

PacketCable™ 2.0

UE Provisioning Data Model Specification

PKT-SP-UE-DATA-C01-140314

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Key to Document Status Codes

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| Work in Progress | An incomplete document, designed to guide discussion and generate feedback that may include several alternative requirements for consideration. |
| Draft | A document in specification format considered largely complete, but lacking review by Members and vendors. Drafts are susceptible to substantial change during the review process. |
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Contents

| | | |
|----------------|---|-----------|
| 1 | SCOPE..... | 1 |
| 1.1 | Introduction and Purpose..... | 1 |
| 1.2 | Document Overview | 1 |
| 1.3 | Requirements | 1 |
| 2 | REFERENCES | 2 |
| 2.1 | Normative References..... | 2 |
| 2.2 | Informative References | 2 |
| 2.3 | Reference Acquisition..... | 3 |
| 3 | TERMS AND DEFINITIONS | 4 |
| 4 | ABBREVIATIONS AND ACRONYMS..... | 5 |
| 5 | TECHNICAL OVERVIEW | 6 |
| 5.1 | OMA DM..... | 6 |
| 5.2 | User Equipment (UE) | 6 |
| 5.3 | UE Provisioning Framework..... | 7 |
| 5.4 | Management Model Components | 7 |
| 6 | MANAGEMENT MODEL | 9 |
| 6.1 | UE Data Model | 9 |
| 6.2 | UE Data Requirements | 9 |
| 6.2.1 | <i>UE Data Management Requirements</i> | <i>10</i> |
| 6.3 | Management model..... | 10 |
| 6.3.1 | <i>The Direct Object Instance Operations</i> | <i>10</i> |
| 6.3.2 | <i>The Indirect Object Instance Operations.....</i> | <i>11</i> |
| 6.3.3 | <i>Generic Operations.....</i> | <i>12</i> |
| 6.3.4 | <i>Relationship with WS-Management.....</i> | <i>12</i> |
| 6.4 | HSS User Profile Data Requirements | 13 |
| ANNEX A | CLIENT-DEV MANAGEMENT REQUIREMENTS..... | 15 |
| A.1 | CLIENT-DEV Object Model Overview | 15 |
| A.2 | CLIENT-DEV Object Model Definitions..... | 15 |
| A.2.1 | <i>CLIENT-DEV Object Model Data Types.....</i> | <i>15</i> |
| A.2.2 | <i>CLIENT-DEV Object Model Class Diagram.....</i> | <i>16</i> |
| A.2.3 | <i>CLIENT-DEV Object Model Description</i> | <i>16</i> |
| A.3 | CLIENT-DEV OMA Management Objects (MO)..... | 23 |
| A.3.1 | <i>CLIENT-DEV High Level MO</i> | <i>23</i> |
| A.3.2 | <i>CLIENT-DEV Nodes.....</i> | <i>24</i> |
| A.4 | CLIENT-DEV OMA Device Description Framework (DDF) | 29 |
| ANNEX B | UE-USR MANAGEMENT REQUIREMENTS | 47 |
| B.1 | UE-USR Object Model Overview | 47 |
| B.2 | UE-USR Object Model Definitions | 47 |
| B.2.1 | <i>UE-USR Object Model Data Types</i> | <i>47</i> |
| B.2.2 | <i>UE-USR Object Model Class Diagram</i> | <i>47</i> |
| B.2.3 | <i>UE-USR Object Model Description.....</i> | <i>47</i> |
| B.3 | UE-USR OMA Management Objects (MO)..... | 52 |
| B.3.1 | <i>UE-USR High Level MO.....</i> | <i>52</i> |

| | | |
|--------------------|---|------------|
| B.3.2 | UE-USR Nodes | 53 |
| B.4 | UE-USR OMA Device Description Framework (DDF) | 55 |
| ANNEX C | UE-BOOT MANAGEMENT REQUIREMENTS | 67 |
| C.1 | UE-BOOT Object Model Overview | 67 |
| C.2 | UE-BOOT Object Model Definitions | 67 |
| C.2.1 | UE-BOOT Object Model Data Types | 67 |
| C.2.2 | UE-BOOT Object Model Class Diagram | 67 |
| C.2.3 | UE-BOOT Object Model Description | 67 |
| C.3 | UE-BOOT OMA Management Objects (MO) | 68 |
| C.3.1 | CLIENT-DEV High Level MO | 68 |
| C.3.2 | UE-BOOT Nodes | 68 |
| C.4 | UE-BOOT OMA Device Description Framework (DDF) | 68 |
| ANNEX D | IMS USER PROFILE DATA MODEL FOR HSS (NORMATIVE) | 71 |
| D.1 | IMS-CX Object Model Overview | 71 |
| D.2 | IMS-CX Object Model Definitions | 71 |
| D.2.1 | IMS-CX Object Model Data Types | 71 |
| D.2.2 | HSS Object Model Class Diagram | 71 |
| D.2.3 | HSS User Profile Object Model Description | 72 |
| D.2.4 | HSS User Profile Component implementation | 76 |
| D.3 | IMS-CX XML Schema Definition | 77 |
| ANNEX E | HSS USER PROFILE WEB SERVICES PROVISIONING INTERFACE (NORMATIVE) | 79 |
| E.1 | IMS-CX Web Services Definition | 79 |
| E.1.1 | IMS-CX Web Service Operations | 79 |
| E.2 | IMS-CX Web Services Operation Messages | 150 |
| E.2.1 | IMS-CX WSDL Definition | 150 |
| APPENDIX I | ACKNOWLEDGEMENTS | 183 |
| APPENDIX II | REVISION HISTORY | 184 |

Figures

| | |
|---|----|
| Figure 1 - UE and HSS Provisioning Data Model | 7 |
| Figure 2 - CLIENT-DEV Object Model Diagram | 16 |
| Figure 3 - CLIENT-DEV High Level OMA Management Object | 23 |
| Figure 4 - Node Base of CLIENT-DEV OMA Management Object | 24 |
| Figure 5 - Node Server of CLIENT-DEV OMA Management Object | 25 |
| Figure 6 - Node Op of CLIENT-DEV OMA Management Object | 26 |
| Figure 7 - Node Dns of CLIENT-DEV OMA Management Object | 27 |
| Figure 8 - Node PCSCF of CLIENT-DEV OMA Management Object | 28 |
| Figure 9 - Node BSF of CLIENT-DEV OMA Management Object | 29 |
| Figure 10 - UE-USR Object Model Diagram | 47 |
| Figure 11 - UE-USR High Level OMA Management Object | 52 |
| Figure 12 - Node IMPU of UE-USR OMA Management Object | 53 |
| Figure 13 - Node IMPI of UE-USR OMA Management Object | 54 |
| Figure 14 - Node AppMap of UE-USR OMA Management Object.vsd | 55 |
| Figure 15 - UE-BOTT Object Model Diagram | 67 |

| | |
|--|----|
| Figure 16 - UE-BOOT High Level OMA Management Object | 68 |
| Figure 17 - Node Init of UE-BOOT OMA Management Object | 68 |
| Figure 18 - HSS User Profile Data Model | 72 |

Tables

| | |
|--|----|
| Table 1 - UE Data Requirements | 9 |
| Table 2 - Object model operation and WSDL operation definitions | 11 |
| Table 3 - Object model operation and WSDL operation definitions | 11 |
| Table 4 - Generic operations and WS-MAN operations equivalent | 12 |
| Table 5 - Generic operations and WS-MAN operations Differences | 13 |
| Table 6 - CLIENT-DEV Data Types | 15 |
| Table 7 - Base Object | 16 |
| Table 8 - Server Object | 18 |
| Table 9 - Op Object | 19 |
| Table 10 - Dns Object | 20 |
| Table 11 - PCSCF Object | 21 |
| Table 12 - BSF Object | 22 |
| Table 13 - IMPU Object | 48 |
| Table 14 - IMPI Object | 50 |
| Table 15 - AppMap Object | 51 |
| Table 16 - Boot Object | 67 |
| Table 17 - PublicID Object | 73 |
| Table 18 - IMS_Subscription Object | 74 |
| Table 19 - IPrivateID Object | 74 |
| Table 20 - SDAuth Object | 75 |
| Table 21 - Service_Profile Object | 75 |
| Table 22 - ChargeAddress Object | 76 |
| Table 23 - HSS defined Web service operations (HSS-Cx-soap12-http) | 79 |

1 SCOPE

1.1 Introduction and Purpose

This specification presents the data element definitions and associated requirements for use with the PacketCable 2.0 UE Provisioning Framework. Specifically, it defines data to be used for configuration and management of UEs and associated users. For more information on the PacketCable 2.0 UE Provisioning Framework, please refer to [PKT-UE-PROV].

This document does not consider PacketCable 2.0 application specific data within its scope. PacketCable 2.0 application specifications are expected to specify such data.

1.2 Document Overview

The document is structured as follows:

- Section 2 - References
- Section 3 - Terms and Definitions
- Section 4 - Abbreviations
- Section 5 - Informative section providing a description of the PacketCable 2.0 E-UE Provisioning Data Model
- Section 6 - Normative section describing the data model requirements for PacketCable 2.0 E-UEs
- Annex A - CLIENT-DEV Management Requirements
- Annex B - UE-USR Management Requirements
- Annex C - UE-BOOT Management Requirements

1.3 Requirements

Throughout this document, the words that are used to define the significance of particular requirements are capitalized. These words are:

| | |
|--------------|---|
| "MUST" | This word means that the item is an absolute requirement of this specification. |
| "MUST NOT" | This phrase means that the item is an absolute prohibition of this specification. |
| "SHOULD" | This word means that there may exist valid reasons in particular circumstances to ignore this item, but the full implications should be understood and the case carefully weighed before choosing a different course. |
| "SHOULD NOT" | This phrase means that there may exist valid reasons in particular circumstances when the listed behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label. |
| "MAY" | This word means that this item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because it enhances the product, for example; another vendor may omit the same item. |

2 REFERENCES

2.1 Normative References

In order to claim compliance with this specification, it is necessary to conform to the following standards and other works as indicated, in addition to the other requirements of this specification. Notwithstanding, intellectual property rights may be required to use or implement such normative references.

| | |
|-------------------|--|
| [3GPP-29.228] | IP Multimedia (IM) Subsystem Cx and Dx interfaces; Signaling flows and message contents (Release 8), 3GPP TS 29.228 V8.6.0, September 2009. |
| [CLAB-WSRP] | CableLabs Web Services Recommended Practices, CL-SP-WSRP-I01-091023, October 23, 2009, Cable Television Laboratories, Inc. |
| [PKT-UE-PROV] | PacketCable UE Provisioning Specification, PKT-SP-UE-PROV-C01-140314, March 14, 2014, Cable Television Laboratories, Inc. |
| [DOCSIS-OSSIV3.0] | DOCSIS Specification, DOCSIS 3.0 Operations Support System Interface Specification, CM-SP-OSSIV3.0-I22-131120, November 20, 2013, Cable Television Laboratories, Inc. |
| [OMA DMSTDOBJ] | OMA Device Management Standardized Objects, OMA-TS-DM_StdObj-V1_-3-20100211-D, February 11, 2010, Open Mobile Alliance. |
| [OMA DMTRAPMO] | DiagMon Trap Management Object, OMA-TS-DiagMonTrapMO-V1_0-20070704-D, Version 1.0, July 4, 2007 Open Mobile Alliance. |
| [OMA DMFUMO] | Firmware Update Management Object, OMA-TS-DM-FUMO-V1_0-20070209-A, Version 1.0, February 9, 2007, Open Mobile Alliance. |
| [OMA DMCONN] | Standardized Connectivity Management Objects, OMA-DDS-DM_ConnMO-V1_0-20080508-D, Version 1.0, May 8, 2008, Open Mobile Alliance. |
| [OMA DMCONN_IP] | Standardized Connectivity Management Objects IP Parameters, OMA-DDS-DM_ConnMO_IP-V1_0-20080509-D, Version 1.0, Open Mobile Alliance. |
| [OMA DMDDFDTD] | OMA DM Device Description Framework DTD, Version 1.2, Open Mobile Alliance™. OMA-SUP-dtd_dm_ddf-v1_2. URL: http://www.openmobilealliance.org/ . |
| [PKT-PROV1.5] | PacketCable 1.5 Specification, MTA Device Provisioning, PKT-SP-PROV1.5-I04-090624, June 24, 2009, Cable Television Laboratories, Inc. |

2.2 Informative References

This specification uses the following informative references:

| | |
|-------------------|--|
| [PKT-ARCH-TR] | PacketCable Architecture Framework Technical Report, PKT-TR-ARCH-FRM-C01-140314, March 14, 2014, Cable Television Laboratories, Inc. |
| [PKT-RST-UE-PROV] | PacketCable RST UE Provisioning Specification, PKT-SP-RST-UE-PROV-C01-140314, March 14, 2014, Cable Television Laboratories, Inc. |
| [RFC 2578] | IETF RFC 2578/STD0058, Structure of Management Information Version 2 (SMIV2), April 1999. |
| [ISO/IEC 19501] | ISO/IEC 19501:2005 Information technology - Open Distributed Processing - Unified Modeling Language (UML) Version 1.4.2. |
| [DSP0226] | DMTF DSP0226, Web Services for Management (WS-Management) Specification, February, 2008. |

2.3 Reference Acquisition

- Cable Television Laboratories, Inc., 858 Coal Creek Circle, Louisville, CO 80027; Phone +1-303-661-9100; Fax +1-303-661-9199; <http://www.cablelabs.com>.
- Internet Engineering Task Force (IETF) Secretariat, 48377 Fremont Blvd., Suite 117, Fremont, California 94538, USA, Phone: +1-510-492-4080, Fax: +1-510-492-4001, <http://www.ietf.org/>.
- Open Mobile Alliance (OMA), OMA Office, 4275 Executive Square, Suite 240, La Jolla, CA 92037, Fax +1-858-623-0743, Internet: <http://www.openmobilealliance.com/>.
- 3rd Generation Partnership Project (3GPP), ETSI Mobile Competence Centre, 650 route des Lucioles, 06921 Sophia-Antipolis Cedex, France, Internet: <http://www.3gpp.org/>
- World Wide Web Consortium, <http://w3.org>
- Distributed Management Task Force, Inc. (DMTF), 1001 SW 5th Avenue, #1100, Portland, OR 97204

3 TERMS AND DEFINITIONS

This specification uses the following terms:

| | |
|-------------------------------------|---|
| Access Control List | A list of identifiers and access rights associated with each identifier. |
| Description Framework | A specification for how to describe the management syntax and semantics for a particular device type. |
| Dynamic node | A node is dynamic if the DDF property Scope is set to Dynamic or if the Scope property is unspecified. |
| Interior node | A node that may have child nodes, but cannot store any value. The Format property of an interior node is node. |
| Leaf node | A node that can store a value, but cannot have child nodes. The Format property of a leaf node is not node. |
| Management client | A software component in a managed device that correctly interprets OMA DM commands, executes appropriate actions in the device, and sends back relevant responses to the issuing management server. |
| Management object | A management object is a subtree of the management tree, which is intended to be a (possibly singleton) collection of nodes that are related in some way. For example, the ./DevInfo nodes form a management object. A simple management object may consist of one single node. |
| Management object identifier | The Type property describing the kind of data stored as the management object's value. |
| Management server | A network-based entity that issues OMA DM commands to devices and correctly interprets responses sent from the devices. |
| Management tree | The mechanism by which the management client interacts with the device, e.g., by storing and retrieving values from it and by manipulating the properties of it, for example the access control lists. |
| Node | A node is a single element in a management tree. There can be two kinds of nodes in a management tree: interior nodes and leaf nodes. The Format property of a node provides information about whether a node is a leaf or an interior node. |
| Permanent node | A node is permanent if the DDF property Scope is set to Permanent. If a node is not permanent, it is dynamic. A permanent node can never be deleted. |

4 ABBREVIATIONS AND ACRONYMS

This specification uses the following abbreviations:

| | |
|---------------------------|---|
| ACL | Access Control List |
| CM | DOCSIS Cable Modem - a DOCSIS-compliant device that provides data transport connectivity from RFI to IP networks. |
| DDF | Device Description Framework |
| DOCSIS[®] | Data-Over-Cable Service Interface Specifications |
| OMA | Open Mobile Alliance |
| RFC | Request for Comments. Technical policy documents approved by the IETF, which are available on the World Wide Web at http://www.ietf.cnri.reston.va.us/rfc.html . |
| UML | Unified Modeling Language |

5 TECHNICAL OVERVIEW

PacketCable 2.0 is a CableLabs specification effort designed to support the convergence of voice, video, data, and mobility technologies. This document is part of the PacketCable 2.0 set of specifications and technical reports that define the base architecture and specifies the data elements required to configure and manage UEs, associated users, and applications, using the PacketCable 2.0 UE Provisioning Framework. This specification also defines a provisioning framework for the PacketCable Core Network, in particular the definition of a provisioning interface for the HSS (Home Service Subscriber).

For more information about PacketCable 2.0, please refer to the PacketCable 2.0 Architecture Framework Technical Report [PKT-ARCH-TR]. For more information on the PacketCable 2.0 UE Provisioning Framework, please refer to [PKT-UE-PROV].

The PacketCable 2.0 UE Provisioning Framework relies on the Open Mobile Alliance Device Management (OMA DM) protocol suit. In OMA DM, the managed data representation is termed Management Objects (MO) and are represented as Data Description Framework (DDF) as specified in [OMA DMDDFDTD]. This specification defines the UE management requirements in a generic object model and specifies the mapping of those requirements into OMA DM DDFs for use with the PacketCable UE Provisioning Framework. There might be UE data models and provisioning requirements associated with applications that use the PacketCable 2.0 architecture. Those management requirements are not included in this specification and are defined elsewhere, e.g., [PKT-RST-UE-PROV].

The PacketCable 2.0 HSS Provisioning framework supports web services as the transport mechanism for the exchange of configuration data between the HSS and the Provisioning server. The protocol requirements and recommended practices for implementation of web services interfaces are defined in [CLAB-WSRP] and [PKT-UE-PROV]. The HSS provisioning requirements follows the same methodology defined for the UE framework. A protocol independent object model is defined and the interface requirements are derived based on the syntax and rules of the description language of the model. See details on the web service definition in [CLAB-WSRP].

In this specification, the term "DOCSIS" is used to refer to DOCSIS version 1.1 or later, unless explicitly specified otherwise. Additionally, all references to PacketCable within this document are assumed to be PacketCable 2.0, unless stated otherwise.

5.1 OMA DM

OMA DM defines a list of requirements to provide an interoperable framework for managing devices. The OMA management end points are termed OMA client (user device) and OMA DM Server, (the management application, normally associated with a service provider or a third party organization). See [PKT-UE-PROV] for an OMA DM overview and applicability for the UE.

5.2 User Equipment (UE)

PacketCable is based on SIP and IMS, and supports a wide variety of clients with varying characteristics and capabilities, including software and hardware-based, standalone, and embedded devices (with other cable devices, e.g., DOCSIS Cable Modems). Consistent with IMS terminology, all PacketCable clients are called User Equipment (UE). For more information about UEs in PacketCable, please refer to the PacketCable Architecture Technical Report [PKT-ARCH-TR].

5.3 UE Provisioning Framework

The UE Provisioning Framework is a PacketCable 2.0 configuration and management framework based on the PacketCable 2.0 UE Provisioning specification. For more information on the UE Provisioning Framework, please refer to [PKT-UE-PROV].

5.4 Management Model Components

The UE Provisioning Data Model serves UEs, users, and associated applications as shown in Figure 1. The UE, user, and application data are logically separated and specified in this document. The object models described in this specification are intended to be protocol independent. A Direct mapping to OMA Managed Objects (MOs) and Web services Description language constructs (WSDL) are specified in order to support the OMA DM management framework. Figure 1 also presents the user profile object model expressed in XML schema definition as defined in [3GPP-29.228]

The logical representation of the UE and HSS Provisioning Data Model is specified in Figure 1. The multiplicity relationships presented in Figure 1 indicate that the UE Data represent resources that can be associated to one or more Users; and Application Data can be associated to one or more User. The UE model is centric to the device requirements, in other words, it associate the device information with the application around the user profiles. In the other side the HSS 3GPP Data model is centric to the User and its subscription. Figure 1 shows the effect of the HSS 3GPP model as a subset of the PacketCable UE Provisioning framework. The data constructs are different as both PacketCable and 3GPP user model specifications evolved separately they share common information such as IMPU, IMPI, and complimentary in the other layers around the user definition. For example, the concept of IMS subscription is not present in the UE provisioning and the device/user dependencies of the UE provisioning specifications such as end-point definitions is not part of the 3GPP Model. As part of the OMA DM framework, an OMA DEVICE (e.g., UE) can be managed by one or more DM Servers. In addition, each DM Server can be restricted to a particular MO trees as part of the OMA DM Access Control List (ACL). The dependencies between the object model and ACL are defined in [PKT-PROV1.5]. In the HSS front, the provisioning interface of IMS components is not as precise as the UE OMA DM model as the security and deployment needs are radically different.

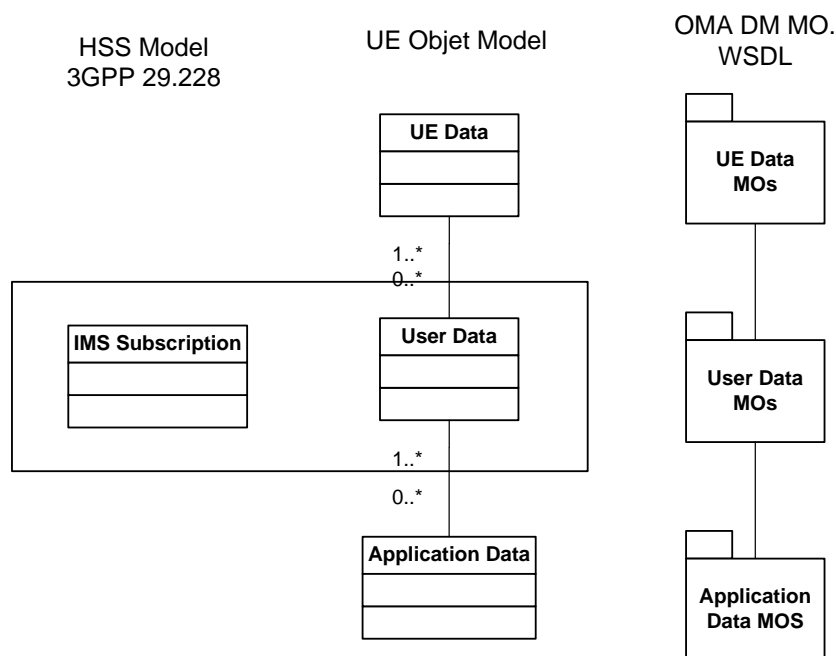


Figure 1 - UE and HSS Provisioning Data Model

Figure 1 also shows the relationship between the Object Model data elements and OMA DM MOs. Object Models fully defined in this specification have correspondent MOs to interface the UE with OMA DM systems as required in [PKT-PROV1.5]. UE MO requirements from OMA DM do not have object models defined in this specification.

The UML (Unified Modeling Language) specification [ISO/IEC 19501] is used to define the Object Models for the UE and HSS management features specified in [PKT-PROV1.5] and other UE specifications (e.g., [PKT-RST-UE-PROV]). The object-model approach's main objective is to provide a set of management requirements that are not tied to a management data structure like OMA DM DDFs for other purposes. For example, the UE object models could be used as the base for additional modeling needs like sequence diagrams for management process outside or in scope of PacketCable specifications. Another option could be to reuse the UE object models in a different data syntax (other than DDFs) in order to support other management protocols for the same set of features.

6 MANAGEMENT MODEL

6.1 UE Data Model

The UE support the OMA DM requirements as specified in UE Provisioning Specification [PKT-UE-PROV]. The UE OMA DM requirements provide an interoperable OMA DM implementation to be used by operators to manage the features defined by the PacketCable specifications in environments other than E-UEs. Even though the network environment and the Management protocols are different for both UEs and E-UEs, the majority of PacketCable features remain the same. This specification provides the data management component of the UE features maintaining a close relationship with the E-UE Data models.

