </Occurrence>
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    </Scope>
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control</DFTitle>
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    </DFType>
  </DFProperties>
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<Node>
  <NodeName>PS_domain_ims_ss_control_preference</NodeName>
  <DFProperties>
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      <Permanent/>
    </Scope>

```

<DFTitle>Mechanism used for performing IMS SS setting control over the PS domain for services defined in 3GPP TS 22.173</DFTitle>

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</DFProperties>
</Node>
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    </DFFormat>
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      <Permanent/>
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    <DFType>
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    </DFType>
  </DFProperties>

  <Node>
    <NodeName/>
    <DFProperties>
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        <Replace/>
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      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <ZeroOrMore/>
      </Occurrence>
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        <Dynamic/>
      </Scope>
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      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>

    <Node>
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      <DFProperties>
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          <Replace/>
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        <DFFormat>
          <chr/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
        <Scope>
          <Dynamic/>
        </Scope>
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        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
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  </Node>
  <NodeName>IP-CAN</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>

```



```

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    </Occurrence>
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        <DFFormat>
            <chr/>
        </DFFormat>
        <Occurrence>
            <ZeroOrOne/>
        </Occurrence>
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            <Dynamic/>
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        <DFType>
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        </DFType>
    </DFProperties>
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            <Replace/>
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        <DFFormat>
            <null/>
        </DFFormat>
        <Occurrence>
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        </Occurrence>
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            <Dynamic/>
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        <DFType>
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        </DFType>
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</Node>
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    <NodeName>Default_EPS_bearer_context_usage_restriction_policy</NodeName>
    <DFProperties>
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        </DFFormat>
        <Occurrence>
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        </Occurrence>
        <Scope>
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</Node>

```

```

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<DFTitle>Default EPS bearer context usage restriction policy</DFTitle>
<DFType>
  <DDFName/>
</DFType>
</DFProperties>

<Node>
  <NodeName/>
  <DFProperties>
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      <Get/>
      <Replace/>
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    <DFFormat>
      <node/>
    </DFFormat>
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    </Occurrence>
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      <Dynamic/>
    </Scope>
    <DFTitle>Default EPS bearer context usage restriction policy part</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>

<Node>
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  <DFProperties>
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      <Replace/>
    </AccessType>
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      <chr/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>
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    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName>ICSI</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>
    <DFTitle>An ICSI</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
</Node>
<Node>
  <NodeName>Reliable_18x_policy</NodeName>
  <DFProperties>

```

```

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      <Replace/>
    </AccessType>
  </DFFormat>
  <node/>
</DFFormat>
<Occurrence>
  <ZeroOrOne/>
</Occurrence>
<Scope>
  <Permanent/>
</Scope>
<DFTitle>Reliable 18x policy</DFTitle>
<DFType>
  <DDFName/>
</DFType>
</DFProperties>
<Node>
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  <DFProperties>
    <AccessType>
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      <Replace/>
    </AccessType>
    <DFFormat>
      <node/>
    </DFFormat>
    <Occurrence>
      <OneOrMore/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>
    <DFTitle> Reliable 18x policy part</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <nodeName>ICSI</nodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>
    <DFTitle>An ICSI</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <nodeName>Send_18x_Reliably</nodeName>
  <DFProperties>
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    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Dynamic/>
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  </DFProperties>
</Node>

```

```

        </Scope>
        <DFTitle> whether the UE sends reliable SIP 18x response against an INVITE
request subject to the IMS service indicated in the ICSI leaf.</DFTitle>
        <DFType>
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        </DFType>
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</Node>
</Node>
<Node>
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            <Replace/>
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        </DFFormat>
        <Occurrence>
            <ZeroOrOne/>
        </Occurrence>
        <Scope>
            <Dynamic/>
        </Scope>
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procedure.</DFTitle>
        <DFType>
            <DDFName/>
        </DFType>
    </DFProperties>
    <Node>
        <NodeName/>
        <DFProperties>
            <AccessType>
                <Get/>
                <Replace/>
            </AccessType>
            <DFFormat>
                <node/>
            </DFFormat>
            <Occurrence>
                <OneOrMore/>
            </Occurrence>
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                <Dynamic/>
            </Scope>
            <DFTitle/>
            <DFType>
                <DDFName/>
            </DFType>
        </DFProperties>
        <Node>
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            <DFProperties>
                <AccessType>
                    <Get/>
                    <Replace/>
                </AccessType>
                <DFFormat>
                    <chr/>
                </DFFormat>
                <Occurrence>
                    <One/>
                </Occurrence>
                <Scope>
                    <Dynamic/>
                </Scope>
                <DFTitle>The ConRef (network access point object).</DFTitle>
                <DFType>
                    <MIME>text/plain</MIME>
                </DFType>
            </DFProperties>
        </Node>
    </Node>
</Node>
</Node>