The UE MUST support similar management operations to those supported by the E-UE specifications. In particular, the UE MUST support Creation, Deletion Retrieval, and Update operations over the managed objects. The UE Data specification also needs to balance the convenience of data models implementation shortcuts vs. the convenience of the generality. For example, OMA DM includes additional protocol commands like Exec, Atomic, Sequence, and Copy are not available in other protocols, such as SNMP [RFC 2578]. This could have impact on the final divergences of UE and E-UEs data models. Therefore, this specification looks for generality, and reuses the OMA DM Model Objects (MOs) as much as possible.

The data models presented in this specification and other UE-derived specifications use the DOCSIS 3.0 Management Interface requirements definition model (see [DOCSIS-OSSIV3.0]), where UML object models describe the requirements, and the device management interface defines the syntax and semantics based on the UML definitions. For example, DOCSIS object models are mapped to SNMP MIB modules for the management interface requirement. In this specification the management interface is OMA DM. Therefore, the UE MUST support the data Types defined in [DOCSIS-OSSIV3.0] to properly model the UE requirements.

6.2 UE Data Requirements

Table 1 represents the list of OMA DM UE data management requirements. The Object Model column indicates if the OMA DM MOs are defined from a UE Object model, or N/A to indicate the MO is a reference to OMA MOs. The UE MUST support the Object Models and MOs DDFs defined in Table 1.

Table 1 - UE Data Requirements

| Reference | Object Model | MO DDF URN | DDF Path | Description |
|-----------------|--------------|--------------------------------------|------------------------|---|
| Annex A | CLIENT-DEV | urn:cablelabs:pkc2:oma:dm:client-dev | ./Pkc2 | UE Device |
| Annex B | UE-USR | urn:cablelabs:pkc2:oma:dm:ue-usr | ./Pkc2 | UE User |
| Annex C | UE-BOOT | urn:cablelabs:pkc2:oma:dm:ue-boot | <X>/Ext | UE Bootstrap DDF path corresponds to the DMAcc Extension |
| [OMA DMSTDOBJ] | StdObj | as per [OMA DMSTDOBJ] | as per [OMA DMSTDOBJ] | OMA DM DMAcc, DevInfo, DevDetail MOs |
| [OMA DMCONN] | ConnMO | as per [OMA DMSTDOBJ] | as per [OMA DMCONN] | OMA DM Connectivity MO |
| [OMA DMCONN_IP] | ConnMO_IP | as per [OMA DMSTDOBJ] | as per [OMA DMCONN_IP] | OMA DM IP Connectivity MO |

| Reference | Object Model | MO DDF URN | DDF Path | Description |
|----------------|---------------|-----------------------|-----------------------|-------------------------------|
| [OMA DMFUMO] | FUMO | as per [OMA DMSTDOBJ] | as per [OMA DMFUMO] | OMA DM Firmware Upgrade MO |
| [OMA DMTRAPMO] | DiagMonTrapMO | as per [OMA DMTRAPMO] | as per [OMA DMTRAPMO] | Diagnostic Monitoring Trap MO |

6.2.1 UE Data Management Requirements

This section includes UE requirements to support UE Object models and MOs, as well as OMA DM MOs.

6.2.1.1 UE Object Models Requirements

The UE MUST support the CLIENT-DEV object model and OMA DM MO defined in Annex A.

The UE MUST support the UE-USR object model and OMA DM MO defined in Annex B.

The UE MUST support the UE-BOOT object model and OMA DM MO defined in Annex C.

6.2.1.2 UE OMA DM MO Requirements

The UE MUST support the StdObj OMA DM MO defined in [OMA DMSTDOBJ].

The UE MUST support the ConnMO OMA DM MO defined in [OMA DMCONN].

The UE MUST support the ConnMO_IP OMA DM MO defined in [OMA DMCONN_IP].

The UE MUST support the FUMO OMA DM MO defined in [OMA DMFUMO].

The UE MUST support the DiagMonTrapMO OMA DM MO defined in [OMA DMTRAPMO].

6.3 Management model

The HSS Data model and its Web service definitions are templates to be used to define other Web services interfaces for other features or specifications. Other specifications may comply with the requirements listed in this section.

In particular this specification provides management operations for retrieval (Get), addition (Add), deletion (Del), and modification (Mod) of object instances of the underline data model. The management operations defined in this document are of two types: Direct object instance, and Indirect object instance

6.3.1 The Direct Object Instance Operations

The Direct object instance operations refer to the actions on a specified object instance. For example a Get operation for the PublicID object Figure 18 is defined as opGetPublicID. This operation defines its scope to the attributes of that specific object, both leaf attributes (primitive and model data types) and attributes from aggregations. An example of a leaf attribute for PublicID is BarringIndication, an attribute from an aggregation is SDAuth from PrivateID. Attributes from aggregations refers to composite aggregations and shared aggregations. The composite attributes are objects that are within the scope of the underline object class definition. If the Direct object instance is deleted, the composite attributes object instances are also deleted. In the other side, the shared aggregation attributes are references to independent class object instances. In other words, if the Direct object instance is deleted the referenced object instances stay as they are were created separately.

The pattern of Direct object instance operations is <operation><Object Name> as defined in Table 2. CRUD() operation for example is a simplification of all four operations applicable to the related object.

Table 2 - Object model operation and WSDL operation definitions

| Class operation | WSDL Operation |
|---|--|
| R() or Get() | opGet<Object Name> |
| RU() or Get(), Mod() | opGet<Object Name> opMod<Object Name> |
| CRUD() or Add(), Get(), Mod(), Del() | opAdd<Object Name> opGet<Object Name> opMod<Object Name> opDel<Object Name> |
| customOperation() | opCustomOperation |

6.3.2 The Indirect Object Instance Operations

The Indirect object instance operations are specific for attributes from shared aggregations to explicitly trigger updates in the relationship and guide the implementation to properly capture model constraints validation. Figure 18 shows the shared association of PrivateID and PublicID, both class definitions can create instances separately and associated later on. An Indirect object instance operation for the case above is opAddPublicIDToPrivateId.

Technically Indirect object instance operations are deemed optional as they refer to particular usage of the Direct object Instance operations. In other words, a Direct object instance operation acting over a reference attribute has same effects as the Indirect object instance operation. However, there are some differences: A modify (Mod), Create (Add), Delete (Del) and retrieve (Get) operation in a Direct object instance operation (e.g. opModPrivateID) applies to the entire attribute set of the object (leaf and aggregation attributes) while same operations operation in an Indirect object Instance operations replaces only the attribute references included in the request. The Direct object instance operation requires the previous knowledge of the entire attribute set of the referred object instance even if no changes are made to those other objects. In the Indirect object instance operation only the reference attributes are needed in context. This is particular useful in cases where only the references are updated.

The pattern of Direct object instance operations is <operation><Indirect Object Name> <adverb> <Direct Object Name> as defined in Table 3.

Table 3 - Object model operation and WSDL operation definitions

| Class operation | WSDL Operation |
|---|--|
| R() or Get() | opGet<Indirect Object Name>From<Direct Class Name> |
| RU() or Get(), Mod() | opGet<Indirect Object Name>From<Direct Class Name> opMod<Indirect Object Name>From<Direct Class Name> |
| CRUD() or Add(), Get(), Mod(), Del() | opAdd<Indirect Object Name>To<Direct Class Name> opGet<Indirect Object Name>From<Direct Class Name> opMod<Indirect Object Name>From<Direct Class Name> opDel<Indirect Object Name>From<Direct Class Name> |

Generic Add, Del, Mod, and Get operations are explained in the next section.

6.3.3 Generic Operations

This specification defines the generic operations opGet, opAdd, opDel, opMod as wildcard operations of Direct object instance operations. These operations are equivalent to direct operations and the SOAP action is determined from the SOAP Body context. For example compare opGetPublicIDRequest (see Annex E.2) with the opGet Operation.

For the getPublicIDRequest the SOAP Action urn:cablelabs.com:namespaces:packetcable:wsl:IMS-CX:GetPublicIDRequest provides the context for the implementation to invoke the corresponding functions and process the Body element.

In the generic opGet operation the same SOAP Body content as in opGetPublicID, provides the context to retrieve the same Public Identity information.

6.3.4 Relationship with WS-Management

The [DSP0226] Web Service Management specification defines standard Web service model for management operations. The Data models defined in this specification and others that follow the model in this section could optionally support the WS-Management specification for their correspondent data models Table 4 represents the minimal conformance required. This specification does not define operations equivalent to WS-Management that are not listed in Table 4 such as Enumeration, Pull, etc.

Table 4 - Generic operations and WS-MAN operations equivalent

| Operation | WS-Management Operation | SOAP Action URI WS-Management Equivalent |
|-----------|-------------------------|---|
| opGet | WS-Transfer:Get | http://schemas.xmlsoap.org/ws/2004/09/transfer/Get |
| opAdd | WS-Transfer:Create | http://schemas.xmlsoap.org/ws/2004/09/transfer/Create |
| opDel | WS-Transfer>Delete | http://schemas.xmlsoap.org/ws/2004/09/transfer/Delete |
| opMod | WS-Transfer:Put | http://schemas.xmlsoap.org/ws/2004/09/transfer/Put |

6.3.4.1 Direct Object Instance Operation equivalent in WS-Management

The Web services operations pattern defined in this specification as Direct Object Instance operations correspond to the WS-Management ResourceURIMessage containing the ResourceURI element.

The URI for the ResourceURI then will consist of the Object Name XML schema definition namespace followed by '/' or ':' and the Object Name:

<XML Schema Namespace> <separator><Object Name>

The separator '/' is used when the URI of the XML schema namespace is a URL URI. The separator ':' is used when the URI namespace is an URN.

For example Annex E.2 defines the PublicID object namespace as urn:cablelabs.com:namespaces:packetcable:xsd:IMS-CX

The ResourceURI for the PublicID object is urn:cablelabs.com:namespaces:packetcable:xsd:IMS-CX:PublicID.

6.3.4.2 Indirect Object Instance Operation equivalent in WS-Management

Indirect Object Instance operations correspond to a protocol equivalent to certain WS-Management Fragment level operations [DSP0226].

As per [DSP0226] the implementation optionally supports certain subset of expression dialects for the fragment selectors. In this specification the Indirect object instance operation pattern corresponds to selectors consisting of the names of the attributes that represent the indirect reference.

For example, the operation opDelPublicIDFromPrivateID indicates Direct object is Private ID, and indirect object PublicID. The schema definition contains PublicIDIdentity as the reference attribute in PrivateID.

The WS-Management selector level operation equivalent will contain:

ResourceURI: urn:cablelabs.com:namespaces:packetcable:xsd:IMS-CX:PrivateID.

The WS-Management SelectorSet message will contain a single Selector message for the PrivateId Identity instance identifier and a FragmentTransfer element with the expression to characterize the PublicIDIdentity to be deleted. (See [DSP0226] for details and examples of Fragment level operations.

6.3.4.3 Direct and Indirect Object Instance Operation differences with WS-Management

The WS-Management actions and this specification Generic and Direct object Instance operations are equivalents. However there are few differences as shown in Table 5.

Table 5 - Generic operations and WS-MAN operations Differences

| Operation | This specification | WS-Management |
|--|--|--|
| Retrieval: opGet/ WS-Transfer:Get | Similar | Similar |
| Creation: opAdd/ WS-Transfer:Create | Produce Error if already exist Returns code results of execution | same Returns the final object created or exception code |
| Deletion: opDel/ WS-Transfer>Delete | Produce Error if does not Exist | same |
| Update: opMod/ WS-Transfer:Put | Only provided elements in request are updated to overcome some limitations on the lack of granular operations read-only elements are ignored Returns code results of execution | Put operations replace entire object overriding exiting values or deleting existing attributes not included in request read-only elements are ignored Returns the final object updated of exception code |
| Granular operations | Limited (Indirect object Instance operations) | Generic, based on fragments and selectors |
| Bulk Data | Not defined | uses enumeration and pulls to iterate over data set |

6.4 HSS User Profile Data Requirements

The HSS exchanges information with IMS components (e.g., S-CSCF) via the Cx Interface, see [3GPP-29.228]. This specification defines an interface between the OSS/BSS platform and the HSS component.

The HSS MAY support the web services interfaces defined in Annex D and Annex E. Annex D provides the IMS User Profile Data model for HSS (referred as the IMS-CX Object model in this specification defining the constructs, dependencies and syntax of subscriber model. Annex E defines the web services definitions that consume the data

defined in Annex D. The Data model for the user data is based on the UML model defined in [3GPP-29.228]. The model has further changes to the 3GPP proposed model to accommodate certain deployment scenarios like support multiple private identities for same ISM Subscription. The model is also simplified and compacted in other areas such areas such public identity extensions. See [3GPP-29.228] for details on the subscriber model.

Annex A CLIENT-DEV Management Requirements

A.1 CLIENT-DEV Object Model Overview

This section defines the management model of a PacketCable client device including client and network side provisioning and PacketCable 2.0 protocols configuration and management.

Unless specified, the PacketCable client device MUST NOT persist operator configuration data using the data models herein described. Other documents that reference this object model might change the persistent requirement of the device. This data model is defined after the UE device and may be applicable to other types of PacketCable devices.

A.2 CLIENT-DEV Object Model Definitions

A.2.1 CLIENT-DEV Object Model Data Types

This section defines data types used in the CLIENT-DEV object model.

Table 6 - CLIENT-DEV Data Types

| Attribute Name | Type | Permitted Values |
|---------------------|-----------|--|
| PkctEUEDevSipProtID | hexBinary | other(1) udp(2) tcp(3) tls(4) |

- PkctEUEDevSipProtID

This data type represents the different transport protocols to carry DOCSIS 2.0 SIP.

A.2.2 CLIENT-DEV Object Model Class Diagram

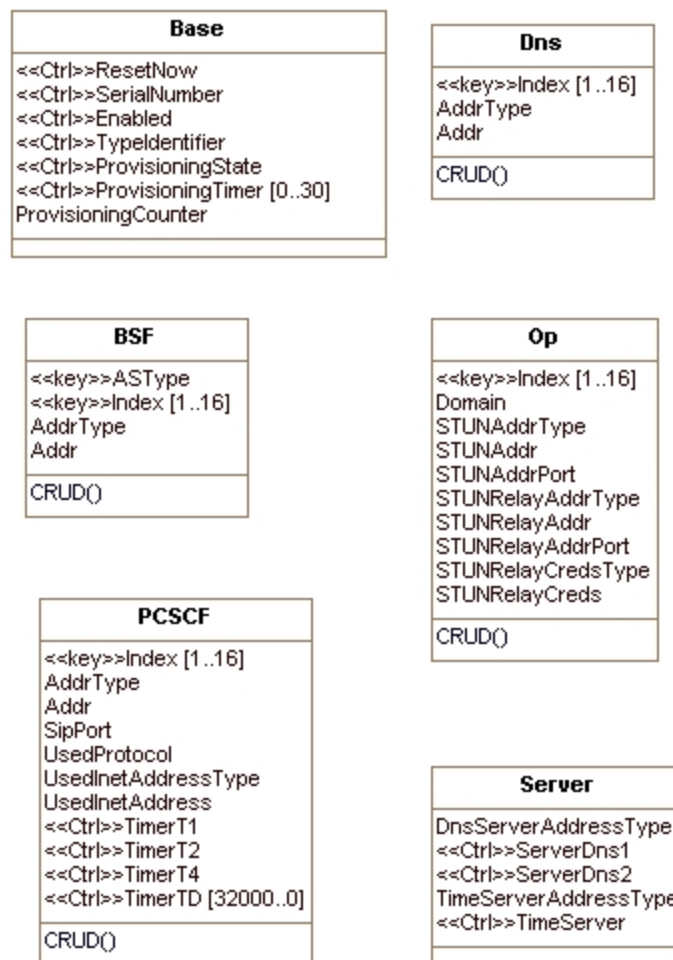


Figure 2 - CLIENT-DEV Object Model Diagram

A.2.3 CLIENT-DEV Object Model Description

A.2.3.1 Base Object

Table 7 - Base Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|----------------|-------------|--------|------------------|-------|---------|
| ResetNow | Boolean | RU | | | |
| SerialNumber | AdminString | R | | | |
| Enabled | Boolean | RU | | | |
| TypeIdentifier | AdminString | R | | | |

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|---------------------|-------------|--------|---|---------|---------|
| ProvisioningState | Enum | R | pass(1) inProgress(2) failConfigFileError(3) passWithWarnings(4) passWithIncompleteParsing(5) failureInternalError(6) failureOtherReason(7) | | |
| ProvisioningTimer | unsignedInt | RU | 0..30 | minutes | 10 |
| ProvisioningCounter | Counter32 | R | | | |

- ResetNow

This attribute controls the client device software reset. Reading this attribute always returns 'false'. Setting this attribute to 'true' causes the device to reset immediately and the following actions to occur:

1. All connections (if present) are flushed locally.
2. All current actions immediately terminate.
3. Requests for signaling notifications are flushed.
4. All endpoints are disabled.
5. The provisioning flow is started from the beginning.

- SerialNumber

This attribute specifies the manufacturer's serial number of this client device.

- Enabled

This object contains the Admin Status of this device. If this object is set to 'true', the client device is administratively enabled, and the client device **MUST** be able to interact with the PacketCable entities. If this object is set to 'false', the client device is administratively disabled, and the client device **MUST** perform the following actions for all endpoints:

1. Shut down all media sessions, if present.
2. Shut down client registrations. For example, a UE **MUST** execute all actions required to enable or disable the telephony services for all endpoints immediately.

- TypeIdentifier

This object provides the client device type identifier. The value of this object must be a copy of the DHCP option 60 value exchanged between the client device and the DHCP server. The DHCP option 60 value contains an ASCII-encoded string identifying capabilities of the device as defined for the device provisioning specification.

- ProvisioningState

This attribute indicates the completion state of the client device provisioning process.

- ProvisioningTimer

This object defines the time interval for the provisioning flow to complete. The client device **MUST** finish all provisioning operations starting from the moment when the client acquires IP connectivity and is ready to initiate its provisioning flow, and ending at the moment when the device completes the retrieval of its configuration within the period of time set by this object. Failure to comply with this condition constitutes a provisioning flow failure. If the object is set to 0, the client device **MUST** ignore the provisioning timer condition. If a value is written into an instance of ProvisioningTimer, the client device **MUST NOT** retain the supplied value across UE re-initializations or reboots.

- ProvisioningCounter

This attribute counts the number of times the provisioning cycle has looped through the first step of the device provisioning.

A.2.3.2 **IPv4Server Object**

Table 8 - Server Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|-----------------------|-----------------|--------|------------------|-------|---------|
| DnsServerAddressType | InetAddressType | R | | | |
| ServerDns1 | InetAddress | RU | | | |
| ServerDns2 | InetAddress | RU | | | |
| TimeServerAddressType | InetAddressType | R | | | |
| TimeServer | InetAddress | RU | | | |

- DnsServerAddressType

This object contains the Internet address type for the PacketCable DNS servers ServerDNS1, ServerDNS2.

- ServerDns1

This object contains the IP Address of the primary DNS server to be used by the client device. The type of this address is determined by the value of the DnsServerAddressType object. When the latter has the value 'ipv4', this attribute contains the IP address of the primary DNS server. As defined in RFC 2132, PacketCable-compliant client devices receive the IP addresses of the DNS Servers in DHCP option 6 or by other means. The behavior of this object when the value of DnsServerAddressType is other than 'ipv4' is not presently specified, but it may be specified in future versions of this specification. If a value is written into an instance of ServerDns1, the client device MUST NOT retain the supplied value across device re-initializations or reboots.

- ServerDns2

This object contains the IP Address of the secondary DNS server to be used by the client device. The type of this address is determined by the value of the DnsServerAddressType object. When the latter has the value 'ipv4(1)', this attribute contains the IP address of the secondary DNS server. As defined in RFC 2132, PacketCable-compliant devices receive the IP addresses of the DNS Servers in DHCP option 6. The behavior of this object when the value of DnsServerAddressType is other than 'ipv4(1)' is not presently specified, but it may be specified in future versions of this specification. If a value is written into an instance of ServerDns2, the agent MUST NOT retain the supplied value across UE re-initializations or reboots.

- TimeServerAddressType

This object contains the Internet address type for the 'TimeServers' attribute.

- TimeServer

This object contains the Internet Address of the Time Server used by an S-UE for Time Synchronization. The type of this address is determined by the value of the TimeServerAddressType object. When the latter has the value 'ipv4(1)', this object contains the IP address of the Time Server used for Time Synchronization. In the case of an S-UE, this object must be populated with a value other than 0.0.0.0 as obtained from DHCP option 4. The protocol by which the time of day MUST be retrieved is defined in RFC 868. In the case of an E-UE, this object must contain a value of 0.0.0.0 if the address type is 'ipv4(1)' since an E-UE does not use the Time Protocol for time synchronization (an E-UE uses the time retrieved by the DOCSIS cable modem). The behavior of this object when the value of TimeServerAddressType is other than 'ipv4(1)' is not presently specified, but it may be specified in future versions of this specification. If a value is written into an instance of TimeServer, the agent MUST NOT retain the supplied value across UE re-initializations or reboots.

A.2.3.3 *Op Object*

This object contains Operator-specific information associated with the UE.

- Object Operations:

Each entry in this object describes Operator parameters associated with a specific domain name. For each Operator that is associated with a user, the corresponding parameters **SHOULD** be configured by the Operator. A domain name of '.' indicates any domain name. The UE **MUST** use the values provided only for sessions established on behalf of the UE identifier (e.g., UE registration, UE configuration, UE Identifier-based sessions). This object defines the row status associated with the particular Operator in the Op object. The value of this object has no effect on whether columnar objects in this row can be modified.

Table 9 - Op Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|--------------------|-------------------|--------|------------------|-------|---------|
| Index | unsignedInt | key | 1..16 | | |
| Domain | InetAddressDNS | CRUD | | | |
| STUNAddrType | InetAddressType | CRUD | | | unknown |
| STUNAddr | InetAddress | CRUD | | | "" |
| STUNAddrPort | InetPortNumber | CRUD | | | 0 |
| STUNRelayAddrType | InetAddressType | CRUD | | | unknown |
| STUNRelayAddr | InetAddress | CRUD | | | "" |
| STUNRelayAddrPort | InetPortNumber | CRUD | | | 0 |
| STUNRelayCredsType | PktcUETCCredsType | CRUD | | | none |
| STUNRelayCreds | PktcUETCCreds | CRUD | | | "" |

- Index

A unique value used to identify an instance of a set of values pertaining to an Operator domain identified by 'Domain'. The indices **SHOULD** be contiguous. When multiple entries are specified, the UE **MUST** give precedence to the values indexed by lower indices.

- Domain

This attribute contains the Operator's Domain or sub-domain name. A value of '.' indicates any domainName.

- STUNAddrType

This data element identifies the data type of the value contained in 'STUNAddr'.

- STUNAddr

This data element contains the STUN server address associated with the domain name identified in 'Domain'.

- STUNAddrPort

This data element contains the STUN server port associated with the server address identified in 'STUNAddr'.

- STUNRelayAddrType

This data element identifies the data type of the value contained in 'STUNRelayAddr'.

- STUNRelayAddr

This data element contains the STUNRelay server (also referred to as TURN Server) address associated with the domain name identified in 'Domain'.

- STUNRelayAddrPort

This data element contains the STUNRelay server port associated with the server address identified in 'STUNRelayAddr'.

- STUNRelayCredsType

This data element contains the creds type associated with the STUN Relay creds identified in 'STUNRelayCreds'. Valid types include other(1), publicIdentity(2), and username(6).

- STUNRelayCreds

This optional data element MAY contain suitable credentials related to STUN Relay access. If read, this data element MUST always return an empty string value.

A.2.3.4 **Dns Object**

This object represents the UE's knowledge of suitable DNS Server information on a per Operator basis. The UE MUST use the values provided only for sessions established on behalf of the UE identifier (e.g., UE P-CSCF Discovery, UE registration, UE configuration, or UE Identifier-based sessions).

- Object Operations:

Each entry in this object contains an instance of a DNS Server entry for a given domain name as indicated by 'Domain'. The information in this table MAY be configured by the Operator. This object defines the row status associated with the particular Operator domain name in the Dns object. The value of the 'AddrType' object MUST not be modified while this object is 'active'. The value of 'Addr' MAY be modified while this object is active if the value is consistent with the type specified by the 'AddrType' object. The UE MUST not allow the row to become 'active' unless the value of 'Addr' is consistent with the value of 'AddrType'.

Table 10 - Dns Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|----------------|-----------------|--------|------------------|-------|---------|
| Index | unsignedInt | key | 1..16 | | |
| AddrType | InetAddressType | CRUD | | | unknown |
| Addr | InetAddress | CRUD | | | "" |

- Index

This key corresponds to an unique value used to identify an instance in this object. The instances should use a continuous sequence. When multiple instances are specified, the UE MUST give precedence to the values indexed by lower indices.

- AddrType

This attribute contains the type of the attribute Addr'. The only valid values are 'ipv4' or 'ipv6'. The value 'unknown' may be used for instance creation where the attribute Addr is not specified.

- Addr

The IP address of a DNS server associated with the domain name indicated by the primary index 'OpIndex', for the instance indicated by the secondary index 'DnsIndex'. If the attribute is empty, the UE MUST use the DNS servers obtained via the DHCP process during provisioning.

A.2.3.5 **PCSCF Object**

This object represents the UE's knowledge of suitable P-CSCFs information on a per Operator basis.

- Object Operations:

Each entry in this object contains an instance of a P-CSCF Server entry for a given domain name. The information in this table MAY be configured by the Operator. The UE MUST use the values provided only for sessions established on behalf of the UE identifier (e.g., UE registration, UE configuration, or UE Identifier-based sessions). This object defines the row status associated with the particular P-CSCF Server entry for the particular domain name. The value of the 'AddrType' object MUST not be modified while this object is 'active'. The value of 'PCSCFAddr' MAY be modified while this object is active if the value is consistent with the type specified by the 'PCSCFAddrType' object.

Table 11 - PCSCF Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|---------------------|--------------------|--------|------------------|--------------|---------|
| Index | unsignedInt | key | 1..16 | | |
| AddrType | InetAddressType | CRUD | | | unknown |
| Addr | InetAddress | CRUD | | | "" |
| SipPort | InetPortNumber | CRUD | | | 5060 |
| UsedProtocol | PktcUEDevSipProtID | R | | | |
| UsedInetAddressType | InetAddressType | R | | | |
| UsedInetAddress | InetAddress | R | | | |
| TimerT1 | unsignedInt | R | | milliseconds | 500 |
| TimerT2 | unsignedInt | CRUD | | milliseconds | 4000 |
| TimerT4 | unsignedInt | CRUD | | milliseconds | 5000 |
| TimerTD | unsignedInt | R | 32000..0 | milliseconds | 32000 |

- Index

A unique value used to identify an instance in this object. The indices SHOULD be contiguous. When multiple entries are specified, the UE MUST give precedence to the values indexed by lower indices.

- AddrType

This data element contains the type of the data element contained in 'PCSCFAddr'.

- Addr

The IP address of a P-CSCF server associated with the domain name indicated by the primary index 'OpIndex', for the instance indicated by the secondary index 'PCSCFIndex'.

- SipPort

This attribute contains a SIP Port to send the SIP requests to (for the P-CSCF indicated by the table entry).

- UsedProtocol

This attribute contains a SIP Protocol, which is used by the UE to communicate with the P-CSCF.

- UsedInetAddressType

This attribute contains the Address Type of the P-CSCF IP address used by the UE in communication with the P-CSCF. Only 'ipv4' and 'ipv6' address types are valid values for this attribute.

- **UsedInetAddress**
This attribute contains the IP Address of the P-CSCF used by the UE. Only 'ipv4' and 'ipv6' addresses are valid values for this attribute.
- **TimerT1**
This is the SIP Timer T1, an estimate for the round trip time in the system (UE to P-CSCF). Please refer to the PacketCable IMS Delta Session Initiation Protocol (SIP) and Session Description Protocol (SDP), Stage 3 Specification 3GPP TS 24.229 for more information.
- **TimerT2**
This is the SIP Timer T2, an estimate for the maximum retransmit interval for non-INVITE requests and INVITE responses. Please refer to the PacketCable IMS Delta Session Initiation Protocol (SIP) and Session Description Protocol (SDP), Stage 3 Specification 3GPP TS 24.229 for more information.
- **TimerT4**
This is the SIP Timer T4, which indicates the wait time for response retransmits. Please refer to the PacketCable IMS Delta Session Initiation Protocol (SIP) and Session Description Protocol (SDP), Stage 3 Specification 3GPP TS 24.229 for more information.
- **TimerTD**
This is the SIP Timer TD, an estimate for the maximum duration a message will remain in the network. Please refer to the PacketCable IMS Delta Session Initiation Protocol (SIP) and Session Description Protocol (SDP), Stage 3 Specification 3GPP TS 24.229 for more information. If the protocol used for a SIP Session is UDP, this value is used for SIP Timer D, otherwise it is ignored.

A.2.3.6 **BSF Object**

This object represents the UE's knowledge of suitable BSFs to contact.

- **Object Operations:**
Each entry in this object contains an instance of a BSF, specific to an AS type, for a given Operator's Domain Name. The entries represent the UE's knowledge of suitable BSFs to contact, as per the IMS GBA architecture to obtain credentials and enabling secure sessions to Application Servers. A list of BSFs for each Operator and application types MAY be configured by the Operator. This object defines the row status associated with this instance of a BSF. The value of the 'BSFAddrType' object MUST not be modified while this object is 'active'. The value of 'BSFAddr' MAY be modified while this object is active if the value is consistent with the type specified by the 'BSFAddrType' object.

Table 12 - BSF Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|----------------|-----------------|--------|------------------|-------|---------|
| ASType | AdminString | key | | | |
| Index | unsignedInt | key | 1..16 | | |
| AddrType | InetAddressType | R | | | unknown |
| Addr | InetAddress | R | | | "" |

- **ASType**
A unique value used to indicate the AS type to which the BSFs correspond. Applications using GBA are required to specify such identifiers explicitly.

- **Index**
A unique value used to identify an instance in this object. The indices **SHOULD** be contiguous. When multiple entries are specified, the UE **MUST** give precedence to the values indexed by lower indices.
- **AddrType**
This data element contains the type of the data element contained in 'BSFAddr'.
- **Addr**
The address of a BSF server associated with the domain name indicated by the indices 'OpIndex' (Operator Domain), 'BSFAddrType', and 'BSFIndex'.

A.3 CLIENT-DEV OMA Management Objects (MO)

A.3.1 CLIENT-DEV High Level MO

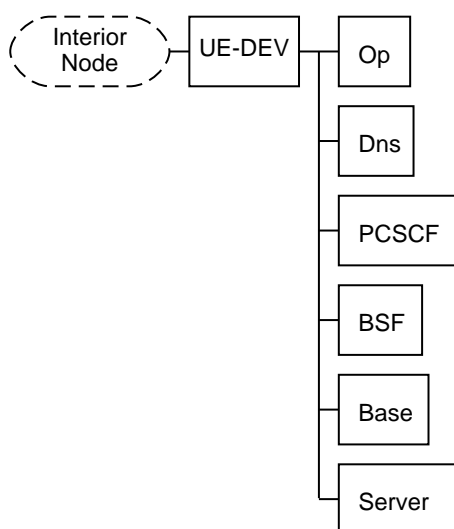


Figure 3 - CLIENT-DEV High Level OMA Management Object

A.3.2 CLIENT-DEV Nodes

A.3.2.1 CLIENT-DEV Base Node MO tree

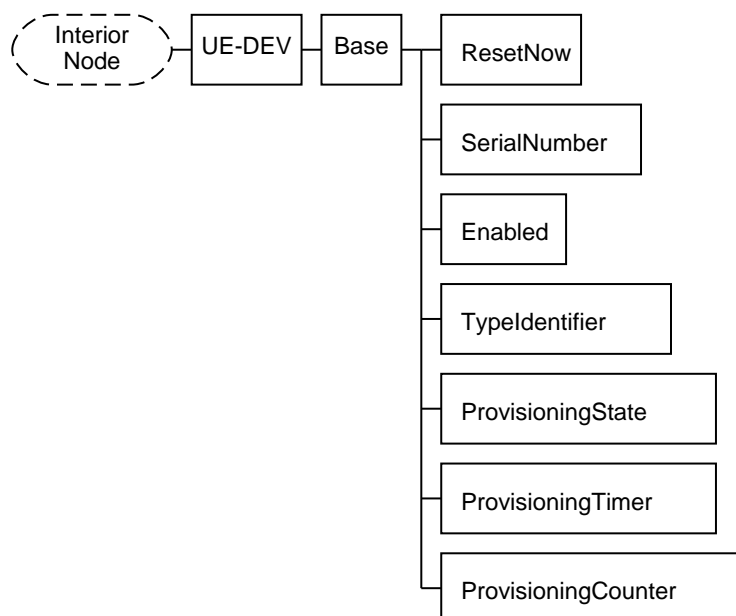


Figure 4 - Node Base of CLIENT-DEV OMA Management Object

A.3.2.2 CLIENT-DEV Base MO Node Description

| MO Element | Status | Occurrence | Format | Access Type |
|--|---------|------------|--------|--------------|
| ./CLIENT-DEV/Base | current | One | Node | Get |
| ./CLIENT-DEV/ResetNow/<X>/ResetNow | current | OneOrZero | bool | Get, Replace |
| ./CLIENT-DEV/SerialNumber/<X>/SerialNumber | current | OneOrZero | chr | Get |
| ./CLIENT-DEV/Enabled/<X>/Enabled | current | OneOrZero | bool | Get, Replace |
| ./CLIENT-DEV/TypeIdentifier/<X>/TypeIdentifier | current | OneOrZero | chr | Get |
| ./CLIENT-DEV/ProvisioningState/<X>/ProvisioningState | current | OneOrZero | int | Get |
| ./CLIENT-DEV/ProvisioningTimer/<X>/ProvisioningTimer | current | OneOrZero | int | Get, Replace |
| ./CLIENT-DEV/ProvisioningCounter/<X>/ProvisioningCounter | current | OneOrZero | int | Get |

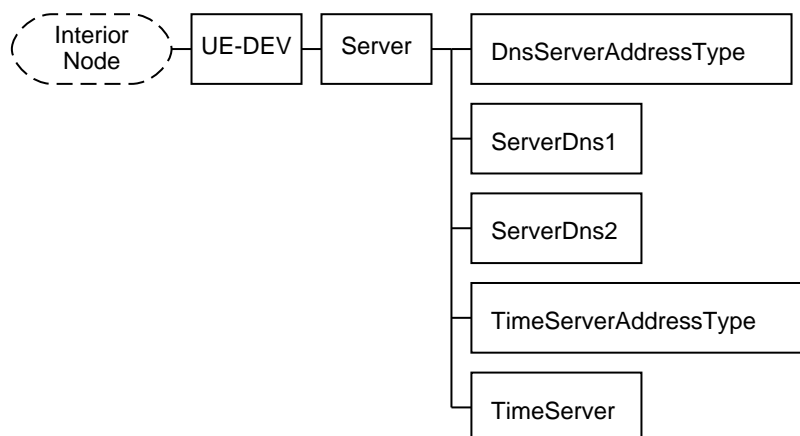
A.3.2.3 **CLIENT-DEV Server Node MO tree**

Figure 5 - Node Server of CLIENT-DEV OMA Management Object

A.3.2.4 **CLIENT-DEV Server MO Node Description**

| MO Element | Status | Occurrence | Format | Access Type |
|--|---------|------------|--------|--------------|
| ./CLIENT-DEV/Server | current | One | Node | Get |
| ./CLIENT-DEV/DnsServerAddressType/<X>/DnsServerAddressType | current | OneOrZero | int | Get |
| ./CLIENT-DEV/ServerDns1/<X>/ServerDns1 | current | OneOrZero | chr | Get, Replace |
| ./CLIENT-DEV/ServerDns2/<X>/ServerDns2 | current | OneOrZero | chr | Get, Replace |
| ./CLIENT-DEV/TimeServerAddressType/<X>/TimeServerAddressType | current | OneOrZero | int | Get |
| ./CLIENT-DEV/TimeServer/<X>/TimeServer | current | OneOrZero | chr | Get, Replace |

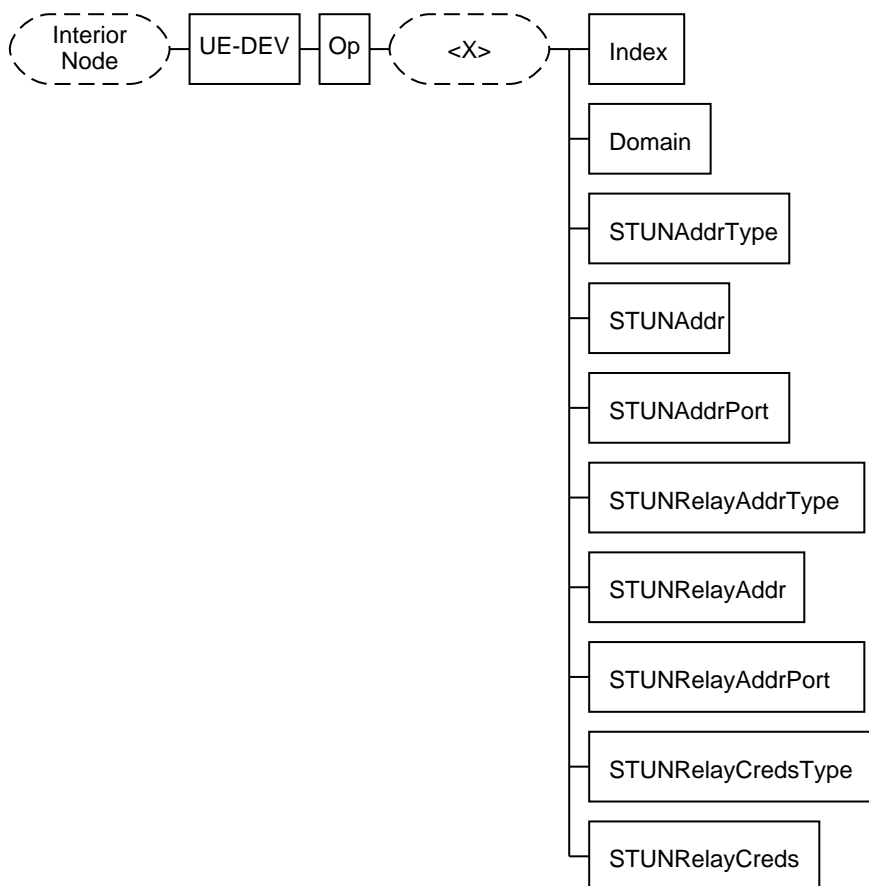
A.3.2.5 **CLIENT-DEV Op Node MO tree**

Figure 6 - Node Op of CLIENT-DEV OMA Management Object

A.3.2.6 **CLIENT-DEV Op MO Node Description**

| MO Element | Status | Occurrence | Format | Access Type |
|--|---------|------------|--------|-------------------|
| ./CLIENT-DEV/Op | current | One | Node | Get |
| ./CLIENT-DEV/Op<X> | current | OneOrMore | Node | Add, Get, Replace |
| ./CLIENT-DEV/Index/<X>/Index | current | OneOrZero | int | Add, Get, Replace |
| ./CLIENT-DEV/Domain/<X>/Domain | current | OneOrZero | chr | Add, Get, Replace |
| ./CLIENT-DEV/STUNAddrType/<X>/STUNAddrType | current | OneOrZero | int | Add, Get, Replace |
| ./CLIENT-DEV/STUNAddr/<X>/STUNAddr | current | OneOrZero | chr | Add, Get, Replace |
| ./CLIENT-DEV/STUNAddrPort/<X>/STUNAddrPort | current | OneOrZero | int | Add, Get, Replace |

| MO Element | Status | Occurrence | Format | Access Type |
|--|---------|------------|--------|-------------------|
| ./CLIENT-DEV/STUNRelayAddrType/<X>/STUNRelayAddrType | current | OneOrZero | int | Add, Get, Replace |
| ./CLIENT-DEV/STUNRelayAddr/<X>/STUNRelayAddr | current | OneOrZero | chr | Add, Get, Replace |
| ./CLIENT-DEV/STUNRelayAddrPort/<X>/STUNRelayAddrPort | current | OneOrZero | int | Add, Get, Replace |
| ./CLIENT-DEV/STUNRelayCredsType/<X>/STUNRelayCredsType | current | OneOrZero | int | Add, Get, Replace |
| ./CLIENT-DEV/STUNRelayCreds/<X>/STUNRelayCreds | current | OneOrZero | chr | Add, Get, Replace |

A.3.2.7 CLIENT-DEV Dns Node MO tree

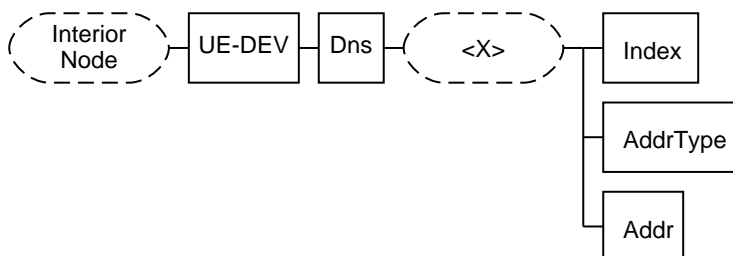


Figure 7 - Node Dns of CLIENT-DEV OMA Management Object

A.3.2.8 CLIENT-DEV Dns MO Node Description

| MO Element | Status | Occurrence | Format | Access Type |
|------------------------------------|---------|------------|--------|-------------------|
| ./CLIENT-DEV/Dns | current | One | Node | Get |
| ./CLIENT-DEV/Dns<X> | current | OneOrMore | Node | Add, Get, Replace |
| ./CLIENT-DEV/Index/<X>/Index | current | OneOrZero | int | Add, Get, Replace |
| ./CLIENT-DEV/AddrType/<X>/AddrType | current | OneOrZero | int | Add, Get, Replace |
| ./CLIENT-DEV/Addr/<X>/Addr | current | OneOrZero | chr | Add, Get, Replace |

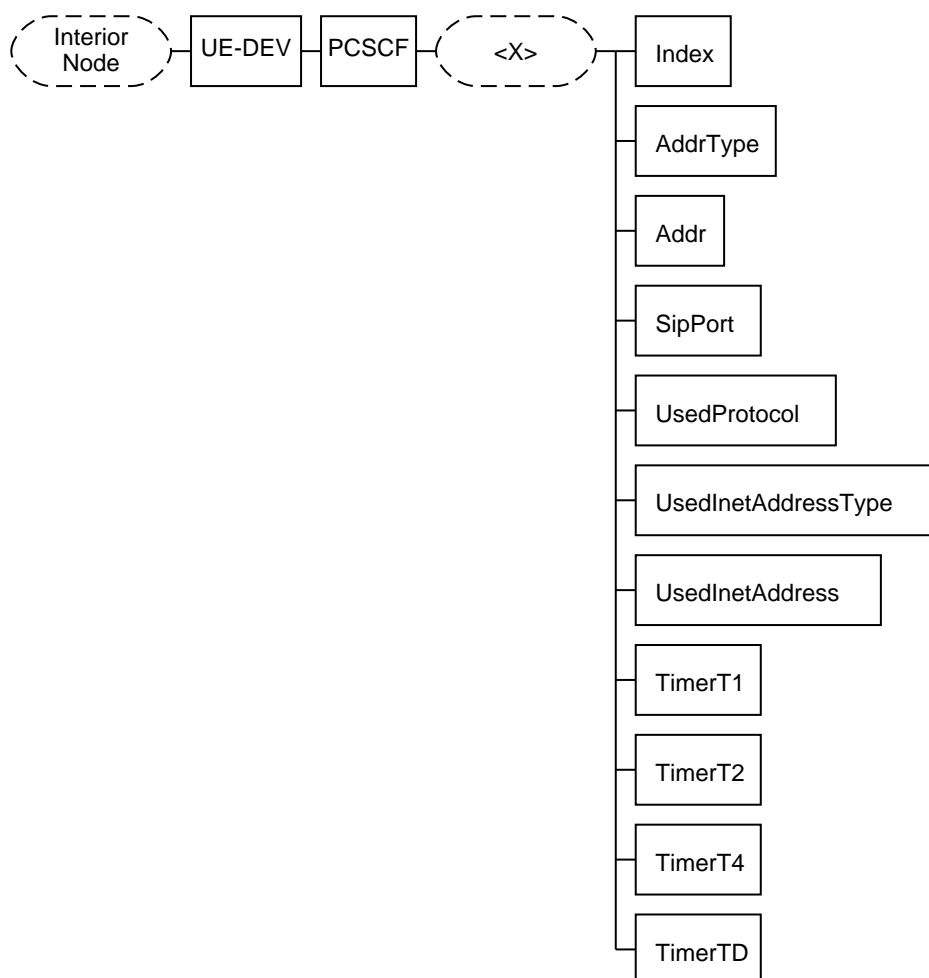
A.3.2.9 **CLIENT-DEV PCSCF Node MO tree**

Figure 8 - Node PCSCF of CLIENT-DEV OMA Management Object

A.3.2.10 **CLIENT-DEV PCSCF MO Node Description**

| MO Element | Status | Occurrence | Format | Access Type |
|--|---------|------------|--------|-------------------|
| ./CLIENT-DEV/PCSCF | current | One | Node | Get |
| ./CLIENT-DEV/PCSCF<X> | current | OneOrMore | Node | Add, Get, Replace |
| ./CLIENT-DEV/Index/<X>/Index | current | OneOrZero | int | Add, Get, Replace |
| ./CLIENT-DEV/AddrType/<X>/AddrType | current | OneOrZero | int | Add, Get, Replace |
| ./CLIENT-DEV/Addr/<X>/Addr | current | OneOrZero | chr | Add, Get, Replace |
| ./CLIENT-DEV/SipPort/<X>/SipPort | current | OneOrZero | int | Add, Get, Replace |
| ./CLIENT-DEV/UsedProtocol/<X>/UsedProtocol | current | OneOrZero | int | Get |
| ./CLIENT-DEV/UsedInetAddressType/<X>/UsedInetAddressType | current | OneOrZero | int | Get |
| ./CLIENT-DEV/UsedInetAddress/<X>/UsedInetAddress | current | OneOrZero | chr | Get |
| ./CLIENT-DEV/TimerT1/<X>/TimerT1 | current | OneOrZero | int | Get |

| MO Element | Status | Occurrence | Format | Access Type |
|----------------------------------|---------|------------|--------|-------------------|
| ./CLIENT-DEV/TimerT2/<X>/TimerT2 | current | OneOrZero | int | Add, Get, Replace |
| ./CLIENT-DEV/TimerT4/<X>/TimerT4 | current | OneOrZero | int | Add, Get, Replace |
| ./CLIENT-DEV/TimerTD/<X>/TimerTD | current | OneOrZero | intchr | Get |

A.3.2.11 CLIENT-DEV BSF Node MO tree

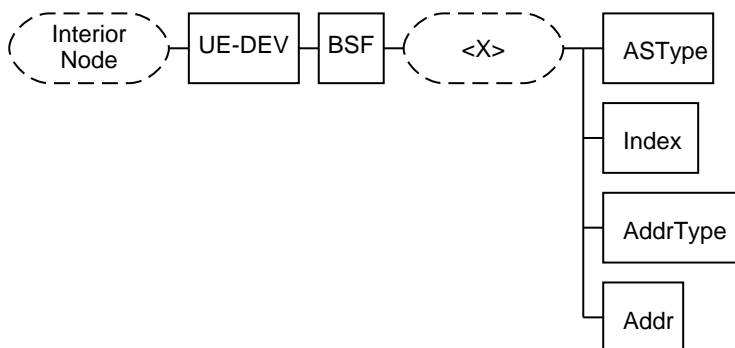


Figure 9 - Node BSF of CLIENT-DEV OMA Management Object.