```

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<NodeName>Precondition_disabling_policy</NodeName>
<DFProperties>
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    <Get/>
    <Replace/>
  </AccessType>
  <DFFormat>
    <bool/>
  </DFFormat>
  <Occurrence>
    <ZeroOrOne/>
  </Occurrence>
  <Scope>
    <Dynamic/>
  </Scope>
  <DFTitle>The precondition disabling policy.</DFTitle>
  <DFType>
    <MIME>text/plain</MIME>
  </DFType>
</DFProperties>
</Node>
<Node>
  <NodeName>Timer_Emerg-reg</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <int/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>Optional timer for emergency registration request timeout.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName>Policy_on_local_numbers</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <node/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle>The policy on local numbers</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName/>
  <DFProperties>
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      <Get/>
      <Replace/>
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    <DFFormat>
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    </DFFormat>
    <Occurrence>
      <ZeroOrMore/>
    </Occurrence>
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</Node>

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    </DFType>
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        <Replace/>
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        <chr/>
      </DFFormat>
      <Occurrence>
        <One/>
      </Occurrence>
      <Scope>
        <Dynamic/>
      </Scope>
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    </DFProperties>
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      </DFFormat>
      <Occurrence>
        <One/>
      </Occurrence>
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        <Dynamic/>
      </Scope>
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    </DFProperties>
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</Node>
</Node>
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    </DFFormat>
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      <ZeroOrOne/>
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    <DFType>
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    </DFType>
  </DFProperties>

```

```

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  <DFProperties>
    <AccessType>
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      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>
    <DFTitle>Whether the SMSoIP is a 3GPP PS data off exempt service.</DFTitle>
    <DFType>
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    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName>SMSoIP_roaming_exempt</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>
    <DFTitle>Whether the SMSoIP is a 3GPP PS data off roaming exempt
service.</DFTitle>
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    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName>non_3GPP_ICSI_exempt</NodeName>
  <DFProperties>
    <AccessType>
      <Replace/>
      <Get/>
    </AccessType>
    <DFFormat>
      <node/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>
    <DFTitle>IMS communication service identifiers of the IMS communication services
not defined by 3GPP which are 3GPP PS data off exempt services.</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>
</Node>
<Node>
  <NodeName></NodeName>
  <DFProperties>
    <AccessType>
      <Replace/>
      <Get/>
    </AccessType>
    <DFFormat>
      <node/>

```

```

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        </Occurrence>
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        </Scope>
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service not defined by 3GPP which is 3GPP PS data off exempt service.</DFTitle>
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          <DDFName/>
        </DFType>
      </DFProperties>

      <Node>
        <NodeName>non_3GPP_ICSI_exempt</NodeName>
        <DFProperties>
          <AccessType>
            <Get/>
            <Replace/>
          </AccessType>
          <DFFormat>
            <bool/>
          </DFFormat>
          <Occurrence>
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          </Occurrence>
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            <Dynamic/>
          </Scope>
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service not defined by 3GPP which is 3GPP PS data off exempt service.</DFTitle>
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          </DFType>
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    </Node>
  </Node>
  <Node>
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      <Occurrence>
        <ZeroOrOne/>
      </Occurrence>
      <Scope>
        <Dynamic/>
      </Scope>
      <DFTitle>IMS communication service identifiers of the IMS communication services
not defined by 3GPP which are 3GPP PS data off roaming exempt services.</DFTitle>
      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>