A.3.2.12 CLIENT-DEV BSF MO Node Description

| MO Element | Status | Occurrence | Format | Access Type |
|------------------------------------|---------|------------|--------|-------------------|
| ./CLIENT-DEV/BSF | current | One | Node | Get |
| ./CLIENT-DEV/BSF<X> | current | OneOrMore | Node | Add, Get, Replace |
| ./CLIENT-DEV/ASType/<X>/ASType | current | OneOrZero | chr | Add, Get, Replace |
| ./CLIENT-DEV/Index/<X>/Index | current | OneOrZero | int | Add, Get, Replace |
| ./CLIENT-DEV/AddrType/<X>/AddrType | current | OneOrZero | int | Get |
| ./CLIENT-DEV/Addr/<X>/Addr | current | OneOrZero | chr | Get |

A.4 CLIENT-DEV OMA Device Description Framework (DDF)

```

<?xml version="1.0"?>
<MgmtTree>
  <VerDTD>1.2</VerDTD>
  <Man>PacketCable - Cable Laboratories Inc.</Man>
  <!--This DDF considers as model the UE MO (as defined in the PacketCable
specifications) followed by a colon character (e.g., CLIENT-DEV:) -->
  <Mod>CLIENT-DEV:</Mod>
  <Node>
    <NodeName>CLIENT-DEV</NodeName>
    <Path>./Pktc2</Path>
    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <DefaultValue/>
      <Description>The node that defines the CLIENT-DEV MO
tree.</Description>
    <DDFormat>
      <node/>
    </DDFormat>
  </Node>
</MgmtTree>
  
```

```

        <Occurrence>
            <One/>
        </Occurrence>
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            <Permanent/>
        </Scope>
        <DFTitle>The interior node holding all nodes of the PacketCable
CLIENT-DEV MO three</DFTitle>
        <DFType>
            <DDFName>urn:cablelabs:pktc2:oma:dm:client-dev</DDFName>
        </DFType>
        <CaseSense>
            <CIS/>
        </CaseSense>
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                <One/>
            </Occurrence>
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                <DDFName/>
            </DFType>
        </DFProperties>
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            <DFProperties>
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                <DefaultValue></DefaultValue>
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                    <bool/>
                </DFFormat>
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```

```

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```

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          <One/>
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```

```

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Annex B UE-USR Management Requirements

B.1 UE-USR Object Model Overview

This object provides the configuration of IMPIs with IMPUs and the application mapping to user profiles.

B.2 UE-USR Object Model Definitions

B.2.1 UE-USR Object Model Data Types

There are no data types defined in this section.

B.2.2 UE-USR Object Model Class Diagram

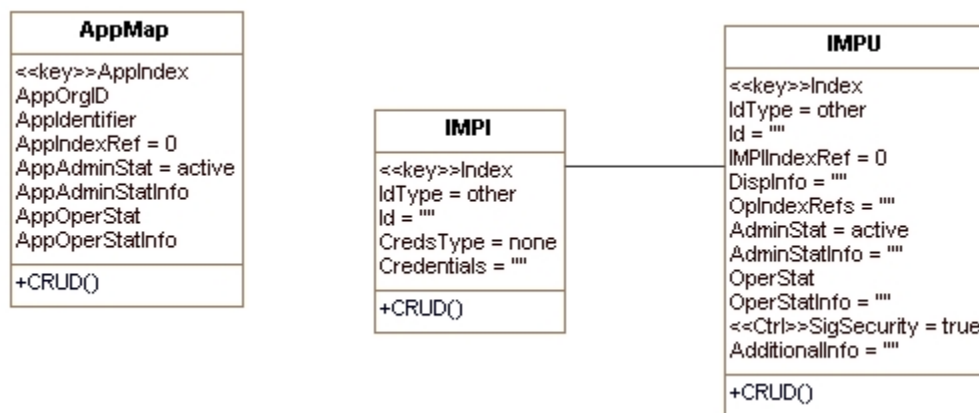


Figure 10 - UE-USR Object Model Diagram

B.2.3 UE-USR Object Model Description

B.2.3.1 IMPU Object

This object represents Users associated with the eUE. Specifically it provides information related to the IM Public Identity (IMPU) of the User.

- Object Operations:

Each entry in this object describes an association of a user IMPU with the eUE indexed by a IMPU Identifier. The eUE uses the entries in this table to register the user in a PacketCable Network. The credentials for registration are obtained using the association with an IMPI object instance, referenced via the IMPI.IndexRef attribute. If two or more active entries have the same IMPU ID, the eUE uses the entry with the lowest Index. The eUE MAY store pre-configured associations in NVRAM. This Object defines the row status associated with this particular User in the IMPU object. An entry in this table is not qualified for activation until the object instances of all corresponding columns have been initialized, either by default values or via explicit SET operations. Until all object instances in this row are initialized, the status value for this realm must be 'notReady(3)'. In particular, two columnar objects must be SET: the 'IdType' and the 'Id'. Once these two objects have been set, the row status may be SET to 'active(1)'. The eUE MUST not allow these two objects to be changed while the row is 'active'. The value of this object has no effect on whether other columnar objects in this row can be modified.

Table 13 - IMPU Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|----------------|-------------------------|--------|------------------|-------|---------|
| Index | PktcEUETCUsrElementType | key | | | |
| IdType | PktcEUETCIDType | CRUD | | | other |
| Id | PktcEUETCID | CRUD | | | "" |
| IMPIIndexRef | PktcEUETCUsrElementType | CRUD | | | 0 |
| DispInfo | AdminString | CRUD | | | "" |
| OpIndexRefs | AdminString | CRUD | | | "" |
| AdminStat | PktcEUETCAdminStatus | CRUD | | | active |
| AdminStatInfo | PktcEUETCStatusInfo | CRUD | | | "" |
| OperStat | PktcEUETCOperStatus | R | | | |
| OperStatInfo | PktcEUETCStatusInfo | R | | | "" |
| SigSecurity | boolean | CRUD | | | true |
| AdditionalInfo | AdminString | CRUD | | | "" |

- **Index**
This key provides a user IMPU index. When the user IMPU is referenced elsewhere, such as to associate the device and a user IMPU, the Index attribute **MUST** be used as an index reference. A value of '0' **MUST NOT** be used.
- **IdType**
The IdType attribute indicates the 'Identifier type' of the data value contained in 'Id'. Valid types include other(1), publicIdentity(2), and username(6).
- **Id**
The Id attribute **MUST** identify the User IMPU being associated with the eUE. The type of Identifier is indicated by the attribute 'IdType'.
- **IMPIIndexRef**
The IMPIIndexRef attribute **MUST** provide an index reference to a IMPI associated with the corresponding IMPU specified in this table entry. The index reference points to an entry in the 'IMPI' object. If this contains a value of '0', it indicates that the user IMPU is not yet associated with an IMPI and cannot be used in networks requiring authentication.
- **DispInfo**
This optional attribute **MAY** contain human readable text describing User characteristics. Examples include User Display Name, Subscriber Identifier etc.
- **OpIndexRefs**
This optional attribute **MAY** contain a list of comma-separated Operator domain entries where the user specified in this entry 'Id' can be used. The entries **MUST** be index references to the operator table associated with the eUE. The eUE **MAY** attempt to use the user entry in a domain or sub-domain specified by the operator table, corresponding to the entries listed here. The eUE **MUST NOT** attempt to use the user entry in a domain that is not specified by this entry. If unspecified, the eUE **MUST** use the domain identified by the IMPU.
- **AppAdminStat**
This attribute contains the administratively desired activation status of the user IMPU. The eUE **MUST** allow access to the User identified in 'Id' if the value is set to 'active', unless determined otherwise and reported in

'OperStat'. The eUE SHOULD attempt to register a User identified in 'Id' if the value is set to 'active'. PacketCable Applications can specify additional requirements for registration. If this object is set to 'inactive', all applicable sessions (e.g., SIP registration) are gracefully terminated. The eUE MUST disallow access to the User identified in 'Id' if the value is set to 'inactive'.

- AppAdminStatInfo

This attribute MAY contain information that describes the activation status indicated in 'AppAdminStat'. It indicates administratively-added information associated with administrative status of the User IMPU (e.g., 'User temporarily deactivated for maintenance').

- OperStat

This attribute contains the operational activation status of the user IMPU. This object returns the following values: 'active' When 'AppAdminStat' is 'active' and there are no run-time conditions and/or configuration errors that prohibit the users from communicating with the operator. 'inactive' When 'AppAdminStat' is 'inactive' or When 'AppAdminStat' is 'active' and there are run-time conditions that prohibit the users from communicating with the operator. 'notPresent' This value is not applicable. 'unknown' Other conditions not covered by the previous values. An example of run-time condition that can result in a value of 'inactive' is unsuccessful registration. PacketCable applications can specify additional conditions for how an IMPU is considered 'active', 'inactive', or 'notPresent', and corresponding state machine.

- OperStatInfo

This attribute contains information that describes the activation status indicated in 'OperStat', or the zero-length string if detail information is not available (e.g., 'User deactivated based on user interface input').

- SigSecurity

This element indicates the network requirement for SIP signaling with the P-CSCF. If set to 'true', the UE MUST attempt secure SIP signaling with the P-CSCF. If set to 'false', the UE MUST attempt to communicate without a secure SIP communication channel with the P-CSCF. The P-CSCF is considered to be authoritative and the UE will follow the requirements in PKT 24.229. After the P-CSCF confirms or sets the SIP secure mode, the UE MUST report such state.

Reference: PacketCable IMS Delta Session Initiation Protocol (SIP) and Session Description Protocol (SDP), Stage 3 Specification 3GPP TS 24.229.

- AdditionalInfo

This attribute MAY contain information that describes additional information defined by PacketCable specifications, including those defining PacketCable features. PacketCable specifications are expected to use this data element to obtain additional information. To specify such additional info, the following rules apply:

- Each specification planning to use this attribute MUST specify data in the following format: '<Keyword>#<value>', # being the delimiter e.g., FEATURE_X#ABC FEATURE_Y#<value of XYZ>.
- This attribute MUST be a semi-colon separated concatenation of such '<keyword>#<value>' pairs. e.g., FEATURE_X#ABC;FEATURE_Z#DEF.
- Since the '#' and ';' characters are used as delimiters, they SHOULD not be specified in the keyword.
- If specified, any occurrence of these characters in the value field MUST be preceded by the escape character '\' (e.g., FEATURE_X#A\#C).
- Occurrences of '\' MUST be preceded by itself (e.g., FEATURE_X#A\\C#).

The following rules apply on the eUE.

- The eUE MUST first separate all the keyword value pairs, using a '#' that is not preceded by '\' as the delimiter.

- The eUE MUST, for all recognized keywords, decipher the value by interpreting the data after considering the use of '\' as defined in this definition.
- The eUE MUST ignore and report all unrecognized keywords using PacketCable Management.

B.2.3.2 *IMPI Object*

This object contains the user IMPI information associated with users provisioned on the device.

- Object Operations:

Each entry in this object contains an instance of a user IMPI and associated credentials. Each IMPU provisioned in the eUE SHOULD be associated with an entry in this table. The exception is in networks where certain users are unauthenticated for application access. This object defines the row status associated with this entry. The value of the 'CredsType' object MUST NOT be modified while this object is 'active'. The value of 'Credentials' MAY be modified while this object is active if the value is consistent with the type specified by the 'CredsType' object.

Table 14 - IMPI Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|----------------|------------------------------|--------|------------------|-------|---------|
| Index | PktcEUETCUsrElementIndexType | key | | | |
| IdType | PktcEUETCIDType | CRUD | | | other |
| Id | PktcEUETCID | CRUD | | | "" |
| CredsType | PktcEUETCCredsType | CRUD | | | none |
| Credentials | PktcEUETCCreds | CRUD | | | "" |

- Index

This key provides a user IMPI index. When the user IMPI is referenced elsewhere, such as to associate the IMPU and an IMPI, the Index attribute MUST be used as an index reference. A value of '0' MUST NOT be used.

- IdType

The IdType attribute MUST indicate the 'Identifier type' of the data value contained in 'Id'. Valid types include other(1), privateIdentity(2), and username(6).

- Id

The Id attribute MUST identify a User IMPI being specified in this table. The type of Identifier is indicated by the attribute 'IdType'.

- CredsType

This attribute contains the type of credentials contained in the attribute 'Credentials'. Valid types include other(1), privateIdentity(2), and username(6).

- Credentials

This attribute allows the Operator to configure credentials associated with an IMPI. This value is used with, and must be consistent with, the value of the associated 'CredsType' object. If read, the Credentials attribute MUST always return an empty string value for privacy reasons. An Operator SHOULD provide this attribute only over a secured configuration interface to avoid security threats due to compromised credentials.

B.2.3.3 *AppMap Object*

This object represents Applications associated with a User IMPU.

- Object Operations:

Each entry in this object identifies an application associated with the user, the application profile index reference, administrative status, and the operational status information. This attribute defines the row status associated with this particular User in the AppMap object. An entry in this table is not qualified for activation until the object instances of all corresponding columns have been initialized, either by default values or via explicit SET operations. Until all object instances in this row are initialized, the status value for this realm must be 'notReady(3)'. In particular, two columnar objects must be SET: the 'OrgID' and 'AppIdentifier'. Once these two objects have been set, the row status may be SET to 'active(1)'. The eUE MUST not allow these two objects to be changed while the row is 'active'. The value of this object has no effect on whether other columnar objects in this row can be modified.

Table 15 - AppMap Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|------------------|--------------------------|--------|------------------|-------|---------|
| AppIndex | PktcEUETCUsrAppIndexType | key | | | |
| AppOrgID | | CRUD | | | |
| AppIdentifier | PktcEUETCAppIdentifier | CRUD | | | |
| AppIndexRef | PktcEUETCUsrAppIndexType | CRUD | | | 0 |
| AppAdminStat | PktcEUETCAdminStatus | CRUD | | | active |
| AppAdminStatInfo | PktcEUETCStatusInfo | CRUD | | | |
| AppOperStat | PktcEUETCOperStatus | R | | | |
| AppOperStatInfo | PktcEUETCStatusInfo | R | | | |

- AppIndex

This attribute represents an index to map an application instance associated with the User IMPU.

- AppOrgID

This attribute identifies the Organization specifying the App identifier contained in the attribute 'AppIdentifier'.

- AppIdentifier

This attribute represents the identifier for an application associated with the User. The application identifier MUST represent an application specified by the organization specified in 'OrgID'.

- AppIndexRef

This attribute represents the index reference to an application profile for the application identified by the attribute 'AppIdentifier'. If this value is set to a value of '0', then the following conditions apply:

- If the application has no specific configuration data, the network activation status MUST be considered by the eUE.
- If the application has configuration data elements, the eUE MUST deactivate the application. The deactivation is reported by 'AppOperStat'.

- AppAdminStat

This attribute contains the administratively desired activation status of this instance. If 'active', the User can use the application. If 'inactive', the user cannot use the application.

- AppAdminStatInfo

This attribute represents additional information for the status information represented by 'AppAdminStat'.

- AppOperStat

This attribute represents the current operational status of the user using the application specified in this entry. This object returns the following values: 'active' When 'AppAdminStat' is 'active' and there are no run-time conditions and/or configuration errors that prohibit the IMPU to use this application. 'inactive' When AppAdminStat is 'inactive' or when AppAdminStat is 'active' and there are run-time conditions and/or configuration errors that prohibit the IMPU to use this application. 'notPresent' When the application is not available or unknown to the UE. 'unknown' Other conditions not covered by the previous values. An example of a run-time condition that can result in a value of 'inactive' is unsuccessful user registration. PacketCable applications can specify additional conditions for how an application is considered 'active', 'inactive', or 'notPresent' for an IMPU.

- AppOperStatInfo

This attribute represents additional information for the status information represented by 'AppOperStat'. For example, the AppOperStat value 'notPresent' can report in this object the value 'UE does not support this application'.

B.3 UE-USR OMA Management Objects (MO)

B.3.1 UE-USR High Level MO

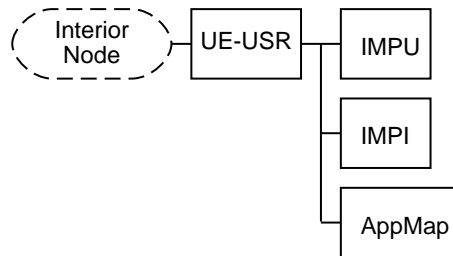


Figure 11 - UE-USR High Level OMA Management Object

B.3.2 UE-USR Nodes

B.3.2.1 UE-USR IMPU Node MO tree

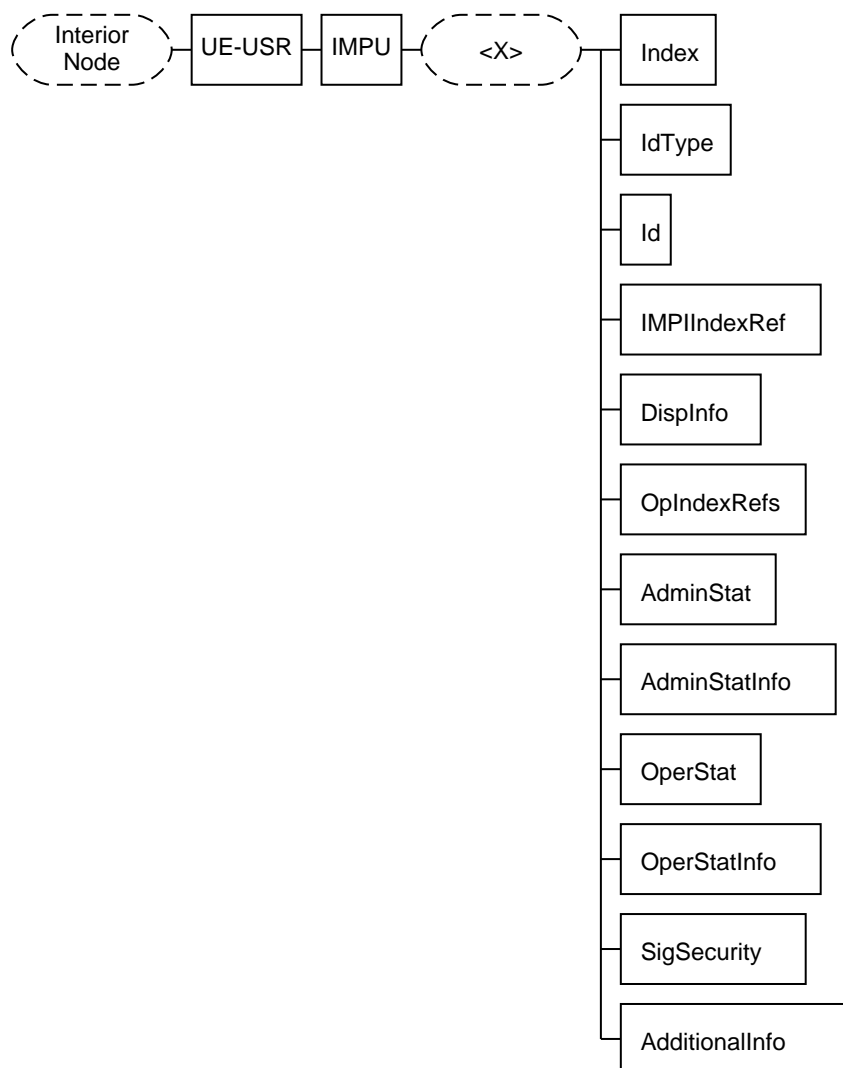


Figure 12 - Node IMPU of UE-USR OMA Management Object

B.3.2.2 UE-USR IMPU MO Node Description

| MO Element | Status | Occurrence | Format | Access Type |
|--|---------|------------|--------|-------------------|
| ./UE-USR/IMPU | current | One | Node | Get |
| ./UE-USR/IMPU<X> | current | OneOrMore | Node | Add, Get, Replace |
| ./UE-USR/Index/<X>/Index | current | OneOrZero | int | Add, Get, Replace |
| ./UE-USR/IdType/<X>/IdType | current | OneOrZero | int | Add, Get, Replace |
| ./UE-USR/Id/<X>/Id | current | OneOrZero | chr | Add, Get, Replace |
| ./UE-USR/IMPIIndexRef/<X>/IMPIIndexRef | current | OneOrZero | int | Add, Get, Replace |
| ./UE-USR/DispInfo/<X>/DispInfo | current | OneOrZero | chr | Add, Get, Replace |

| MO Element | Status | Occurrence | Format | Access Type |
|--|---------|------------|--------|-------------------|
| ./UE-USR/OpIndexRefs/<X>/OpIndexRefs | current | OneOrZero | chr | Add, Get, Replace |
| ./UE-USR/AdminStat/<X>/AdminStat | current | OneOrZero | int | Add, Get, Replace |
| ./UE-USR/AdminStatInfo/<X>/AdminStatInfo | current | OneOrZero | chr | Add, Get, Replace |
| ./UE-USR/OperStat/<X>/OperStat | current | OneOrZero | int | Get |
| ./UE-USR/OperStatInfo/<X>/OperStatInfo | current | OneOrZero | chr | Get |
| ./UE-USR/SigSecurity/<X>/SigSecurity | current | OneOrZero | bool | Add, Get, Replace |
| ./UE-USR/AdditionalInfo/<X>/AdditionalInfo | current | OneOrZero | chr | Add, Get, Replace |

B.3.2.3 UE-USR IMPI Node MO tree

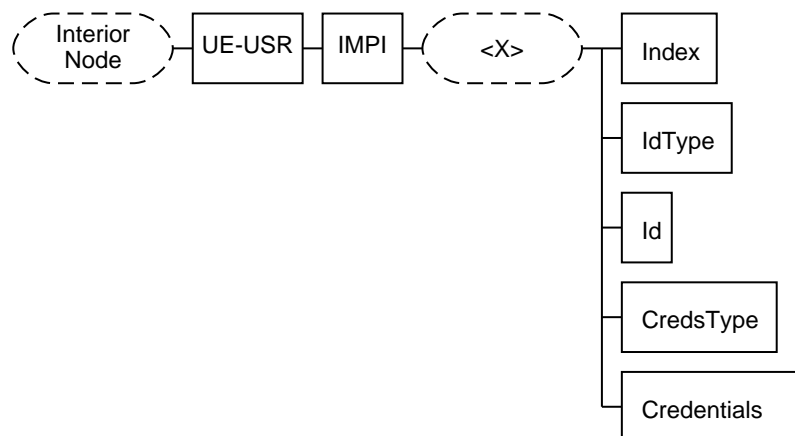


Figure 13 - Node IMPI of UE-USR OMA Management Object

B.3.2.4 UE-USR IMPI MO Node Description

| MO Element | Status | Occurrence | Format | Access Type |
|--------------------------------------|---------|------------|--------|-------------------|
| ./UE-USR/IMPI | current | One | Node | Get |
| ./UE-USR/IMPI<X> | current | OneOrMore | Node | Add, Get, Replace |
| ./UE-USR/Index/<X>/Index | current | OneOrZero | int | Add, Get, Replace |
| ./UE-USR/IdType/<X>/IdType | current | OneOrZero | int | Add, Get, Replace |
| ./UE-USR/Id/<X>/Id | current | OneOrZero | chr | Add, Get, Replace |
| ./UE-USR/CredsType/<X>/CredsType | current | OneOrZero | int | Add, Get, Replace |
| ./UE-USR/Credentials/<X>/Credentials | current | OneOrZero | chr | Add, Get, Replace |

B.3.2.5 UE-USR AppMap Node MO tree

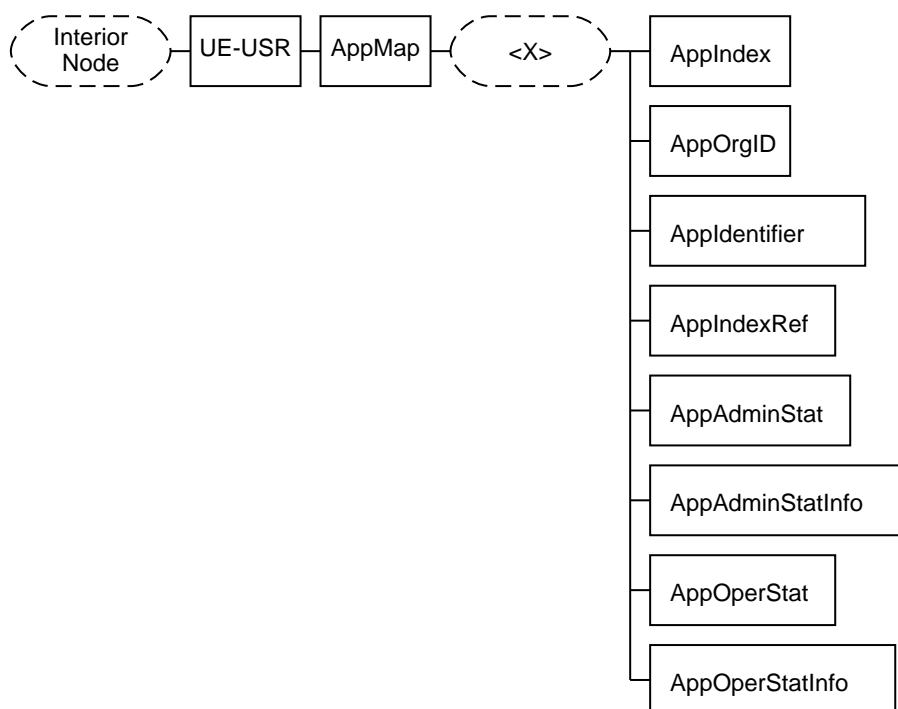


Figure 14 - Node AppMap of UE-USR OMA Management Object.vsd

B.3.2.6 UE-USR AppMap MO Node Description

| MO Element | Status | Occurrence | Format | Access Type |
|--|---------|------------|--------|-------------------|
| ./UE-USR/AppMap | current | One | Node | Get |
| ./UE-USR/AppMap<X> | current | OneOrMore | Node | Add, Get, Replace |
| ./UE-USR/AppIndex/<X>/AppIndex | current | OneOrZero | int | Add, Get, Replace |
| ./UE-USR/AppOrgID/<X>/AppOrgID | current | OneOrZero | int | Add, Get, Replace |
| ./UE-USR/AppIdentifier/<X>/AppIdentifier | current | OneOrZero | Int | Add, Get, Replace |
| ./UE-USR/AppIndexRef/<X>/AppIndexRef | current | OneOrZero | int | Add, Get, Replace |
| ./UE-USR/AppAdminStat/<X>/AppAdminStat | current | OneOrZero | int | Add, Get, Replace |
| ./UE-USR/AppAdminStatInfo/<X>/AppAdminStatInfo | current | OneOrZero | chr | Add, Get, Replace |
| ./UE-USR/AppOperStat/<X>/AppOperStat | current | OneOrZero | int | Get |
| ./UE-USR/AppOperStatInfo/<X>/AppOperStatInfo | current | OneOrZero | chr | Get |

B.4 UE-USR OMA Device Description Framework (DDF)

```

<?xml version="1.0"?>
<MgmtTree>
  <VerDTD>1.2</VerDTD>
  <Man>PacketCable - Cable Laboratories Inc.</Man>
  <!--This DDF considers as model the UE MO (as defined in the PacketCable
specifications) followed by a colon character (e.g., UE-USR:) -->
  <Mod>UE-USR:</Mod>

```

```

    <Node>
      <NodeName>UE-USR</NodeName>
      <Path>./Pktc2</Path>
      <DFProperties>
        <AccessType>
          <Get/>
        </AccessType>
        <DefaultValue/>
        <Description>The node that defines the UE-USR MO
tree.</Description>
        <DFFormat>
          <node/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
        <Scope>
          <Permanent/>
        </Scope>
        <DFTitle>The interior node holding all nodes of the PacketCable
UE-USR MO three</DFTitle>
        <DFType>
          <DDFName>urn:cablelabs:pktc2:oma:dm:ue-usr</DDFName>
        </DFType>
        <CaseSense>
          <CIS/>
        </CaseSense>
      </DFProperties>
    <Node>
      <NodeName>IMPU</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
        </AccessType>
        <DFFormat>
          <node/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
        <DFTitle>UE-USR.IMPU</DFTitle>
        <DFType>
          <DDFName/>
        </DFType>
      </DFProperties>
    <Node>
      <NodeName/>
      <DFProperties>
        <AccessType></AccessType>
        <DFFormat>
          <node/>
        </DFFormat>
        <Occurrence>
          <OneOrMore/>
        </Occurrence>
        <DFTitle/>
        <DFType>
          <DDFName/>
        </DFType>
      </DFProperties>
    <Node>
      <NodeName>Index</NodeName>
      <DFProperties>
        <AccessType></AccessType>
        <DefaultValue></DefaultValue>
        <Description/>
        <DFFormat>

```

```

        <int/>
      </DFFormat>
      <Occurrence>
        <One/>
      </Occurrence>
      <Scope>
        <Permanent/>
      </Scope>
      <DFTitle/>
      <DFType>
        <MIME>text/plain</MIME>
      </DFType>
      <CaseSense/>
    </DFProperties>
    <Value/>
  </Node>
  <Node>
    <NodeName>IdType</NodeName>
    <DFProperties>
      <AccessType></AccessType>
      <DefaultValue>other</DefaultValue>
      <Description/>
      <DFFormat>
        <int/>
      </DFFormat>
      <Occurrence>
        <One/>
      </Occurrence>
      <Scope>
        <Permanent/>
      </Scope>
      <DFTitle/>
      <DFType>
        <MIME>text/plain</MIME>
      </DFType>
      <CaseSense/>
    </DFProperties>
    <Value/>
  </Node>
  <Node>
    <NodeName>Id</NodeName>
    <DFProperties>
      <AccessType></AccessType>
      <DefaultValue>" "</DefaultValue>
      <Description/>
      <DFFormat>
        <chr/>
      </DFFormat>
      <Occurrence>
        <One/>
      </Occurrence>
      <Scope>
        <Permanent/>
      </Scope>
      <DFTitle/>
      <DFType>
        <MIME>text/plain</MIME>
      </DFType>
      <CaseSense/>
    </DFProperties>
    <Value/>
  </Node>
  <Node>
    <NodeName>IMPIIndexRef</NodeName>
    <DFProperties>
      <AccessType></AccessType>
      <DefaultValue>0</DefaultValue>

```

```

        <Description/>
        <DFFormat>
            <int/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle/>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>
</Node>
<Node>
    <NodeName>DispInfo</NodeName>
    <DFProperties>
        <AccessType></AccessType>
        <DefaultValue>" "</DefaultValue>
        <Description/>
        <DFFormat>
            <chr/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle/>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>
</Node>
<Node>
    <NodeName>OpIndexRefs</NodeName>
    <DFProperties>
        <AccessType></AccessType>
        <DefaultValue>" "</DefaultValue>
        <Description/>
        <DFFormat>
            <chr/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle/>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>
</Node>
<Node>
    <NodeName>AdminStat</NodeName>
    <DFProperties>

```



```

        <AccessType></AccessType>
        <DefaultValue>active</DefaultValue>
        <Description/>
        <DFFormat>
            <int/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle/>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>
</Node>
<Node>
    <NodeName>AdminStatInfo</NodeName>
    <DFProperties>
        <AccessType></AccessType>
        <DefaultValue>" "</DefaultValue>
        <Description/>
        <DFFormat>
            <chr/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle/>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>
</Node>
<Node>
    <NodeName>OperStat</NodeName>
    <DFProperties>
        <AccessType>
            <Get/>
        </AccessType>
        <DefaultValue></DefaultValue>
        <Description/>
        <DFFormat>
            <int/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle/>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>

```

```

</Node>
<Node>
  <NodeName>OperStatInfo</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
    </AccessType>
    <DefaultValue>" "</DefaultValue>
    <Description/>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle/>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
    <CaseSense/>
  </DFProperties>
  <Value/>
</Node>
<Node>
  <NodeName>SigSecurity</NodeName>
  <DFProperties>
    <AccessType></AccessType>
    <DefaultValue>>true</DefaultValue>
    <Description/>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle/>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
    <CaseSense/>
  </DFProperties>
  <Value/>
</Node>
<Node>
  <NodeName>AdditionalInfo</NodeName>
  <DFProperties>
    <AccessType></AccessType>
    <DefaultValue>" "</DefaultValue>
    <Description/>
    <DFFormat>
      <chr/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
    <Scope>
      <Permanent/>
    </Scope>
    <DFTitle/>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
  <Value/>
</Node>

```

```

        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>
</Node>
</Node>
</Node>
<Node>
    <NodeName>IMPI</NodeName>
    <DFProperties>
        <AccessType>
            <Get/>
        </AccessType>
        <DFFormat>
            <node/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <DFTitle>UE-USR.IMPI</DFTitle>
        <DFType>
            <DDFName/>
        </DFType>
    </DFProperties>
</Node>
    <Node>
        <NodeName/>
        <DFProperties>
            <AccessType></AccessType>
            <DFFormat>
                <node/>
            </DFFormat>
            <Occurrence>
                <OneOrMore/>
            </Occurrence>
            <DFTitle/>
            <DFType>
                <DDFName/>
            </DFType>
        </DFProperties>
    </Node>
    <Node>
        <NodeName>Index</NodeName>
        <DFProperties>
            <AccessType></AccessType>
            <DefaultValue></DefaultValue>
            <Description/>
            <DFFormat>
                <int/>
            </DFFormat>
            <Occurrence>
                <One/>
            </Occurrence>
            <Scope>
                <Permanent/>
            </Scope>
            <DFTitle/>
            <DFType>
                <MIME>text/plain</MIME>
            </DFType>
            <CaseSense/>
        </DFProperties>
        <Value/>
    </Node>
</Node>
    <Node>
        <NodeName>IdType</NodeName>
        <DFProperties>
            <AccessType></AccessType>
            <DefaultValue>other</DefaultValue>

```

```

        <Description/>
        <DFFormat>
            <int/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle/>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>
</Node>
<Node>
    <NodeName>Id</NodeName>
    <DFProperties>
        <AccessType></AccessType>
        <DefaultValue>" "</DefaultValue>
        <Description/>
        <DFFormat>
            <chr/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle/>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>
</Node>
<Node>
    <NodeName>CredsType</NodeName>
    <DFProperties>
        <AccessType></AccessType>
        <DefaultValue>none</DefaultValue>
        <Description/>
        <DFFormat>
            <int/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle/>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>
</Node>
<Node>
    <NodeName>Credentials</NodeName>
    <DFProperties>

```

```

        <AccessType></AccessType>
        <DefaultValue>" "</DefaultValue>
        <Description/>
        <DFFormat>
            <chr/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle/>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>
</Node>
</Node>
</Node>
<Node>
    <NodeName>AppMap</NodeName>
    <DFProperties>
        <AccessType>
            <Get/>
        </AccessType>
        <DFFormat>
            <node/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <DFTitle>UE-USR.AppMap</DFTitle>
        <DFType>
            <DDFName/>
        </DFType>
    </DFProperties>
    <Node>
        <NodeName/>
        <DFProperties>
            <AccessType></AccessType>
            <DFFormat>
                <node/>
            </DFFormat>
            <Occurrence>
                <OneOrMore/>
            </Occurrence>
            <DFTitle/>
            <DFType>
                <DDFName/>
            </DFType>
        </DFProperties>
    </Node>
    <Node>
        <NodeName>AppIndex</NodeName>
        <DFProperties>
            <AccessType></AccessType>
            <DefaultValue></DefaultValue>
            <Description/>
            <DFFormat>
                <int/>
            </DFFormat>
            <Occurrence>
                <One/>
            </Occurrence>
            <Scope>

```

```

        <Permanent/>
    </Scope>
    <DFTitle/>
    <DFType>
        <MIME>text/plain</MIME>
    </DFType>
    <CaseSense/>
</DFProperties>
<Value/>
</Node>
<Node>
    <NodeName>AppIdentifier</NodeName>
    <DFProperties>
        <AccessType></AccessType>
        <DefaultValue></DefaultValue>
        <Description/>
        <DFFormat>
            <int/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle/>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>
</Node>
<Node>
    <NodeName>AppIndexRef</NodeName>
    <DFProperties>
        <AccessType></AccessType>
        <DefaultValue>0</DefaultValue>
        <Description/>
        <DFFormat>
            <int/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle/>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>
</Node>
<Node>
    <NodeName>AppAdminStat</NodeName>
    <DFProperties>
        <AccessType></AccessType>
        <DefaultValue>active</DefaultValue>
        <Description/>
        <DFFormat>
            <int/>
        </DFFormat>
        <Occurrence>
            <One/>

```

```

        </Occurrence>
        <Scope>
            <Permanent />
        </Scope>
        <DFTitle />
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense />
    </DFProperties>
    <Value />
</Node>
<Node>
    <NodeName>AppAdminStatInfo</NodeName>
    <DFProperties>
        <AccessType></AccessType>
        <DefaultValue></DefaultValue>
        <Description />
        <DFFormat>
            <chr />
        </DFFormat>
        <Occurrence>
            <One />
        </Occurrence>
        <Scope>
            <Permanent />
        </Scope>
        <DFTitle />
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense />
    </DFProperties>
    <Value />
</Node>
<Node>
    <NodeName>AppOperStat</NodeName>
    <DFProperties>
        <AccessType>
            <Get />
        </AccessType>
        <DefaultValue></DefaultValue>
        <Description />
        <DFFormat>
            <int />
        </DFFormat>
        <Occurrence>
            <One />
        </Occurrence>
        <Scope>
            <Permanent />
        </Scope>
        <DFTitle />
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense />
    </DFProperties>
    <Value />
</Node>
<Node>
    <NodeName>AppOperStatInfo</NodeName>
    <DFProperties>
        <AccessType>
            <Get />
        </AccessType>
        <DefaultValue></DefaultValue>

```

```

        <Description/>
        <DFFormat>
            <chr/>
        </DFFormat>
        <Occurrence>
            <One/>
        </Occurrence>
        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle/>
        <DFType>
            <MIME>text/plain</MIME>
        </DFType>
        <CaseSense/>
    </DFProperties>
    <Value/>
</Node>
</Node>
</Node>
</MgmtTree>
```


Annex C UE-BOOT Management Requirements

C.1 UE-BOOT Object Model Overview

This section defines the management model of the UE Bootstrapping configuration and management.

Unless specified, The UE MUST NOT persist operator configuration data using the data models herein described. Other documents that reference this object model might change the persistent requirement of the device.

C.2 UE-BOOT Object Model Definitions

C.2.1 UE-BOOT Object Model Data Types

There are no Data Types defined for the UE-Boot object model.

C.2.2 UE-BOOT Object Model Class Diagram

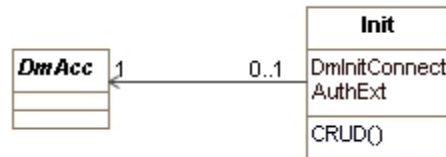


Figure 15 - UE-BOTT Object Model Diagram

C.2.3 UE-BOOT Object Model Description

C.2.3.1 Init Object

Table 16 - Boot Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|----------------|------|--------|------------------|-------|---------|
| DmInitConnect | boot | RU | | | |
| AuthExt | char | RU | | | " |

- DmInitConnect

This attribute indicates describes whether the device will immediately initiate an OMA DM HTTP connection (beginning with Pkg #1) on device reset.

- AuthExt

This attribute describes the Authorization extension method used for this DM Server.

The zero-length string indicates standard DmAcc authorization mechanisms are used.

The value '3GPP-GBA' indicates that GBA Authorization is used. In this case, the OMA DM DmAcc AppAddr list of elements (in the order they are stored) are used to match instances of the BSF object to determine the credentials being used for client authorization.

C.3 UE-BOOT OMA Management Objects (MO)

C.3.1 CLIENT-DEV High Level MO

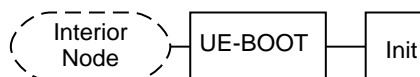


Figure 16 - UE-BOOT High Level OMA Management Object

C.3.2 UE-BOOT Nodes

C.3.2.1 UE-BOOT Init Node MO tree

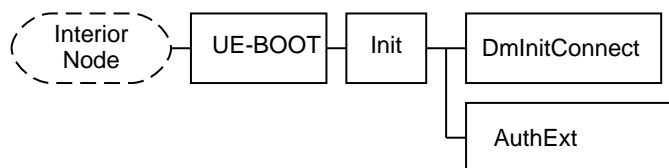


Figure 17 - Node Init of UE-BOOT OMA Management Object

C.3.2.2 UE-BOOT Init MO Node Description

| MO Element | Status | Occurrence | Format | Access Type |
|---------------------------------------|---------|------------|--------|-------------------|
| <X>/Ext/Pktc2/Boot | current | One | Node | Add, Get |
| <X>/Ext/Pktc2/Boot/Init | current | One | Node | Add, Get |
| <X>/Ext/Pktc2/Boot/Init/DmInitConnect | current | OneOrZero | bool | Add, Get, Replace |
| <X>/Ext/Pktc2/Boot/Init/AuthExt | current | OneOrZero | chr | Add, Get, Replace |

C.4 UE-BOOT OMA Device Description Framework (DDF)

```

<?xml version="1.0"?>
<MgmtTree>
  <VerDTD>1.2</VerDTD>
  <Man>PacketCable - Cable Laboratories Inc.</Man>
  <!--This DDF considers as model the UE MO (as defined in the PacketCable
specifications) followed by a colon character (e.g., UE-BOOT:) -->
  <Mod>UE-BOOT:</Mod>
  <Node>
    <NodeName>UE-BOOT</NodeName>
    <Path>./Pktc2</Path>
    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <DefaultValue/>
      <Description>The node that defines the UE-BOOT MO
tree.</Description>
    <DFFormat>
      <node/>
    </DFFormat>
    <Occurrence>
      <One/>
    </Occurrence>
  </Node>
</MgmtTree>
  
```

```

        <Scope>
            <Permanent/>
        </Scope>
        <DFTitle>The interior node holding all nodes of the PacketCable
UE-BOOT MO three</DFTitle>
        <DFType>
            <DDFName>urn:cablelabs:pktc2:oma:dm:ue-boot</DDFName>
        </DFType>
        <CaseSense>
            <CIS/>
        </CaseSense>
    </DFProperties>
    <Node>
        <NodeName>Init</NodeName>
        <DFProperties>
            <AccessType>
                <Get/>
            </AccessType>
            <DFFormat>
                <node/>
            </DFFormat>
            <Occurrence>
                <One/>
            </Occurrence>
            <DFTitle>UE-BOOT.Init</DFTitle>
            <DFType>
                <DDFName/>
            </DFType>
        </DFProperties>
    </Node>
        <NodeName/>
        <DFProperties>
            <AccessType></AccessType>
            <DFFormat>
                <node/>
            </DFFormat>
            <Occurrence>
                <OneOrMore/>
            </Occurrence>
            <DFTitle/>
            <DFType>
                <DDFName/>
            </DFType>
        </DFProperties>
    </Node>
        <NodeName>DmInitConnect</NodeName>
        <DFProperties>
            <AccessType></AccessType>
            <DefaultValue></DefaultValue>
            <Description/>
            <DFFormat>
                <bool/>
            </DFFormat>
            <Occurrence>
                <One/>
            </Occurrence>
            <Scope>
                <Permanent/>
            </Scope>
            <DFTitle/>
            <DFType>
                <MIME>text/plain</MIME>
            </DFType>
            <CaseSense/>
        </DFProperties>
        <Value/>
    </Node>

```