    <Node>
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      <DFProperties>
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          <Get/>
        </AccessType>
        <DFFormat>
          <node/>
        </DFFormat>
        <Occurrence>
          <ZeroOrMore/>
        </Occurrence>
        <Scope>
          <Dynamic/>
        </Scope>
      </DFProperties>
    </Node>
  </Node>

```



```

        </Scope>
        <DFTitle>IMS communication service identifier of the IMS communication
service not defined by 3GPP which is 3GPP PS data off roaming exempt service.</DFTitle>
        <DFType>
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        </DFType>
    </DFProperties>

    <Node>
        <NodeName>non_3GPP_ICSI_roaming_exempt</NodeName>
        <DFProperties>
            <AccessType>
                <Get/>
                <Replace/>
            </AccessType>
            <DFFormat>
                <bool/>
            </DFFormat>
            <Occurrence>
                <ZeroOrOne/>
            </Occurrence>
            <Scope>
                <Dynamic/>
            </Scope>
            <DFTitle>IMS communication service identifier of the IMS communication
service not defined by 3GPP which is 3GPP PS data off roaming exempt service.</DFTitle>
            <DFType>
                <MIME>text/plain</MIME>
            </DFType>
        </DFProperties>
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</Node>
</Node>
</Node>
<Node>
    <NodeName>SMSoIP_usage_policy</NodeName>
    <DFProperties>
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            <Get/>
            <Replace/>
        </AccessType>
        <DFFormat>
            <int/>
        </DFFormat>
        <Occurrence>
            <ZeroOrOne/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle>Indicates the policy on usage of SMS over IP.</DFTitle>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
    </DFProperties>
</Node>

<Node>
    <NodeName> IMS_Registration_Policy </NodeName>
    <DFProperties>
        <AccessType>
            <Get/>
            <Replace/>
        </AccessType>
        <DFFormat>
            <node/>
        </DFFormat>
        <Occurrence>
            <ZeroOrOne/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle> indicates the handling of IMS registration on the UE when moving to area
where IMS Voice Over PS Session is not supported </DFTitle>
        <DFType>
            <DDFName/>
        </DFType>
    </DFProperties>

```

```

</DFProperties>

<Node>
<NodeName> Stay_Registered_When_VoPS_Not_Supported </NodeName>
<DFProperties>
  <AccessType>
    <Get/>
    <Replace/>
  </AccessType>
  <DFFormat>
    <bool/>
  </DFFormat>
  <Occurrence>
    <One/>
  </Occurrence>
  <Scope>
    <Permanent/>
  </Scope>
  <DFTitle> The leaf indicates whether the UE stays registered or not from IMS when
moving to area where IMS Voice Over PS Session is not supported </DFTitle>
  <DFType>
    <DDFName/>
  </DFType>
</DFProperties>
</Node>

<Node>
<NodeName> Deregistration_Timer </NodeName>
<DFProperties>
  <AccessType>
    <Get/>
    <Replace/>
  </AccessType>
  <DFFormat>
    <int/>
  </DFFormat>
  <Occurrence>
    <ZeroOrOne/>
  </Occurrence>
  <Scope>
    <Permanent/>
  </Scope>
  <DFTitle> The Deregistration_Timer leaf indicates the time before deregistration on
the UE when moving to area where IMS Voice Over PS Session is not supported </DFTitle>
  <DFType>
    <DDFName/>
  </DFType>
</DFProperties>
</Node>

</Node>

<Node>
<NodeName>Timer_Emerg-request</NodeName>
<DFProperties>
  <AccessType>
    <Get/>
    <Replace/>
  </AccessType>
  <DFFormat>
    <int/>
  </DFFormat>
  <Occurrence>
    <ZeroOrOne/>
  </Occurrence>
  <Scope>
    <Permanent/>
  </Scope>
  <DFTitle>The maximum time between sending of an initial INVITE request for an
emergency session and receiving an l8x response to the INVITE request.</DFTitle>
  <DFType>
    <MIME>text/plain</MIME>
  </DFType>
</DFProperties>
</Node>
<Node>
<NodeName>Allow_Handover_PDN_connection_WLAN_and_EPS</NodeName>
<DFProperties>

```