```

        <Node>
          <NodeName>AuthExt</NodeName>
          <DFProperties>
            <AccessType>
              <Get/>
            </AccessType>
            <DefaultValue>' '</DefaultValue>
            <Description/>
            <DFFormat>
              <int/>
            </DFFormat>
            <Occurrence>
              <One/>
            </Occurrence>
            <Scope>
              <Permanent/>
            </Scope>
            <DFTitle/>
            <DFType>
              <MIME>text/plain</MIME>
            </DFType>
            <CaseSense/>
          </DFProperties>
          <Value/>
        </Node>
      </Node>
    </Node>
    <Node>
      <NodeName>DmAcc</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
        </AccessType>
        <DFFormat>
          <node/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
        <DFTitle>UE-BOOT.DmAcc</DFTitle>
        <DFType>
          <DDFName/>
        </DFType>
      </DFProperties>
    </Node>
  </Node>
</MgmtTree>

```

Annex D IMS User Profile Data model for HSS (Normative)

D.1 IMS-CX Object Model Overview

This section defines the configuration model of the HSS User Profile and IMS Subscription. This model deviates from the 3GPP model to support multiple private identities within an IMS subscription and the assignment of service profiles per public identity instead of per IMS subscription as defined in [3GPP-29.228].

D.2 IMS-CX Object Model Definitions

D.2.1 IMS-CX Object Model Data Types

| Attribute Name | Type | Permitted Values |
|----------------|------|---|
| IdentityType | Enum | PUBLIC_USER_IDENTITY(0) DISTINCT_PSI(1) WILDCARDED_PSI(2) WILDCARDED_IMPI(3) IMPU_WILDCARD(4) |

D.2.2 HSS Object Model Class Diagram

Figure 18 shows the class components of the HSS User profile.

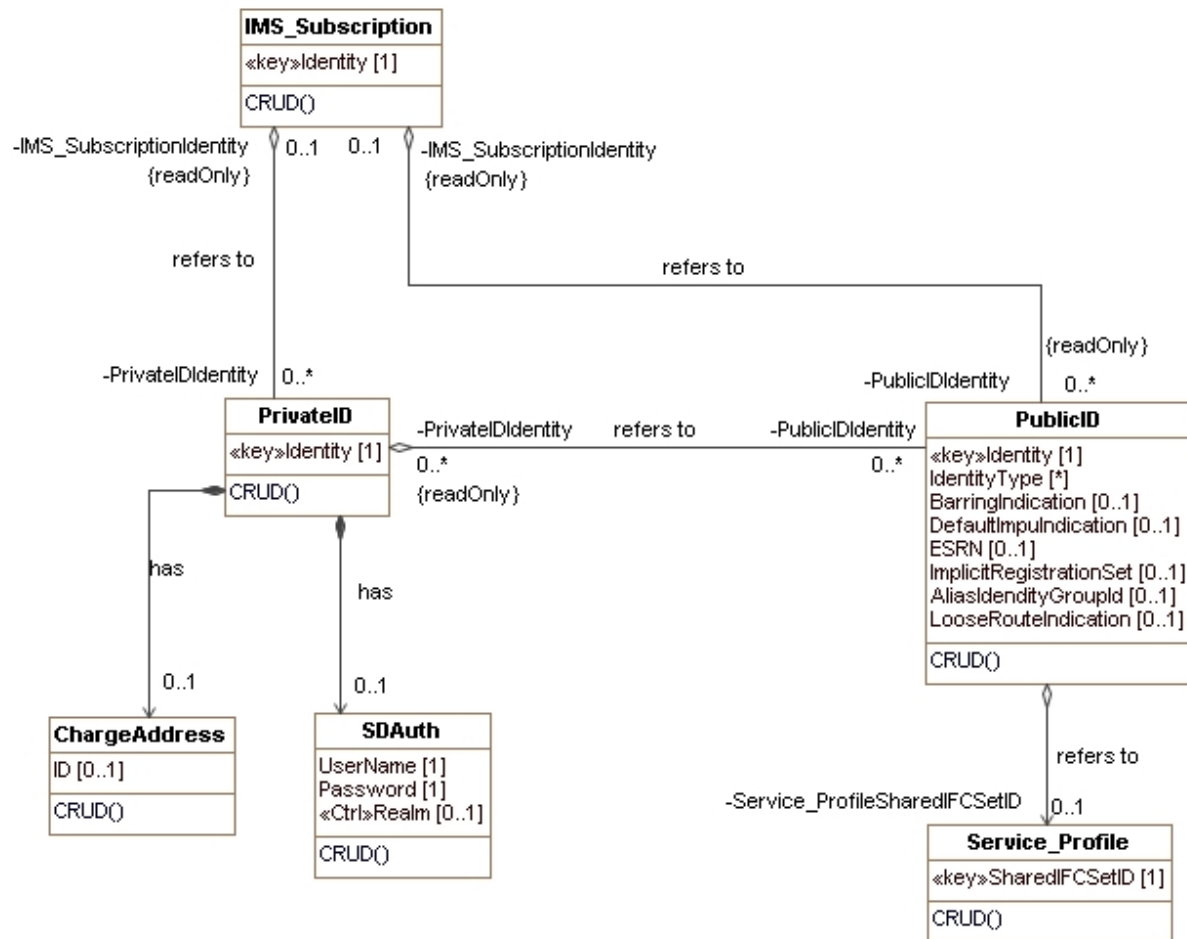


Figure 18 - HSS User Profile Data Model

D.2.3 HSS User Profile Object Model Description

PublicID Object

This object represents the Public Identity(s) associated with a private Identity.

- Object Operations:

CRUD: Defines the operations for adding, deleting, updating and querying a Public Identity into the repository. Deleting a Public Identity implies an automatic de-referencing of the IMPU from the Private Identity(ies) that references it.

Table 17 - PublicID Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|-------------------------------|------|--------|------------------|-------|---------|
| Identity | | key | 1..1 | | |
| IdentityType | | CRUD | 0..* | | |
| BarringIndication | | CRUD | 0..1 | | false |
| DefaultImpuIndication | | CRUD | 0..1 | | |
| ESRN | | CRUD | 0..1 | | |
| ImplicitRegistrationSet | | CRUD | 0..1 | | |
| AliasIdentityGroupId | | CRUD | 0..1 | | |
| LooseRouteIndication | | CRUD | 0..1 | | |
| PrivateIDIdentity | | R | 0..* | | |
| IMS_SubscriptionIdentity | | R | 0..1 | | |
| Service_ProfileSharedIFCSetID | | CRUD | 0..1 | | |

- **Identity**
This key corresponds to the Public Identification of SIP URI, TEL URI or a Wildcarded Public User Identity.
- **IdentityType**
This attribute represents the type of public user.
- **BarringIndication**
This attribute describes whether the S-CSCF restricts this public user from communicating. If set to 'true' the S-CSCF the user is restricted by the S-CSCF for any IMS communication with except of registration and de-registration. If set to 'false' there are no restrictions for this user to participate in any IMS communications.
- **DefaultImpuIndication**
This attribute indicates the public user identity is the default public user identity.
- **ESRN**
This attribute indicates the Emergency Service Routing Number associated with the Public User Identity. This attribute is present in this object only for query purposes.
- **ImplicitRegistrationSet**
This attribute indicates the Implicit Registration Set associated with the Public User Identity. This attribute is present in this object only for query purposes.
- **AliasIdentityGroupId**
This attribute indicates the alias group to which the Public User Identity belongs. This attribute is present in this object only for query purposes.
- **LooseRouteIndication**
This attribute indicates if the loose-route mechanism needs to be applied to the Public ID. The provisioning of the Service Route is not in the scope of this document. The value 'true' allows for indication of Service Route at registration. The value 'false' or its absence means the opposite.

- PrivateIDIdentity
- IMS_SubscriptionIdentity
- Service_ProfileSharedIFCSetID

IMS Subscription Object

This object represents the IMS Subscription.

- Object Operations:

CRUD: Defines the operations for adding, deleting, updating an querying a Public Identity into the repository.

Table 18 - IMS_Subscription Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|-------------------|------|--------|------------------|-------|---------|
| Identity | | key | 1..1 | | |
| PrivateIDIdentity | | CRUD | 0..* | | |
| PublicIDIdentity | | R | 0..* | | |

- Identity

This key corresponds to the identifier of an IMS subscription.

- PrivateIDIdentity
- PublicIDIdentity

PrivateID Object

This object represents the Private Identity(s) associated with an IMS subscription.

- Object Operations:

CRUD: Defines the operations for adding, deleting, updating an querying a Public Identity into the repository. Deleting a Private Identity implies an automatic de-referencing of the IMPI from the IMS Subscription that references it.

Table 19 - IPrivateID Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|--------------------------|------|--------|------------------|-------|---------|
| Identity | | key | 1..1 | | |
| PublicIDIdentity | | CRUD | 0..* | | |
| IMS_SubscriptionIdentity | | R | 0..1 | | |

- Identity

This key corresponds to a Private Identification of an IMS subscription.
- PublicIDIdentity
- IMS_SubscriptionIdentity

SDAuth Object

This object represents the SIP Digest authentication mechanism.

- Object Operations:

CRUD: Defines the operations for adding, deleting, updating and querying a SIP Digest authentication instance into the repository.

Table 20 - SDAuth Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|----------------|------|--------|------------------|-------|---------|
| UserName | | CRUD | 1..1 | | |
| Password | | CRUD | 1..1 | | |
| Realm | | CRUD | 0..1 | | |

- UserName

This Attribute represents the username of the user based authentication model.

- Password

This attribute represents the password for the authorization model. In instance creation and modification this attribute accepts literal UTF-8 character set. Retrieving an object instance reports the Password attribute as the zero-length string.

- Realm

This attribute represents the realm where this authorization schema is valid.

Service Profile Object

This object represents a service profile associated with a Public User Identity.

- Object Operations:

CRUD: Defines the operations for adding, deleting, updating and querying a Service Profile into the repository.

Table 21 - Service_Profile Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|----------------|------|--------|------------------|-------|---------|
| SharedIFCSetID | | key | 1..1 | | |

- SharedIFCSetID

This key represents the Shared initial Filter Criteria (SiFC) index of the service profile.

ChargeAddress Object

This object represents the charging identifier to identify the CSCF configuration for charging addresses.

- Object Operations:

CRUD: Defines the operations for adding, deleting, updating and querying the Charge Address into the repository.

Table 22 - ChargeAddress Object

| Attribute Name | Type | Access | Type Constraints | Units | Default |
|----------------|------|--------|------------------|-------|---------|
| ID | | CRUD | 0..1 | | |

- ID

This attribute indicates the identifier for charged address configuration.

D.2.4 HSS User Profile Component implementation

Figure 19 represents the high level structure of the HSS User profile configuration. In the future extensions to the model might be feasible for the HSS component or any different IMS component.

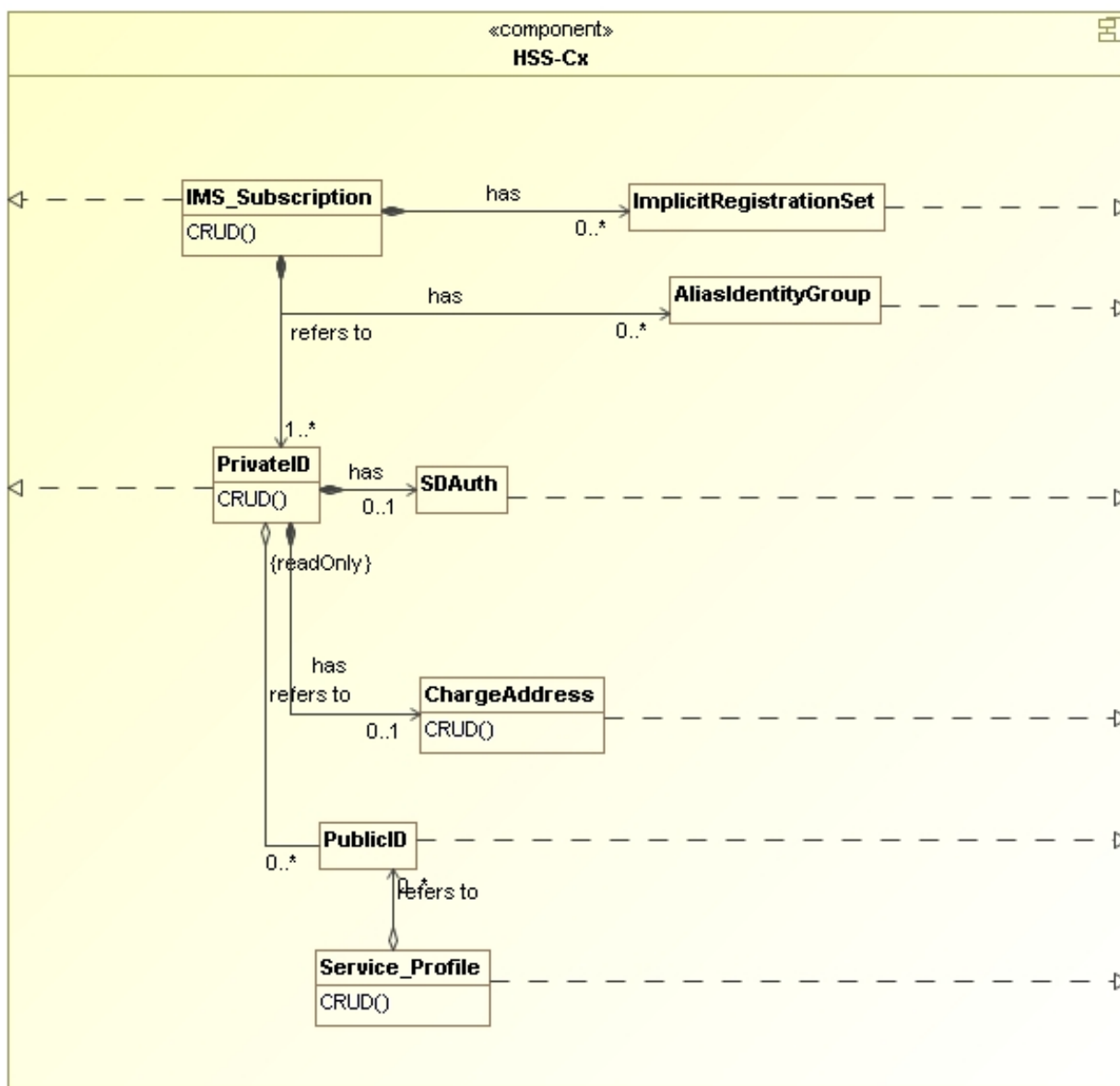


Figure 19 - Component implementation of the IMS User Profile Data Model for the HSS

D.3 IMS-CX XML Schema Definition

```

<?xml version="1.0" encoding="UTF-8"?><schema xmlns="http://www.w3.org/2001/XMLSchema"
xmlns:IMS-CX="urn:cablelabs.com:namespaces:packetcable:xsd:IMS-CX"
targetNamespace="urn:cablelabs.com:namespaces:packetcable:xsd:IMS-CX"
elementFormDefault="qualified">

  <simpleType name="IdentityType">
    <restriction base="integer">
      <enumeration value="0">
        <annotation>
          <documentation>
            <label xml:lang="en">PUBLIC_USER_IDENTITY</label>
            <definition xmlns="" xml:lang="en">Identity is a Public User
Identity</definition>
          </documentation>
        </annotation>
      </enumeration>
      <enumeration value="1">
        <annotation>
          <documentation>
            <label xml:lang="en">DISTINCT_PSI</label>
            <definition xmlns="" xml:lang="en">Identity is a distinct Public
Service Identity</definition>
          </documentation>
        </annotation>
      </enumeration>
      <enumeration value="2">
        <annotation>
          <documentation>
            <label xml:lang="en">WILDCARDED_PSI</label>
            <definition xmlns="" xml:lang="en">Identity matches a wildcarded
Public Service Identity</definition>
          </documentation>
        </annotation>
      </enumeration>
      <enumeration value="3">
        <annotation>
          <documentation>
            <label xml:lang="en">WILDCARDED_IMPU</label>
            <definition xmlns="" xml:lang="en">Identity is a Wildcarded Public
User Identity</definition>
          </documentation>
        </annotation>
      </enumeration>
      <enumeration value="4">
        <annotation>
          <documentation>
            <label xml:lang="en">IMPU_WILDCARD</label>
            <definition xmlns="" xml:lang="en">Identity is a Wildcard for Public
User Identities</definition>
          </documentation>
        </annotation>
      </enumeration>
    </restriction>
  </simpleType>
  <complexType name="PublicID">
    <sequence>
      <element name="Identity" type="anyURI"></element>
      <element name="IdentityType" type="IMS-CX:IdentityType"
minOccurs="0"></element>
      <element name="BarringIndication" type="boolean" minOccurs="0"
default="false"></element>
      <element name="DefaultImpuIndication" type="boolean" minOccurs="0"></element>
      <element name="ESRN" type="string" minOccurs="0"></element>
    </sequence>
  </complexType>

```

```

        <element name="ImplicitRegistrationSet" type="unsignedInt"
minOccurs="0"></element>
        <element name="AliasIdentityGroupId" type="string" minOccurs="0"></element>
        <element name="LooseRouteIndication" type="boolean" minOccurs="0"></element>
        <element name="PrivateIDIdentity" type="anyURI" minOccurs="0"
maxOccurs="unbounded"></element>
        <element name="IMS_SubscriptionIdentity" type="string"
minOccurs="0"></element>
        <element name="Service_ProfileSharedIFCSetID" type="unsignedByte"
minOccurs="0"></element>
    </sequence>
</complexType>
<element name="PublicID" type="IMS-CX:PublicID"></element>
<complexType name="PrivateID">
    <sequence>
        <element name="Identity" type="anyURI"></element>
        <element name="PublicIDIdentity" type="anyURI" minOccurs="0"
maxOccurs="unbounded"></element>
        <element name="IMS_SubscriptionIdentity" type="string"
minOccurs="0"></element>
        <element ref="IMS-CX:SDAuth" minOccurs="0"></element>
        <element ref="IMS-CX:ChargeAddress" minOccurs="0"></element>
    </sequence>
</complexType>
<element name="PrivateID" type="IMS-CX:PrivateID"></element>
<complexType name="SDAuth">
    <sequence>
        <element name="UserName" type="string"></element>
        <element name="Password" type="string"></element>
        <element name="Realm" type="string" minOccurs="0"></element>
    </sequence>
</complexType>
<element name="SDAuth" type="IMS-CX:SDAuth"></element>
<complexType name="ChargeAddress">
    <sequence>
        <element name="ID" type="unsignedByte" minOccurs="0"></element>
    </sequence>
</complexType>
<element name="ChargeAddress" type="IMS-CX:ChargeAddress"></element>
<complexType name="IMS_Subscription">
    <sequence>
        <element name="Identity" type="string"></element>
        <element name="PrivateIDIdentity" type="anyURI" minOccurs="0"
maxOccurs="unbounded"></element>
        <element name="PublicIDIdentity" type="anyURI" minOccurs="0"
maxOccurs="unbounded"></element>
    </sequence>
</complexType>
<element name="IMS_Subscription" type="IMS-CX:IMS_Subscription"></element>
<complexType name="Service_Profile">
    <sequence>
        <element name="SharedIFCSetID" type="unsignedByte"></element>
    </sequence>
</complexType>
<element name="Service_Profile" type="IMS-CX:Service_Profile"></element>
</schema>

```

Annex E HSS User Profile Web Services Provisioning interface (Normative)

E.1 IMS-CX Web Services Definition

The HSS MAY support the Service binding port termed HSS-Cx-soap12-http from the svIMS-CX service definition of the IMS-CX WSDL defined in Annex E.2.

The port HSS-CX-soap12-http corresponds to the compliance of implementing the HSS component described in Annex A.2.3.

E.1.1 IMS-CX Web Service Operations

If the HSS supports the Service binding HSS-Cx-soap12-http the following requirements apply:

The HSS MUST support the Generic operations opGet, opAdd, opDel and opMod defined in Table 23 and Section 6.3.

The HSS MAY support the Direct object Instance operations defined Table 23.

The HSS MAY support the Indirect object Instance operations defined in Table 23

The HSS MAY support the standard WS-Management operations for the HSS User Profile Component implementation shown in Annex A.2.3.

Table 23 - HSS defined Web service operations (HSS-Cx-soap12-http)

| Operation | Message | | Description |
|---------------|---------|----------------------------------|--|
| opGet | input | ws-IMS-CX:msgGetRequest | Generic operation for retrieval of object instances |
| | output | ws-IMS-CX:msgGetResponse | |
| | fault | ws-IMS-CX:msgException | |
| opAdd | input | ws-IMS-CX:msgAddRequest | Generic operation for addition of object instances |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opMod | input | ws-IMS-CX:msgModRequest | Generic operation for modification of object instances |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opDel | input | ws-IMS-CX:msgDelRequest | Generic operation for deletion of object instances |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opGetPublicID | input | ws-IMS-CX:msgGetPublicIDRequest | Query of PublicID |
| | output | ws-IMS-CX:msgGetPublicIDResponse | |
| | fault | ws-IMS-CX:msgException | |
| opAddPublicID | input | ws-IMS-CX:msgAddPublicIDRequest | Addition of PublicID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opModPublicID | input | ws-IMS-CX:msgModPublicIDRequest | Modification of PublicID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opDelPublicID | input | ws-IMS-CX:msgDelPublicIDRequest | Deletion of PublicID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |

| Operation | Message | | Description |
|------------------------------------|---------|---|---|
| opGetPublicIDFromIMS_Subscription | input | ws-IMS-CX:msgGetPublicIDFromIMS_SubscriptionRequest | Query of PublicID From IMS_Subscription |
| | output | ws-IMS-CX:msgGetPublicIDFromIMS_SubscriptionResponse | |
| | fault | ws-IMS-CX:msgException | |
| opGetPublicIDFromPrivateID | input | ws-IMS-CX:msgGetPublicIDFromPrivateIDRequest | Query of PublicID From PrivateID |
| | output | ws-IMS-CX:msgGetPublicIDFromPrivateIDResponse | |
| | fault | ws-IMS-CX:msgException | |
| opAddPublicIDToPrivateID | input | ws-IMS-CX:msgAddPublicIDToPrivateIDRequest | Addition of PublicID To PrivateID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opModPublicIDFromPrivateID | input | ws-IMS-CX:msgModPublicIDFromPrivateIDRequest | Modification of PublicID From PrivateID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opDelPublicIDFromPrivateID | input | ws-IMS-CX:msgDelPublicIDFromPrivateIDRequest | Deletion of PublicID From PrivateID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opGetPrivateID | input | ws-IMS-CX:msgGetPrivateIDRequest | Query of PrivateID |
| | output | ws-IMS-CX:msgGetPrivateIDResponse | |
| | fault | ws-IMS-CX:msgException | |
| opAddPrivateID | input | ws-IMS-CX:msgAddPrivateIDRequest | Addition of PrivateID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opModPrivateID | input | ws-IMS-CX:msgModPrivateIDRequest | Modification of PrivateID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opDelPrivateID | input | ws-IMS-CX:msgDelPrivateIDRequest | Deletion of PrivateID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opGetPrivateIDFromPublicID | input | ws-IMS-CX:msgGetPrivateIDFromPublicIDRequest | Query of PrivateID From PublicID |
| | output | ws-IMS-CX:msgGetPrivateIDFromPublicIDResponse | |
| | fault | ws-IMS-CX:msgException | |
| opGetPrivateIDFromIMS_Subscription | input | ws-IMS-CX:msgGetPrivateIDFromIMS_SubscriptionRequest | Query of PrivateID From IMS_Subscription |
| | output | ws-IMS-CX:msgGetPrivateIDFromIMS_SubscriptionResponse | |
| | fault | ws-IMS-CX:msgException | |
| opAddPrivateIDToIMS_Subscription | input | ws-IMS-CX:msgAddPrivateIDToIMS_SubscriptionRequest | Addition of PrivateID To IMS_Subscription |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opModPrivateIDFromIMS_Subscription | input | ws-IMS-CX:msgModPrivateIDFromIMS_SubscriptionRequest | Modification of PrivateID From IMS_Subscription |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |

| Operation | Message | | Description |
|------------------------------------|---------|--|--|
| opDelPrivateIDFromIMS_Subscription | input | ws-IMS-CX:msgDelPrivateIDFromIMS_SubscriptionRequest | Deletion of PrivateID From IMS_Subscription |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opGetSDAuthFromPrivateID | input | ws-IMS-CX:msgGetSDAuthFromPrivateIDRequest | Query of SDAuth From PrivateID |
| | output | ws-IMS-CX:msgGetSDAuthFromPrivateIDResponse | |
| | fault | ws-IMS-CX:msgException | |
| opAddSDAuthToPrivateID | input | ws-IMS-CX:msgAddSDAuthToPrivateIDRequest | Addition of SDAuth To PrivateID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opModSDAuthFromPrivateID | input | ws-IMS-CX:msgModSDAuthFromPrivateIDRequest | Modification of SDAuth From PrivateID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opDelSDAuthFromPrivateID | input | ws-IMS-CX:msgDelSDAuthFromPrivateIDRequest | Deletion of SDAuth From PrivateID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opGetChargeAddressFromPrivateID | input | ws-IMS-CX:msgGetChargeAddressFromPrivateIDRequest | Query of ChargeAddress From PrivateID |
| | output | ws-IMS-CX:msgGetChargeAddressFromPrivateIDResponse | |
| | fault | ws-IMS-CX:msgException | |
| opAddChargeAddressToPrivateID | input | ws-IMS-CX:msgAddChargeAddressToPrivateIDRequest | Addition of ChargeAddress To PrivateID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opModChargeAddressFromPrivateID | input | ws-IMS-CX:msgModChargeAddressFromPrivateIDRequest | Modification of ChargeAddress From PrivateID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opDelChargeAddressFromPrivateID | input | ws-IMS-CX:msgDelChargeAddressFromPrivateIDRequest | Deletion of ChargeAddress From PrivateID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opGetIMS_Subscription | input | ws-IMS-CX:msgGetIMS_SubscriptionRequest | Query of IMS_Subscription |
| | output | ws-IMS-CX:msgGetIMS_SubscriptionResponse | |
| | fault | ws-IMS-CX:msgException | |
| opAddIMS_Subscription | input | ws-IMS-CX:msgAddIMS_SubscriptionRequest | Addition of IMS_Subscription |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opModIMS_Subscription | input | ws-IMS-CX:msgModIMS_SubscriptionRequest | Modification of IMS_Subscription |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opDelIMS_Subscription | input | ws-IMS-CX:msgDelIMS_SubscriptionRequest | Deletion of IMS_Subscription |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opGetIMS_SubscriptionFromPublicID | input | ws-IMS-CX:msgGetIMS_SubscriptionFromPublicIDRequest | Query of IMS_Subscription From PublicID |
| | output | ws-IMS-CX:msgGetIMS_SubscriptionFromPublicIDResponse | |
| | fault | ws-IMS-CX:msgException | |

| Operation | Message | | Description |
|------------------------------------|---------|---|---|
| opGetIMS_SubscriptionFromPrivateID | input | ws-IMS-CX:msgGetIMS_SubscriptionFromPrivateIDRequest | Query of IMS_Subscription From PrivateID |
| | output | ws-IMS-CX:msgGetIMS_SubscriptionFromPrivateIDResponse | |
| | fault | ws-IMS-CX:msgException | |
| opGetService_Profile | input | ws-IMS-CX:msgGetService_ProfileRequest | Query of Service_Profile |
| | output | ws-IMS-CX:msgGetService_ProfileResponse | |
| | fault | ws-IMS-CX:msgException | |
| opAddService_Profile | input | ws-IMS-CX:msgAddService_ProfileRequest | Addition of Service_Profile |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opModService_Profile | input | ws-IMS-CX:msgModService_ProfileRequest | Modification of Service_Profile |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opDelService_Profile | input | ws-IMS-CX:msgDelService_ProfileRequest | Deletion of Service_Profile |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opGetService_ProfileFromPublicID | input | ws-IMS-CX:msgGetService_ProfileFromPublicIDRequest | Query of Service_Profile From PublicID |
| | output | ws-IMS-CX:msgGetService_ProfileFromPublicIDResponse | |
| | fault | ws-IMS-CX:msgException | |
| opAddService_ProfileToPublicID | input | ws-IMS-CX:msgAddService_ProfileToPublicIDRequest | Addition of Service_Profile To PublicID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opModService_ProfileFromPublicID | input | ws-IMS-CX:msgModService_ProfileFromPublicIDRequest | Modification of Service_Profile From PublicID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |
| opDelService_ProfileFromPublicID | input | ws-IMS-CX:msgDelService_ProfileFromPublicIDRequest | Deletion of Service_Profile From PublicID |
| | output | ws-IMS-CX:msgResponse | |
| | fault | ws-IMS-CX:msgException | |

Operation Messages

opGet

Request: ws-IMS-CX:msgGetRequest

| Element | Mandatory attributes | Multiplicity | Description |
|------------|----------------------|--------------|-------------|
| ws-IMS-CX: | | | |

Request ws-IMS-CX:msgGetRequest Example

SOAP Message Embedded in HTTP Request

```
POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:GetRequest
```



```

    <soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
      xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
    />
    <env:Header>
      <wsa:MessageID>nnn</wsa:MessageID>
      <wsa:ReplyTo>
        <wsa:Address>http://client.endpoint/client</wsa:Address>
      </wsa:ReplyTo>
      <wsa:To>operator.com</wsa:To>
      </wsa:ReplyTo>
      <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetRequest</wsa:Action>
    </env:Header>
    <env:Body>
      <>
    </>
    </env:Body>
  </env:Envelope>

```

Response: ws-IMS-CX:msgGetResponse

| Element | Mandatory attributes | Multiplicity | Description |
|------------|----------------------|--------------|-------------|
| ws-IMS-CX: | | | |

Response ws-IMS-CX:msgGetResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:GetRequest

```

```

    <soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
      xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
    />
    <env:Header>
      <wsa:MessageID>nnn</wsa:MessageID>
      <wsa:ReplyTo>
        <wsa:Address>http://client.endpoint/client</wsa:Address>
      </wsa:ReplyTo>
      <wsa:To>operator.com</wsa:To>
      </wsa:ReplyTo>
      <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetRequest</wsa:Action>
    </env:Header>
    <env:Body>
      <>
    </>
    </env:Body>
  </env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opAdd**Request: ws-IMS-CX:msgAddRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------|----------------------|--------------|-------------|
| ws-IMS-CX: | | | |

Request ws-IMS-CX:msgAddRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:AddRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:AddRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>

```

```

    <env:Header>
      <wsa:MessageID>nnn</wsa:MessageID>
      <wsa:ReplyTo>
        <wsa:Address>http://client.endpoint/client</wsa:Address>
      </wsa:ReplyTo>
      <wsa:To>operator.com</wsa:To>
      </wsa:ReplyTo>
      <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddRequest</wsa:Action>
    </env:Header>
    <env:Body>
      <Response>
        <Code/>
        <Comment/>
      </Response>
    </env:Body>
  </env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgAddRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opMod**Request: ws-IMS-CX:msgModRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------|----------------------|--------------|-------------|
| ws-IMS-CX: | | | |

Request ws-IMS-CX:msgModRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:ModRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModRequest</wsa:Action>
  </env:Header>
  <env:Body>

```

```

        <>
      </>
    </env:Body>
  </env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:ModRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgModRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opDel**Request: ws-IMS-CX:msgDelRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------|----------------------|--------------|-------------|
| ws-IMS-CX: | | | |

Request ws-IMS-CX:msgDelRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:DelRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:DelRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>

```

```

        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgDelRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opGetPublicID

Request: ws-IMS-CX:msgGetPublicIDRequest

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|----------------------|--------------|-------------|
| IMS-CX:PublicID | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgGetPublicIDRequest Example

SOAP Message Embedded in HTTP Request

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <PublicID>
            <Identity/>
        </PublicID>
    </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgGetPublicIDResponse

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|-------------------------------|--------------|-------------|
| IMS-CX:PublicID | | | |
| | Identity | 1..1 | |
| | IdentityType | 0..* | |
| | BarringIndication | 0..1 | |
| | DefaultImpuIndication | 0..1 | |
| | ESRN | 0..1 | |
| | ImplicitRegistrationSet | 0..1 | |
| | AliasIdendityGroupId | 0..1 | |
| | LooseRouteIndication | 0..1 | |
| | PrivateIDIdentity | 0..* | |
| | IMS_SubscriptionIdentity | 0..1 | |
| | Service_ProfileSharedIFCSetID | 0..1 | |

Response ws-IMS-CX:msgGetPublicIDResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PublicID>
      <Identity/>
      <IdentityType/>
      <BarringIndication/>
      <DefaultImpuIndication/>
      <ESRN/>
      <ImplicitRegistrationSet/>
      <AliasIdendityGroupId/>
      <LooseRouteIndication/>
      <PrivateIDIdentity/>
      <IMS_SubscriptionIdentity/>
      <Service_ProfileSharedIFCSetID/>
    </PublicID>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetPublicIDRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opAddPublicID**Request: ws-IMS-CX:msgAddPublicIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|-------------------------------|--------------|-------------|
| IMS-CX:PublicID | | | |
| | Identity | 1..1 | |
| | IdentityType | 0..* | |
| | BarringIndication | 0..1 | |
| | DefaultImpuIndication | 0..1 | |
| | ESRN | 0..1 | |
| | ImplicitRegistrationSet | 0..1 | |
| | AliasIdendityGroupId | 0..1 | |
| | LooseRouteIndication | 0..1 | |
| | Service_ProfileSharedIFCSetID | 0..1 | |

Request ws-IMS-CX:msgAddPublicIDRequest Example**SOAP Message Embedded in HTTP Request**

```
POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPublicIDRequest
```

```
<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPublicIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PublicID>
      <Identity/>
      <IdentityType/>
      <BarringIndication/>
      <DefaultImpuIndication/>
      <ESRN/>
      <ImplicitRegistrationSet/>
      <AliasIdendityGroupId/>
      <LooseRouteIndication/>
    </PublicID>
  </env:Body>
</env:Envelope>
```



```

        <Service_ProfileSharedIFCSetID/>
    </PublicID>
</env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPublicIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgAddPublicIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opModPublicID**Request: ws-IMS-CX:msgModPublicIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|-------------------------------|--------------|-------------|
| IMS-CX:PublicID | | | |
| | Identity | 1..1 | |
| | IdentityType | 0..* | |
| | BarringIndication | 0..1 | |
| | DefaultImpuIndication | 0..1 | |
| | ESRN | 0..1 | |
| | ImplicitRegistrationSet | 0..1 | |
| | AliasIdendityGroupId | 0..1 | |
| | LooseRouteIndication | 0..1 | |
| | Service_ProfileSharedIFCSetID | 0..1 | |

Request ws-IMS-CX:msgModPublicIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPublicIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PublicID>
      <Identity/>
      <IdentityType/>
      <BarringIndication/>
      <DefaultImpuIndication/>
      <ESRN/>
      <ImplicitRegistrationSet/>
      <AliasIdendityGroupId/>
      <LooseRouteIndication/>
      <Service_ProfileSharedIFCSetID/>
    </PublicID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPublicIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgModPublicIDRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opDelPublicID**Request: ws-IMS-CX:msgDelPublicIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|----------------------|--------------|-------------|
| IMS-CX:PublicID | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgDelPublicIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPublicIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PublicID>
      <Identity/>
    </PublicID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPublicIDRequest</wsa:Action>
  </env:Header>
  <env:Body>

```

```

        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgDelPublicIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opGetPublicIDFromIMS Subscription

Request: ws-IMS-CX:msgGetPublicIDFromIMS SubscriptionRequest

| Element | Mandatory attributes | Multiplicity | Description |
|-------------------------|----------------------|--------------|-------------|
| IMS-CX:IMS_Subscription | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgGetPublicIDFromIMS SubscriptionRequest Example

SOAP Message Embedded in HTTP Request

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDFromIMS_SubscriptionRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDFromIMS_SubscriptionRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <IMS_Subscription>
            <Identity/>
        </IMS_Subscription>
    </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgGetPublicIDFromIMS_SubscriptionResponse

| Element | Mandatory attributes | Multiplicity | Description |
|-------------------------|----------------------|--------------|-------------|
| IMS-CX:IMS_Subscription | Identity | 1..1 | |
| | PublicIDIdentity | 0..* | |

Response ws-IMS-CX:msgGetPublicIDFromIMS_SubscriptionResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDFromIMS_SubscriptionRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDFromIMS_SubscriptionRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <IMS_Subscription>
      <Identity/>
      <PublicIDIdentity/>
    </IMS_Subscription>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetPublicIDFromIMS_SubscriptionRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opGetPublicIDFromPrivateID**Request: ws-IMS-CX:msgGetPublicIDFromPrivateIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgGetPublicIDFromPrivateIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDFromPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PrivateID>
      <Identity/>
    </PrivateID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgGetPublicIDFromPrivateIDResponse

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | Identity | 1..1 | |
| | PublicIDIdentity | 0..* | |

Response ws-IMS-CX:msgGetPublicIDFromPrivateIDResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDFromPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>

```

```

        <PrivateID>
            <Identity/>
            <PublicIDIdentity/>
        </PrivateID>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetPublicIDFromPrivateIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opAddPublicIDToPrivateID

Request: ws-IMS-CX:msgAddPublicIDToPrivateIDRequest

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |
| | PublicIDIdentity | 1..1 | |

Request ws-IMS-CX:msgAddPublicIDToPrivateIDRequest Example

SOAP Message Embedded in HTTP Request

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPublicIDToPrivateIDRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPublicIDToPrivateIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <PrivateID>
            <Identity/>
            <PublicIDIdentity/>
        </PrivateID>
    </env:Body>
</env:Envelope>

```


Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPublicIDToPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPublicIDToPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgAddPublicIDToPrivateIDRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opModPublicIDFromPrivateID**Request: ws-IMS-CX:msgModPublicIDFromPrivateIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |
| | PublicIDIdentity | 1..1 | |

Request ws-IMS-CX:msgModPublicIDFromPrivateIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPublicIDFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPublicIDFromPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PrivateID>
      <Identity/>
      <PublicIDIdentity/>
    </PrivateID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPublicIDFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPublicIDFromPrivateIDRequest</wsa:Action>
  </env:Header>

```

```

    <env:Body>
      <Response>
        <Code/>
        <Comment/>
      </Response>
    </env:Body>
  </env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgModPublicIDFromPrivateIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opDelPublicIDFromPrivateID

Request: ws-IMS-CX:msgDelPublicIDFromPrivateIDRequest

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |
| | PublicIDIdentity | 1..1 | |

Request ws-IMS-CX:msgDelPublicIDFromPrivateIDRequest Example

SOAP Message Embedded in HTTP Request

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPublicIDFromPrivateIDRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPublicIDFromPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PrivateID>
      <Identity/>
      <PublicIDIdentity/>
    </PrivateID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:DelPublicIDFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:DelPublicIDFromPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgDelPublicIDFromPrivateIDRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opGetPrivateID**Request: ws-IMS-CX:msgGetPrivateIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgGetPrivateIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PrivateID>
      <Identity/>
    </PrivateID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgGetPrivateIDResponse

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|--------------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |
| | SDAuth | 0..1 | |
| | ChargeAddress | 0..1 | |
| | PublicIDIdentity | 0..* | |
| | IMS_SubscriptionIdentity | 0..1 | |

Response ws-IMS-CX:msgGetPrivateIDResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
  </env:Header>
  <env:Body>
    <PrivateID>
      <Identity/>
    </PrivateID>
  </env:Body>
</env:Envelope>

```

```

        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <PrivateID>
            <Identity/>
            <SDAuth/>
            <ChargeAddress/>
            <PublicIDIdentity/>
            <IMS_SubscriptionIdentity/>
        </PrivateID>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetPrivateIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opAddPrivateID

Request: ws-IMS-CX:msgAddPrivateIDRequest

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |
| | SDAuth | 0..1 | |
| | ChargeAddress | 0..1 | |
| | PublicIDIdentity | 0..* | |

Request ws-IMS-CX:msgAddPrivateIDRequest Example

SOAP Message Embedded in HTTP Request

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPrivateIDRequest</wsa:Action>
    </env:Header>

```

```

    <env:Body>
      <PrivateID>
        <Identity/>
        <SDAuth/>
        <ChargeAddress/>
        <PublicIDIdentity/>
      </PrivateID>
    </env:Body>
  </env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPrivateIDRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgAddPrivateIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opModPrivateID**Request: ws-IMS-CX:msgModPrivateIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |
| | SDAuth | 0..1 | |
| | ChargeAddress | 0..1 | |
| | PublicIDIdentity | 0..* | |

Request ws-IMS-CX:msgModPrivateIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:ModPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:ModPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PrivateID>
      <Identity/>
      <SDAuth/>
      <ChargeAddress/>
      <PublicIDIdentity/>
    </PrivateID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:ModPrivateIDRequest

```



```

    <soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
    xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
    />
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPrivateIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgModPrivateIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opDelPrivateID

Request: ws-IMS-CX:msgDelPrivateIDRequest

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgDelPrivateIDRequest Example

SOAP Message Embedded in HTTP Request

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPrivateIDRequest

```

```

    <soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
    xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
    />
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>

```

```

        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPrivateIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <PrivateID>
            <Identity/>
        </PrivateID>
    </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPrivateIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgDelPrivateIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opGetPrivateIDFromPublicID**Request: ws-IMS-CX:msgGetPrivateIDFromPublicIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|----------------------|--------------|-------------|
| IMS-CX:PublicID | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgGetPrivateIDFromPublicIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDFromPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDFromPublicIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PublicID>
      <Identity/>
    </PublicID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgGetPrivateIDFromPublicIDResponse

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|----------------------|--------------|-------------|
| IMS-CX:PublicID | | | |
| | Identity | 1..1 | |
| | PrivateIDIdentity | 0..* | |

Response ws-IMS-CX:msgGetPrivateIDFromPublicIDResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDFromPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>

```

```

        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDFromPublicIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <PublicID>
            <Identity/>
            <PrivateIDIdentity/>
        </PublicID>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetPrivateIDFromPublicIDRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opGetPrivateIDFromIMS Subscription**Request: ws-IMS-CX:msgGetPrivateIDFromIMS SubscriptionRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|-------------------------|----------------------|--------------|-------------|
| IMS-CX:IMS_Subscription | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgGetPrivateIDFromIMS SubscriptionRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDFromIMS_SubscriptionRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDFromIMS_SubscriptionRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <IMS_Subscription>

```

```

        <Identity/>
      </IMS_Subscription>
    </env:Body>
  </env:Envelope>

```

Response: ws-IMS-CX:msgGetPrivateIDFromIMS SubscriptionResponse

| Element | Mandatory attributes | Multiplicity | Description |
|-------------------------|----------------------|--------------|-------------|
| IMS-CX:IMS_Subscription | Identity | 1..1 | |
| | PrivateIDIdentity | 0..* | |

Response ws-IMS-CX:msgGetPrivateIDFromIMS SubscriptionResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDFromIMS_SubscriptionRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDFromIMS_SubscriptionRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <IMS_Subscription>
      <Identity/>
      <PrivateIDIdentity/>
    </IMS_Subscription>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetPrivateIDFromIMS SubscriptionRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opAddPrivateIDToIMS Subscription**Request: ws-IMS-CX:msgAddPrivateIDToIMS SubscriptionRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|-------------------------|----------------------|--------------|-------------|
| IMS-CX:IMS_Subscription | Identity | 1..1 | |
| | PrivateIDIdentity | 1..1 | |

Request ws-IMS-CX:msgAddPrivateIDToIMS SubscriptionRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPrivateIDToIMS_SubscriptionRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPrivateIDToIMS_SubscriptionRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <IMS_Subscription>
      <Identity/>
      <PrivateIDIdentity/>
    </IMS_Subscription>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPrivateIDToIMS_SubscriptionRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"

```

```

/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPrivateIDToIMS_SubscriptionRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgAddPrivateIDToIMS SubscriptionRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opModPrivateIDFromIMS Subscription

Request: ws-IMS-CX:msgModPrivateIDFromIMS SubscriptionRequest

| Element | Mandatory attributes | Multiplicity | Description |
|-------------------------|----------------------|--------------|-------------|
| IMS-CX:IMS_Subscription | | | |
| | Identity | 1..1 | |
| | PrivateIDIdentity | 1..1 | |

Request ws-IMS-CX:msgModPrivateIDFromIMS SubscriptionRequest Example

SOAP Message Embedded in HTTP Request

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPrivateIDFromIMS_SubscriptionRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>

```

```

        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPrivateIDFromIMS_SubscriptionRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <IMS_Subscription>
            <Identity/>
            <PrivateIDIdentity/>
        </IMS_Subscription>
    </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPrivateIDFromIMS_SubscriptionRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPrivateIDFromIMS_SubscriptionRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgModPrivateIDFromIMS_SubscriptionRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opDelPrivateIDFromIMS_Subscription**Request: ws-IMS-CX:msgDelPrivateIDFromIMS_SubscriptionRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|-------------------------|----------------------|--------------|-------------|
| IMS-CX:IMS_Subscription | Identity | 1..1 | |
| | PrivateIDIdentity | 1..1 | |

Request ws-IMS-CX:msgDelPrivateIDFromIMS_SubscriptionRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPrivateIDFromIMS_SubscriptionRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPrivateIDFromIMS_SubscriptionRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <IMS_Subscription>
      <Identity/>
      <PrivateIDIdentity/>
    </IMS_Subscription>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn

```

SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:DelPrivateIDFromIMS_SubscriptionRequest

```
<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPrivateIDFromIMS_SubscriptionRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>
```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgDelPrivateIDFromIMS_SubscriptionRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opGetSDAuthFromPrivateID

Request: ws-IMS-CX:msgGetSDAuthFromPrivateIDRequest

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgGetSDAuthFromPrivateIDRequest Example

SOAP Message Embedded in HTTP Request

```
POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetSDAuthFromPrivateIDRequest
```

```
<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
```

```

        <wsa:Address>http://client.endpoint/client</wsa:Address>
      </wsa:ReplyTo>
      <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetSDAuthFromPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PrivateID>
      <Identity/>
    </PrivateID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgGetSDAuthFromPrivateIDResponse

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |
| | SDAuth/UserName | 1..1 | |
| | SDAuth/Password | 1..1 | |
| | SDAuth/Realm | 0..1 | |

Response ws-IMS-CX:msgGetSDAuthFromPrivateIDResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetSDAuthFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetSDAuthFromPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PrivateID>
      <Identity/>
      <:UserName/>
      <:Password/>
      <:Realm/>
    </PrivateID>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetSDAuthFromPrivateIDRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opAddSDAuthToPrivateID**Request: ws-IMS-CX:msgAddSDAuthToPrivateIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |
| | SDAuth/UserName | 1..1 | |
| | SDAuth/Password | 1..1 | |
| | SDAuth/Realm | 0..1 | |

Request ws-IMS-CX:msgAddSDAuthToPrivateIDRequest Example**SOAP Message Embedded in HTTP Request**

```
POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddSDAuthToPrivateIDRequest
```

```
<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddSDAuthToPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PrivateID>
      <Identity/>
      <:UserName/>
      <:Password/>
      <:Realm/>
    </PrivateID>
  </env:Body>
</env:Envelope>
```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wscdl:IMS-
CX:AddSDAuthToPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wscdl:IMS-
CX:AddSDAuthToPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgAddSDAuthToPrivateIDRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opModSDAuthFromPrivateID

Request: ws-IMS-CX:msgModSDAuthFromPrivateIDRequest

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |
| | SDAuth/UserName | 1..1 | |
| | SDAuth/Password | 1..1 | |
| | SDAuth/Realm | 0..1 | |

Request ws-IMS-CX:msgModSDAuthFromPrivateIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModSDAuthFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModSDAuthFromPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PrivateID>
      <Identity/>
      <:UserName/>
      <:Password/>
      <:Realm/>
    </PrivateID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModSDAuthFromPrivateIDRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModSDAuthFromPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgModSDAuthFromPrivateIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opDelSDAuthFromPrivateID

Request: ws-IMS-CX:msgDelSDAuthFromPrivateIDRequest

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgDelSDAuthFromPrivateIDRequest Example

SOAP Message Embedded in HTTP Request

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelSDAuthFromPrivateIDRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
  </env:Header>
  <env:Body>
    <Request>
      <PrivateID>
        <Identity>
          <id>
            <id>
              <id>
                <id>
              </id>
            </id>
          </id>
        </PrivateID>
      </Request>
    </env:Body>
  </env:Envelope>

```

```

        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelSDAuthFromPrivateIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <PrivateID>
            <Identity/>
        </PrivateID>
    </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelSDAuthFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelSDAuthFromPrivateIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgDelSDAuthFromPrivateIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opGetChargeAddressFromPrivateID**Request: ws-IMS-CX:msgGetChargeAddressFromPrivateIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgGetChargeAddressFromPrivateIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetChargeAddressFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetChargeAddressFromPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PrivateID>
      <Identity/>
    </PrivateID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgGetChargeAddressFromPrivateIDResponse

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |
| | ChargeAddress/ID | 0..1 | |

Response ws-IMS-CX:msgGetChargeAddressFromPrivateIDResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetChargeAddressFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>

```

```

        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetChargeAddressFromPrivateIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <PrivateID>
            <Identity/>
            <:ID/>
        </PrivateID>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetChargeAddressFromPrivateIDRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opAddChargeAddressToPrivateID**Request: ws-IMS-CX:msgAddChargeAddressToPrivateIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |
| | ChargeAddress/ID | 0..1 | |

Request ws-IMS-CX:msgAddChargeAddressToPrivateIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddChargeAddressToPrivateIDRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddChargeAddressToPrivateIDRequest</wsa:Action>
    </env:Header>
    <env:Body>

```

```

        <PrivateID>
            <Identity/>
            <:ID/>
        </PrivateID>
    </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddChargeAddressToPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddChargeAddressToPrivateIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgAddChargeAddressToPrivateIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opModChargeAddressFromPrivateID**Request: ws-IMS-CX:msgModChargeAddressFromPrivateIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | Identity | 1..1 | |
| | ChargeAddress/ID | 0..1 | |

Request ws-IMS-CX:msgModChargeAddressFromPrivateIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModChargeAddressFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModChargeAddressFromPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PrivateID>
      <Identity/>
      <:ID/>
    </PrivateID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModChargeAddressFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"

```

```

/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModChargeAddressFromPrivateIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgModChargeAddressFromPrivateIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opDelChargeAddressFromPrivateID

Request: ws-IMS-CX:msgDelChargeAddressFromPrivateIDRequest

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgDelChargeAddressFromPrivateIDRequest Example

SOAP Message Embedded in HTTP Request

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelChargeAddressFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelChargeAddressFromPrivateIDRequest</wsa:Action>

```

```

    </env:Header>
    <env:Body>
      <PrivateID>
        <Identity/>
      </PrivateID>
    </env:Body>
  </env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelChargeAddressFromPrivateIDRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelChargeAddressFromPrivateIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgDelChargeAddressFromPrivateIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opGetIMS_Subscription**Request: ws-IMS-CX:msgGetIMS_SubscriptionRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|-------------------------|----------------------|--------------|-------------|
| IMS-CX:IMS_Subscription | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgGetIMS_SubscriptionRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <IMS_Subscription>
      <Identity/>
    </IMS_Subscription>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgGetIMS_SubscriptionResponse

| Element | Mandatory attributes | Multiplicity | Description |
|-------------------------|----------------------|--------------|-------------|
| IMS-CX:IMS_Subscription | | | |
| | Identity | 1..1 | |
| | PrivateIDIdentity | 0..* | |
| | PublicIDIdentity | 0..* | |

Response ws-IMS-CX:msgGetIMS_SubscriptionResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>

```

```

    <env:Header>
      <wsa:MessageID>nnn</wsa:MessageID>
      <wsa:ReplyTo>
        <wsa:Address>http://client.endpoint/client</wsa:Address>
      </wsa:ReplyTo>
      <wsa:To>operator.com</wsa:To>
      </wsa:ReplyTo>
      <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionRequest</wsa:Action>
    </env:Header>
    <env:Body>
      <IMS_Subscription>
        <Identity/>
        <PrivateIDIdentity/>
        <PublicIDIdentity/>
      </IMS_Subscription>
    </env:Body>
  </env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetIMS_SubscriptionRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opAddIMS_Subscription

Request: ws-IMS-CX:msgAddIMS_SubscriptionRequest

| Element | Mandatory attributes | Multiplicity | Description |
|-------------------------|----------------------|--------------|-------------|
| IMS-CX:IMS_Subscription | Identity | 1..1 | |
| | PrivateIDIdentity | 0..* | |

Request ws-IMS-CX:msgAddIMS_SubscriptionRequest Example

SOAP Message Embedded in HTTP Request

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddIMS_SubscriptionRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>

```



```

        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:AddIMS_SubscriptionRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <IMS_Subscription>
            <Identity/>
            <PrivateIDIdentity/>
        </IMS_Subscription>
    </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:AddIMS_SubscriptionRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:AddIMS_SubscriptionRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgAddIMS_SubscriptionRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opModIMS_Subscription**Request: ws-IMS-CX:msgModIMS_SubscriptionRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|-------------------------|----------------------|--------------|-------------|
| IMS-CX:IMS_Subscription | Identity | 1..1 | |
| | PrivateIDIdentity | 0..* | |