```

    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
  <DFFormat>
    <int/>
  </DFFormat>
  <Occurrence>
    <ZeroOrOne/>
  </Occurrence>
  <Scope>
    <Permanent/>
  </Scope>
  <DFTitle>Indicates whether a UE roaming in a VPLMN, is allowed to transfer the PDN
connection providing access to IMS between EPC via WLAN and EPS.</DFTitle>
  <DFType>
    <MIME>text/plain</MIME>
  </DFType>
</DFProperties>
</Node>

<Node>
  <NodeName>Ext</NodeName>
  <!-- The Extension node starts here. -->
  <DFProperties>
    <AccessType>
      <Get/>
    </AccessType>
  <DFFormat>
    <node/>
  </DFFormat>
  <Occurrence>
    <ZeroOrOne/>
  </Occurrence>
  <Scope>
    <Dynamic/>
  </Scope>
  <DFTitle>A collection of all Extension objects.</DFTitle>
  <DFType>
    <DDFName/>
  </DFType>
</DFProperties>
</Node>
<Node>
  <NodeName>Default_QoS_Flow_usage_restriction_policy</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
  <DFFormat>
    <node/>
  </DFFormat>
  <Occurrence>
    <ZeroOrOne/>
  </Occurrence>
  <Scope>
    <Permanent/>
  </Scope>
  <DFTitle>Default QoS Flow usage restriction policy</DFTitle>
  <DFType>
    <DDFName/>
  </DFType>
</DFProperties>
<Node>
  <NodeName/>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
  <DFFormat>
    <node/>
  </DFFormat>
  <Occurrence>
    <ZeroOrMore/>
  </Occurrence>

```

```

    <Scope>
      <Dynamic/>
    </Scope>
    <DFTitle>Default QoS Flow usage restriction policy part</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>
</Node>
  <Node>
    <NodeName>Media_type</NodeName>
    <DFProperties>
      <AccessType>
        <Get/>
        <Replace/>
      </AccessType>
      <DFFormat>
        <chr/>
      </DFFormat>
      <Occurrence>
        <One/>
      </Occurrence>
      <Scope>
        <Dynamic/>
      </Scope>
      <DFTitle>A media type</DFTitle>
      <DFType>
        <MIME>text/plain</MIME>
      </DFType>
    </DFProperties>
  </Node>
</Node>
  <Node>
    <NodeName>ICSI</NodeName>
    <DFProperties>
      <AccessType>
        <Get/>
        <Replace/>
      </AccessType>
      <DFFormat>
        <chr/>
      </DFFormat>
      <Occurrence>
        <ZeroOrOne/>
      </Occurrence>
      <Scope>
        <Dynamic/>
      </Scope>
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      <DFType>
        <MIME>text/plain</MIME>
      </DFType>
    </DFProperties>
  </Node>
</Node>
</Node>
</MgmtTree>

```

Annex B (informative): 3GPP IMS Client Provisioning Application Characteristics (CP AC)

B.1 General

This annex defines the 3GPP IMS Client Provisioning Application Characteristics (CP AC) as supported in the Enabler Release Definition OMA-ERELD-DM-V1_2 [12].

If the initial IMS parameters cannot be provisioned as specified in OMA-ERELD-DM-V1_2 [12], initial IMS parameters can be provisioned using OMA CP.

If a client is provisioned with 3GPP IMS related parameters by both OMA DM and OMA CP, the client will use the 3GPP IMS related parameters provisioned by OMA DM.

B.2 Definition of the 3GPP IMS Client Provisioning Application Characteristics

IDENTIFYING INFORMATION

#####

APPID: 3GPP_IMS.

APPID type: OMNA.

Owner: 3GPP CT1 Working Group.

Contact: 3GPP TSG CT WG1.

Registration version: 1.0.

Registration timestamp: 2005-10-01.

Application description: IP Multimedia Subsystem.

Application reference:

IMS specifications, 3GPP TS 24.229, 3GPP TS 23.221 and 3GPP TS 23.228.

URL:<http://ftp.3gpp.org/>.

WELL-KNOWN PARAMETERS

#####

Characteristic/name: APPLICATION/APPID.

Status: Required.

Occurs: 1/1.

Default value: None.

Used values: N/A.

Interpretation: The Application ID - this is the same as for the MO DDF.

Characteristic/name: APPLICATION/NAME.

Status: Required.

Occurs: 0/1.

Default value: ap2001.

Used values: ap2001.

Interpretation: User displayable name for the application.

Characteristic/name: APPLICATION/PROVIDER-ID.

Status: Required.

Occurs: 0/1.

Default value: None.

Used values: N/A.

Interpretation: An identifier for the IMS service provider that provides the client provisioning. This is used to distinguish between settings for different IMS service providers within a client.

Characteristic/name: APPLICATION/APPREF.

Status: Required.

Occurs: 0/1.

Default value: None.

Used values: N/A.

Interpretation:

The APPREF parameter defines the reference identity of the IMS APPLICATION characteristic. The APPREF parameter value is unique in the scope of the provisioning document. The TO-APPREF parameter included in other APPLICATION characteristic can be used for referring to the IMS APPLICATION characteristic.

Characteristic/name: APPLICATION/TO-NAPID.

Status: Required.

Occurs: 1/1.

Default value: None.

Used values: N/A.

Interpretation: The reference to the connectivity characteristics used for IMS.

APPLICATION-SPECIFIC PARAMETERS

#####

Characteristic/name: APPLICATION/PDP_CONTEXTOPERPREF.

Status: Required.

Occurs: 1/1.

Default value: None.

Used values: 0 and 1.

Interpretation: Indication of the operator's preference for a dedicated PDP context for IMS signalling.

Characteristic/name: APPLICATION/P-CSCF_ADDRESS.

Status: Optional.

Occurs: 0/1.

Default value: 0.

Used values: N/A.

Interpretation: The address of the P-CSCF in FQDN format or an IPv4 address.

Characteristic/name: APPLICATION/TIMER_T1.

Status: Required.

Occurs: 0/1.

Default value: N/A.

Used values: Integer.

Interpretation: RFC 3261, timer T1.

Characteristic/name: APPLICATION/TIMER_T2.

Status: Required.

Occurs: 0/1.

Default value: N/A.

Used values: Integer.

Interpretation: RFC 3261, timer T2.

Characteristic/parameter: APPLICATION/TIMER_T4.

Status: Required.

Occurs: 0/1.

Default value: N/A.

Used values: Integer.

Interpretation: RFC 3261, timer T4.

PARAMETER VALUES

#####

Characteristic/name/parameter: APPLICATION/PDP_CONTEXTOPERPREF/0.

Status: Optional.

Interpretation: Indicates that the operator has no preference for a dedicated PDP context for SIP signalling.

Characteristic/name/parameter: APPLICATION/PDP_CONTEXTOPERPREF/1.

Status: Optional.

Interpretation: Indicates that the operator has preference for a dedicated PDP context for SIP signalling.

APPLICATION-SPECIFIC PARAMETERS

#####

Characteristic/name: APPLICATION/KEEP_ALIVE_ENABLED.

Status: Required.

Occurs: 1/1.

Default value: None.

Used values: 0 and 1.

Interpretation: Indication whether the sending of keep alives by the UE is enabled.

###END###

Annex C (informative): Change history

Change history								
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New	WG doc
2004-10					Version 0.0.1: Preliminary proposal		0.0.1	
2004-11					Version 0.0.2: Version after CN1 #36	0.0.1	0.0.2	
2004-12					Version 1.0.0: Version after CN1#36 and editorial corrections	0.0.2	1.0.0	
2005-02					Version 1.1.0: Version after CN1#37 and editorial corrections	1.0.0	1.1.0	N1-050330 N1-050393
2005-02	TSG-27	NP-050066			Version 2.0.0 created by MCC	1.1.0	2.0.0	
2005-03					Version 2.0.0. approved in TSG-27. V6.0.0 created.	2.0.0	6.0.0	
2005-06	TSG-28	CP-050060	0001	1	Corrections to TS 24.167 due to comments from OMA DM	6.0.0	6.1.0	C1-050704
2005-06	TSG-28	CP-050060	0002	1	Miscellaneous corrections	6.0.0	6.1.0	C1-050705
2005-06	TSG-28	CP-050060	0003	1	Removal of APN from the IMS MO	6.0.0	6.1.0	C1-050706
2005-09	TSG-29	CP-050359	0006	-	Corrections for the 3GPP IMS Management Object	6.1.0	6.2.0	C1-050978
2005-09	TSG-29	CP-050359	0007	3	IMS MO and ISIM usage clarification	6.1.0	6.2.0	C1-051197
2005-09	TSG-29	CP-050359	0009	1	P-CSCF address used in early IMS implementations	6.1.0	6.2.0	C1-051090
2005-09	TSG-29	CP-050360	0010	2	Adding Client Provisioning Application Characteristics to IMS MO Rel-6	6.1.0	6.2.0	C1-051091
2005-12	TSG-30	CP-050544	0011		AppID for the 3GPP_IMS MO determined by OMA	6.2.0	6.3.0	C1-050544
2006-06	TSG-32	CP-060266	0015		Corrections to client provisioning for the 3GPP IMS MO	6.3.0	6.4.0	C1-060627
2006-06	TSG-32	CP-060266	0016		Value range for int-parameters	6.3.0	6.4.0	C1-060628
2006-09	TSG-33	CP-060468	0017	2	Support for DM 1.2 and higher in IMS MO	6.4.0	7.0.0	C1-061855
2007-03	TSG-35	CP-070140	0019		Management Object identifier for the 3GPP IMS MO in rel-7	7.0.0	7.1.0	C1-070043
2007-09	TSG-37	CP-070586	0022	2	IMS MO Extension for Communication Service Identifier	7.1.0	7.2.0	C1-072179
2007-12	TSG-38	CP-070806	0024	1	MO ICSI list is subscription based	7.2.0	7.3.0	C1-073109
2008-03	TSG-39	CP-080119	0026		Correction of OMA DM reference	7.3.0	7.4.0	C1-080300
2008-12	TSG-42	CP-080845	0028	5	Changes to support IMS Local Breakout	7.4.0	8.0.0	C1-084293
2009-03	TSG-43	CP-090237	0032		MO DDF XML bug fix	8.0.0	8.1.0	C1-090289
2009-03	TSG-43	CP-090159	0033	1	Adding possibility to provision mode of the resource allocation used for IMS media	8.0.0	8.1.0	C1-090938
2009-06	TSG-44	CP-090424	0036	1	DFTitle update	8.1.0	8.2.0	C1-092040

2009-09	TSG-45	CP-090674	0037	4	Defining configuration data for the voice domain selection	8.2.0	8.3.0	C1-093979
2009-09	TSG-45	CP-090651	0039	2	Defining configuration data for the SMS domain selection	8.2.0	8.3.0	C1-093970
2009-09	TSG-45	CP-090651	0040	1	Corrections in IMS MO	8.2.0	8.3.0	C1-093816
2009-09	TSG-45	CP-090658	0043		IMS MO Changes for Keep alive	8.2.0	8.3.0	C1-093795
2009-12	TSG-46	CP-090915	0044	2	Correction to take into account Voice Domain Selection for lu mode	8.3.0	8.4.0	C1-094779
2009-12	TSG-46				Upgrade to Rel-9	8.4.0	9.0.0	
2010-03	TSG-47	CP-100212	0051	2	Correct terminating domain selection for IMS voice Ues	9.0.0	9.1.0	-
2010-06	TSG-48	CP-100354	0052		Correction of names for voice domain preference	9.1.0	9.2.0	C1-101450
2010-09	TSG-49	CP-100519	0056	3	SigComp disabling	9.2.0	10.0.0	C1-103529
2010-12	TSG-50	CP-100750	0057	2	MO for providing max-time and base-time registration parameters provision	10.0.0	10.1.0	C1-105208
2011-03	TSG-51	CP-110181	0058	4	MO for providing phone-context parameter	10.1.0	10.2.0	C1-111246
2011-03	TSG-51	CP-110181	0059	1	Removal of Sigcomp disabling	10.1.0	10.2.0	C1-111219
2012-03	TSG-55	CP-120110	0062		Phone-context errors	10.2.0	10.3.0	C1-120079
2012-03	TSG-55	CP-120124	0063		Errors in ICSI description	10.3.0	11.0.0	C1-120080
2012-12					Correction to change history	11.0.0	11.0.1	
2013-09	TSG-61	CP-130511	0065	2	Supplementary Services Configuration	11.0.1	12.0.0	C1-133578
2013-12	TSG-62	CP-130763	0066	1	Clean-up of Supplementary Services Configuration	12.0.0	12.1.0	C1-134356
2013-12	TSG-62	CP-130763	0168		Clean Up of IMS_SS_control_preference leaf	12.0.0	12.1.0	C1-134598
2013-12	TSG-62	CP-130763	0169		Error Correction in MO DDF	12.0.0	12.1.0	C1-134646
2013-12	TSG-62	CP-130763	0170	1	Providing better explanation of use of how to configure supplementary services	12.0.0	12.1.0	C1-135130
2014-06	TSG-64	CP-140330	0171	1	Exclude USSD from SS configuration	12.1.0	12.2.0	C1-141461
2014-12	TSG-66	CP-140837	0172	4	Access Type Misalignments	12.2.0	12.3.0	C1-143872
2014-12	TSG-66	CP-140837	0174	1	Correction of misalignments between descriptive texts and descriptive fields	12.2.0	12.3.0	C1-144115
2014-12	TSG-66	CP-140858	0175	3	Correction to reference for FQDN	12.3.0	13.0.0	C1-144666
2016-03	TSG-71	CP-160136	0177		Clarification of base-time object description	13.0.0	13.1.0	C1-160930

2016-06	TSG-72	CP-160329	0179	1	Media type restriction policy	13.1.0	14.0.0	C1-162940
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Change history								
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version	
2016-09	CT#73	CP-160515	0181	1	B	Default EPS bearer context usage restriction policy configuration	14.1.0	
2016-12	CT#74	CP-160742	0182	3	B	MO on Reliable 180	14.2.0	
2016-12	CT#74	CP-160742	0183	1	B	Configuration of policy on PDN connection established during EPS attach procedure	14.2.0	
2016-12	CT#74	CP-160742	0184	2	B	Configuration of precondition usage policy	14.2.0	
2016-12	CT#74	CP-160742	0185	2	B	MO for emergency registration timer	14.2.0	
2017-03	CT#75	CP-170124	0186		B	Configuration for policy on local numbers	14.3.0	
2017-03	CT#75	CP-170130	0187	2	B	3GPP PS Data Off configuration for SMS over IP and non-3GPP ICSIs	14.3.0	
2017-03	CT#75	CP-170124	0188	3	B	SMSoIP usage policy	14.3.0	
2017-06	CT#76	CP-171093	0191	1	B	MO on estimated P-CSCF recover time	14.4.0	
2017-06	CT#76	CP-171077	0193	1	F	MO for emergency request timer	14.4.0	
2017-12	CT#78	CP-173080	0192	6	B	MO on registration handling when VoPS not supported	15.0.0	
2018-03	CT#79	CP-180066	0197	1	A	Inconsistent UE behaviour when 503 to REGISTER	15.1.0	
2018-03	CT#79	CP-180090	0198	4	B	Configuration parameter for WLAN to EPS handover when roaming.	15.1.0	
2018-06	CT#80	CP-181053	0200	1	A	Redefinition of the emerg-reg timer	15.2.0	
2018-06	CT#80	CP-181060	0201	1	B	5G IP-CAN for media type restriction policy	15.2.0	
2018-06	CT#80	CP-181060	0202	1	B	Default QoS Flow usage restriction policy	15.2.0	
2018-06	CT#80	CP-181074	0203	1	B	3GPP PS Data Off2 configuration for SMS over IP and non-3GPP ICSIs	15.2.0	
2018-09	CT#81	CP-182158	0204	1	F	Clarification of configuration parameter for WLAN to EPS handover when roaming.	15.3.0	

History

Document history		
V15.2.0	June 2018	Publication
V15.3.0	September 2018	Publication