Request ws-IMS-CX:msgModIMS_SubscriptionRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:ModIMS_SubscriptionRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:ModIMS_SubscriptionRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <IMS_Subscription>
      <Identity/>
      <PrivateIDIdentity/>
    </IMS_Subscription>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn

```

SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModIMS_SubscriptionRequest

```
<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModIMS_SubscriptionRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>
```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgModIMS_SubscriptionRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opDelIMS Subscription

Request: ws-IMS-CX:msgDelIMS_SubscriptionRequest

| Element | Mandatory attributes | Multiplicity | Description |
|-------------------------|----------------------|--------------|-------------|
| IMS-CX:IMS_Subscription | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgDelIMS_SubscriptionRequest Example

SOAP Message Embedded in HTTP Request

```
POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelIMS_SubscriptionRequest
```

```
<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
```

```

        <wsa:Address>http://client.endpoint/client</wsa:Address>
      </wsa:ReplyTo>
      <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelIMS_SubscriptionRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <IMS_Subscription>
      <Identity/>
    </IMS_Subscription>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelIMS_SubscriptionRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelIMS_SubscriptionRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgDelIMS_SubscriptionRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opGetIMS_SubscriptionFromPublicID**Request: ws-IMS-CX:msgGetIMS_SubscriptionFromPublicIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|----------------------|--------------|-------------|
| IMS-CX:PublicID | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgGetIMS_SubscriptionFromPublicIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionFromPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionFromPublicIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PublicID>
      <Identity/>
    </PublicID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgGetIMS_SubscriptionFromPublicIDResponse

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|--------------------------|--------------|-------------|
| IMS-CX:PublicID | | | |
| | Identity | 1..1 | |
| | IMS_SubscriptionIdentity | 0..1 | |

Response ws-IMS-CX:msgGetIMS_SubscriptionFromPublicIDResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionFromPublicIDRequest

```

```

    <soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
      xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
    />
    <env:Header>
      <wsa:MessageID>nnn</wsa:MessageID>
      <wsa:ReplyTo>
        <wsa:Address>http://client.endpoint/client</wsa:Address>
      </wsa:ReplyTo>
      <wsa:To>operator.com</wsa:To>
      </wsa:ReplyTo>
      <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionFromPublicIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
      <PublicID>
        <Identity/>
        <IMS_SubscriptionIdentity/>
      </PublicID>
    </env:Body>
  </env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetIMS_SubscriptionFromPublicIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opGetIMS_SubscriptionFromPrivateID

Request: ws-IMS-CX:msgGetIMS_SubscriptionFromPrivateIDRequest

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|----------------------|--------------|-------------|
| IMS-CX:PrivateID | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgGetIMS_SubscriptionFromPrivateIDRequest Example

SOAP Message Embedded in HTTP Request

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionFromPrivateIDRequest

```

```

    <soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
      xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
    />
    <env:Header>
      <wsa:MessageID>nnn</wsa:MessageID>
      <wsa:ReplyTo>
        <wsa:Address>http://client.endpoint/client</wsa:Address>
      </wsa:ReplyTo>
      <wsa:To>operator.com</wsa:To>
      </wsa:ReplyTo>

```

```

        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionFromPrivateIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <PrivateID>
            <Identity/>
        </PrivateID>
    </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgGetIMS_SubscriptionFromPrivateIDResponse

| Element | Mandatory attributes | Multiplicity | Description |
|------------------|--------------------------|--------------|-------------|
| IMS-CX:PrivateID | Identity | 1..1 | |
| | IMS_SubscriptionIdentity | 0..1 | |

Response ws-IMS-CX:msgGetIMS_SubscriptionFromPrivateIDResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionFromPrivateIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionFromPrivateIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <PrivateID>
            <Identity/>
            <IMS_SubscriptionIdentity/>
        </PrivateID>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetIMS_SubscriptionFromPrivateIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opGetService_Profile**Request: ws-IMS-CX:msgGetService_ProfileRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------------------|----------------------|--------------|-------------|
| IMS-CX:Service_Profile | | | |
| | SharedIFCSetID | 1..1 | |

Request ws-IMS-CX:msgGetService_ProfileRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetService_ProfileRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetService_ProfileRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Service_Profile>
      <SharedIFCSetID/>
    </Service_Profile>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgGetService_ProfileResponse

| Element | Mandatory attributes | Multiplicity | Description |
|------------------------|----------------------|--------------|-------------|
| IMS-CX:Service_Profile | | | |
| | SharedIFCSetID | 1..1 | |

Response ws-IMS-CX:msgGetService_ProfileResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetService_ProfileRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>

```



```

        <wsa:Address>http://client.endpoint/client</wsa:Address>
      </wsa:ReplyTo>
      <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetService_ProfileRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Service_Profile>
      <SharedIFCSetID/>
    </Service_Profile>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetService_ProfileRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opAddService_Profile

Request: ws-IMS-CX:msgAddService_ProfileRequest

| Element | Mandatory attributes | Multiplicity | Description |
|------------------------|----------------------|--------------|-------------|
| IMS-CX:Service_Profile | | | |
| | SharedIFCSetID | 1..1 | |

Request ws-IMS-CX:msgAddService_ProfileRequest Example

SOAP Message Embedded in HTTP Request

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddService_ProfileRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
  </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddService_ProfileRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Service_Profile>
      <SharedIFCSetID/>
    </Service_Profile>
  </env:Body>
</env:Envelope>

```

```

    </env:Body>
  </env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:AddService_ProfileRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:AddService_ProfileRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgAddService_ProfileRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opModService_Profile**Request: ws-IMS-CX:msgModService_ProfileRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------------------|----------------------|--------------|-------------|
| IMS-CX:Service_Profile | | | |
| | SharedIFCSetID | 1..1 | |

Request ws-IMS-CX:msgModService_ProfileRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModService_ProfileRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModService_ProfileRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Service_Profile>
      <SharedIFCSetID/>
    </Service_Profile>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModService_ProfileRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>

```

```

        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModService_ProfileRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgModService_ProfileRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opDelService_Profile**Request: ws-IMS-CX:msgDelService_ProfileRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|------------------------|----------------------|--------------|-------------|
| IMS-CX:Service_Profile | | | |
| | SharedIFCSetID | 1..1 | |

Request ws-IMS-CX:msgDelService_ProfileRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelService_ProfileRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelService_ProfileRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Service_Profile>

```

```

        <SharedIFCSetID/>
      </Service_Profile>
    </env:Body>
  </env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wscdl:IMS-
CX:DelService_ProfileRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wscdl:IMS-
CX:DelService_ProfileRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <Response>
      <Code/>
      <Comment/>
    </Response>
  </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgDelService_ProfileRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opGetService_ProfileFromPublicID**Request: ws-IMS-CX:msgGetService_ProfileFromPublicIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|----------------------|--------------|-------------|
| IMS-CX:PublicID | | | |
| | Identity | 1..1 | |

Request ws-IMS-CX:msgGetService_ProfileFromPublicIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetService_ProfileFromPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetService_ProfileFromPublicIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PublicID>
      <Identity/>
    </PublicID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgGetService_ProfileFromPublicIDResponse

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|-------------------------------|--------------|-------------|
| IMS-CX:PublicID | | | |
| | Identity | 1..1 | |
| | Service_ProfileSharedIFCSetID | 0..1 | |

Response ws-IMS-CX:msgGetService_ProfileFromPublicIDResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetService_ProfileFromPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>

```

```

        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetService_ProfileFromPublicIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <PublicID>
            <Identity/>
            <Service_ProfileSharedIFCSetID/>
        </PublicID>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgGetService_ProfileFromPublicIDRequest Example**SOAP Message Embedded in HTTP Exception**

See generic Fault example.

opAddService_ProfileToPublicID**Request: ws-IMS-CX:msgAddService_ProfileToPublicIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|-------------------------------|--------------|-------------|
| IMS-CX:PublicID | | | |
| | Identity | 1..1 | |
| | Service_ProfileSharedIFCSetID | 1..1 | |

Request ws-IMS-CX:msgAddService_ProfileToPublicIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddService_ProfileToPublicIDRequest

```

```

    <soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
    />
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddService_ProfileToPublicIDRequest</wsa:Action>
    </env:Header>
    <env:Body>

```

```

        <PublicID>
            <Identity/>
            <Service_ProfileSharedIFCSetID/>
        </PublicID>
    </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | | | |
| | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddService_ProfileToPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddService_ProfileToPublicIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgAddService_ProfileToPublicIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opModService_ProfileFromPublicID**Request: ws-IMS-CX:msgModService_ProfileFromPublicIDRequest**

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|-------------------------------|--------------|-------------|
| IMS-CX:PublicID | Identity | 1..1 | |
| | Service_ProfileSharedIFCSetID | 1..1 | |

Request ws-IMS-CX:msgModService_ProfileFromPublicIDRequest Example**SOAP Message Embedded in HTTP Request**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:ModService_ProfileFromPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
  <env:Header>
    <wsa:MessageID>nnn</wsa:MessageID>
    <wsa:ReplyTo>
      <wsa:Address>http://client.endpoint/client</wsa:Address>
    </wsa:ReplyTo>
    <wsa:To>operator.com</wsa:To>
    </wsa:ReplyTo>
    <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:ModService_ProfileFromPublicIDRequest</wsa:Action>
  </env:Header>
  <env:Body>
    <PublicID>
      <Identity/>
      <Service_ProfileSharedIFCSetID/>
    </PublicID>
  </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example**SOAP Message Embedded in HTTP Response**

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsl:IMS-
CX:ModService_ProfileFromPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>

```

```

/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModService_ProfileFromPublicIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Exception | | | |
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgModService_ProfileFromPublicIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

opDelService_ProfileFromPublicID

Request: ws-IMS-CX:msgDelService_ProfileFromPublicIDRequest

| Element | Mandatory attributes | Multiplicity | Description |
|-----------------|-------------------------------|--------------|-------------|
| IMS-CX:PublicID | | | |
| | Identity | 1..1 | |
| | Service_ProfileSharedIFCSetID | 1..1 | |

Request ws-IMS-CX:msgDelService_ProfileFromPublicIDRequest Example

SOAP Message Embedded in HTTP Request

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelService_ProfileFromPublicIDRequest

```

```

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>

```

```

        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelService_ProfileFromPublicIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <PublicID>
            <Identity/>
            <Service_ProfileSharedIFCSetID/>
        </PublicID>
    </env:Body>
</env:Envelope>

```

Response: ws-IMS-CX:msgResponse

| Element | Mandatory attributes | Multiplicity | Description |
|--------------------|----------------------|--------------|-------------|
| ws-IMS-CX:Response | Code | 1..1 | |
| | Comment | 0..1 | |

Response ws-IMS-CX:msgResponse Example

SOAP Message Embedded in HTTP Response

```

POST /svIMS-CX/bdHSS-Cx HTTP/1.1Host: operator.com
Content-Type: text/xml; charset= utf-8
Content-Length: nnnn
SOAPAction: urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelService_ProfileFromPublicIDRequest

<soapenv:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing"
/>
    <env:Header>
        <wsa:MessageID>nnn</wsa:MessageID>
        <wsa:ReplyTo>
            <wsa:Address>http://client.endpoint/client</wsa:Address>
        </wsa:ReplyTo>
        <wsa:To>operator.com</wsa:To>
        </wsa:ReplyTo>
        <wsa:Action>urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelService_ProfileFromPublicIDRequest</wsa:Action>
    </env:Header>
    <env:Body>
        <Response>
            <Code/>
            <Comment/>
        </Response>
    </env:Body>
</env:Envelope>

```

Fault: ws-IMS-CX:msgException

| Element | Mandatory attributes | Multiplicity | Description |
|---------|----------------------|--------------|-------------|
| | Comment | 0..1 | |

Exception ws-IMS-CX:msgDelService_ProfileFromPublicIDRequest Example

SOAP Message Embedded in HTTP Exception

See generic Fault example.

E.2 IMS-CX Web Services Operation Messages

E.2.1 IMS-CX WSDL Definition

```
<?xml version="1.0" encoding="UTF-8"?><wsdl:definitions xmlns:ws-IMS-
CX="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX"
xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:wsam="http://www.w3.org/2007/05/addressing/metadata"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl" xmlns:wsu="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurityutility-1.0.xsd"
xmlns:wsp="http://www.w3.org/ns/ws-policy" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:IMS-CX="urn:cablelabs.com:namespaces:packetcable:xsd:IMS-CX" name="ws-IMS-CX"
targetNamespace="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX">
  <wsdl:types>
    <xs:schema xmlns:IMS-CX="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX"
targetNamespace="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX"
elementFormDefault="qualified">
      <xs:import namespace="urn:cablelabs.com:namespaces:packetcable:xsd:IMS-CX"
schemaLocation="IMS-CX.xsd"></xs:import>
      <xs:complexType name="Request">
        <xs:sequence>
          <xs:any minOccurs="0"></xs:any>
        </xs:sequence>
        <xs:attribute name="Action" type="xs:anyURI"></xs:attribute>
      </xs:complexType>
      <xs:element name="Request" type="ws-IMS-CX:Request"></xs:element>
      <xs:complexType name="Response">
        <xs:sequence>
          <xs:any minOccurs="0"></xs:any>
        </xs:sequence>
        <xs:attribute name="Code" type="xs:string"></xs:attribute>
        <xs:attribute name="Comment" type="xs:string"></xs:attribute>
      </xs:complexType>
      <xs:element name="Response" type="ws-IMS-CX:Response"></xs:element>
      <xs:complexType name="Exception">
        <xs:sequence>
          <xs:any minOccurs="0"></xs:any>
        </xs:sequence>
        <xs:attribute name="Comment" type="xs:string"></xs:attribute>
      </xs:complexType>
      <xs:element name="Exception" type="ws-IMS-CX:Exception"></xs:element>
      <xs:complexType name="Any">
        <xs:sequence>
          <xs:any minOccurs="0"></xs:any>
        </xs:sequence>
      </xs:complexType>
      <xs:element name="Any" type="ws-IMS-CX:Any"></xs:element>
    </xs:schema>
  </wsdl:types>
  <wsdl:message name="msgRequest">
    <wsdl:part name="params" element="ws-IMS-CX:Request"></wsdl:part>
  </wsdl:message>
  <wsdl:message name="msgResponse">
    <wsdl:part name="params" element="ws-IMS-CX:Response"></wsdl:part>
  </wsdl:message>
  <wsdl:message name="msgException">
    <wsdl:part name="params" element="ws-IMS-CX:Exception"></wsdl:part>
  </wsdl:message>
  <wsdl:message name="msgGetRequest">
    <wsdl:part name="params" element="ws-IMS-CX:Any"></wsdl:part>
  </wsdl:message>
  <wsdl:message name="msgGetResponse">
    <wsdl:part name="params" element="ws-IMS-CX:Any"></wsdl:part>
  </wsdl:message>
</wsdl:definitions>
```

```
</wsdl:message>
<wsdl:message name="msgAddRequest">
  <wsdl:part name="params" element="ws-IMS-CX:Any"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgModRequest">
  <wsdl:part name="params" element="ws-IMS-CX:Any"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgDelRequest">
  <wsdl:part name="params" element="ws-IMS-CX:Any"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetPublicIDRequest">
  <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetPublicIDResponse">
  <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgAddPublicIDRequest">
  <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgModPublicIDRequest">
  <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgDelPublicIDRequest">
  <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetPublicIDFromIMS_SubscriptionRequest">
  <wsdl:part name="params" element="IMS-CX:IMS_Subscription"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetPublicIDFromIMS_SubscriptionResponse">
  <wsdl:part name="params" element="IMS-CX:IMS_Subscription"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetPublicIDFromPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetPublicIDFromPrivateIDResponse">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgAddPublicIDToPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgModPublicIDFromPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgDelPublicIDFromPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetPrivateIDResponse">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgAddPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgModPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgDelPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetPrivateIDFromPublicIDRequest">
  <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetPrivateIDFromPublicIDResponse">
  <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
```

```
<wsdl:message name="msgGetPrivateIDFromIMS_SubscriptionRequest">
  <wsdl:part name="params" element="IMS-CX:IMS_Subscription"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetPrivateIDFromIMS_SubscriptionResponse">
  <wsdl:part name="params" element="IMS-CX:IMS_Subscription"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgAddPrivateIDToIMS_SubscriptionRequest">
  <wsdl:part name="params" element="IMS-CX:IMS_Subscription"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgModPrivateIDFromIMS_SubscriptionRequest">
  <wsdl:part name="params" element="IMS-CX:IMS_Subscription"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgDelPrivateIDFromIMS_SubscriptionRequest">
  <wsdl:part name="params" element="IMS-CX:IMS_Subscription"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetSDAuthFromPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetSDAuthFromPrivateIDResponse">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgAddSDAuthToPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgModSDAuthFromPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgDelSDAuthFromPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetChargeAddressFromPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetChargeAddressFromPrivateIDResponse">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgAddChargeAddressToPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgModChargeAddressFromPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgDelChargeAddressFromPrivateIDRequest">
  <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetIMS_SubscriptionRequest">
  <wsdl:part name="params" element="IMS-CX:IMS_Subscription"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetIMS_SubscriptionResponse">
  <wsdl:part name="params" element="IMS-CX:IMS_Subscription"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgAddIMS_SubscriptionRequest">
  <wsdl:part name="params" element="IMS-CX:IMS_Subscription"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgModIMS_SubscriptionRequest">
  <wsdl:part name="params" element="IMS-CX:IMS_Subscription"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgDelIMS_SubscriptionRequest">
  <wsdl:part name="params" element="IMS-CX:IMS_Subscription"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetIMS_SubscriptionFromPublicIDRequest">
  <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetIMS_SubscriptionFromPublicIDResponse">
  <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetIMS_SubscriptionFromPrivateIDRequest">
```

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    <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetIMS_SubscriptionFromPrivateIDResponse">
    <wsdl:part name="params" element="IMS-CX:PrivateID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetService_ProfileRequest">
    <wsdl:part name="params" element="IMS-CX:Service_Profile"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetService_ProfileResponse">
    <wsdl:part name="params" element="IMS-CX:Service_Profile"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgAddService_ProfileRequest">
    <wsdl:part name="params" element="IMS-CX:Service_Profile"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgModService_ProfileRequest">
    <wsdl:part name="params" element="IMS-CX:Service_Profile"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgDelService_ProfileRequest">
    <wsdl:part name="params" element="IMS-CX:Service_Profile"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetService_ProfileFromPublicIDRequest">
    <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgGetService_ProfileFromPublicIDResponse">
    <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgAddService_ProfileToPublicIDRequest">
    <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgModService_ProfileFromPublicIDRequest">
    <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
<wsdl:message name="msgDelService_ProfileFromPublicIDRequest">
    <wsdl:part name="params" element="IMS-CX:PublicID"></wsdl:part>
</wsdl:message>
<wsdl:portType name="ptIMS-CX">
    <wsdl:operation name="opGet">
        <wsdl:input name="msgGetRequest" message="ws-IMS-CX:msgGetRequest"
wsaw:Action="urn:#Get"></wsdl:input>
        <wsdl:output name="msgGetResponse" message="ws-IMS-CX:msgGetResponse"
wsaw:Action="urn:#GetGetResponse"></wsdl:output>
        <wsdl:fault name="faultGet" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAdd">
        <wsdl:input name="msgAddRequest" message="ws-IMS-CX:msgAddRequest"
wsaw:Action="urn:#Add"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#AddResponse"></wsdl:output>
        <wsdl:fault name="faultAdd" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opMod">
        <wsdl:input name="msgModRequest" message="ws-IMS-CX:msgModRequest"
wsaw:Action="urn:#Mod"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#ModResponse"></wsdl:output>
        <wsdl:fault name="faultMod" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDel">
        <wsdl:input name="msgDelRequest" message="ws-IMS-CX:msgDelRequest"
wsaw:Action="urn:#Del"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#DelResponse"></wsdl:output>
        <wsdl:fault name="faultDel" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>

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</wsdl:operation>
<wsdl:operation name="opGetPublicID">
  <wsdl:input name="msgGetPublicIDRequest" message="ws-IMS-
CX:msgGetPublicIDRequest" wsaw:Action="urn:#GetPublicID"></wsdl:input>
  <wsdl:output name="msgGetPublicIDResponse" message="ws-IMS-
CX:msgGetPublicIDResponse"
wsaw:Action="urn:#GetPublicIDGetPublicIDResponse"></wsdl:output>
  <wsdl:fault name="faultGetPublicID" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opAddPublicID">
  <wsdl:input name="msgAddPublicIDRequest" message="ws-IMS-
CX:msgAddPublicIDRequest" wsaw:Action="urn:#AddPublicID"></wsdl:input>
  <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#AddPublicIDResponse"></wsdl:output>
  <wsdl:fault name="faultAddPublicID" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opModPublicID">
  <wsdl:input name="msgModPublicIDRequest" message="ws-IMS-
CX:msgModPublicIDRequest" wsaw:Action="urn:#ModPublicID"></wsdl:input>
  <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#ModPublicIDResponse"></wsdl:output>
  <wsdl:fault name="faultModPublicID" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opDelPublicID">
  <wsdl:input name="msgDelPublicIDRequest" message="ws-IMS-
CX:msgDelPublicIDRequest" wsaw:Action="urn:#DelPublicID"></wsdl:input>
  <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#DelPublicIDResponse"></wsdl:output>
  <wsdl:fault name="faultDelPublicID" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opGetPublicIDFromIMS_Subscription">
  <wsdl:input name="msgGetPublicIDFromIMS_SubscriptionRequest" message="ws-IMS-
CX:msgGetPublicIDFromIMS_SubscriptionRequest"
wsaw:Action="urn:#GetPublicIDFromIMS_Subscription"></wsdl:input>
  <wsdl:output name="msgGetPublicIDFromIMS_SubscriptionResponse" message="ws-
IMS-CX:msgGetPublicIDFromIMS_SubscriptionResponse"
wsaw:Action="urn:#GetPublicIDFromIMS_SubscriptionGetPublicIDFromIMS_SubscriptionRespon
se"></wsdl:output>
  <wsdl:fault name="faultGetPublicIDFromIMS_Subscription" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opGetPublicIDFromPrivateID">
  <wsdl:input name="msgGetPublicIDFromPrivateIDRequest" message="ws-IMS-
CX:msgGetPublicIDFromPrivateIDRequest"
wsaw:Action="urn:#GetPublicIDFromPrivateID"></wsdl:input>
  <wsdl:output name="msgGetPublicIDFromPrivateIDResponse" message="ws-IMS-
CX:msgGetPublicIDFromPrivateIDResponse"
wsaw:Action="urn:#GetPublicIDFromPrivateIDGetPublicIDFromPrivateIDResponse"></wsdl:out
put>
  <wsdl:fault name="faultGetPublicIDFromPrivateID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opAddPublicIDToPrivateID">
  <wsdl:input name="msgAddPublicIDToPrivateIDRequest" message="ws-IMS-
CX:msgAddPublicIDToPrivateIDRequest"
wsaw:Action="urn:#AddPublicIDToPrivateID"></wsdl:input>
  <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#AddPublicIDToPrivateIDResponse"></wsdl:output>
  <wsdl:fault name="faultAddPublicIDToPrivateID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opModPublicIDFromPrivateID">

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        <wsdl:input name="msgModPublicIDFromPrivateIDRequest" message="ws-IMS-
CX:msgModPublicIDFromPrivateIDRequest"
wsaw:Action="urn:#ModPublicIDFromPrivateID"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#ModPublicIDFromPrivateIDResponse"></wsdl:output>
        <wsdl:fault name="faultModPublicIDFromPrivateID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDelPublicIDFromPrivateID">
        <wsdl:input name="msgDelPublicIDFromPrivateIDRequest" message="ws-IMS-
CX:msgDelPublicIDFromPrivateIDRequest"
wsaw:Action="urn:#DelPublicIDFromPrivateID"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#DelPublicIDFromPrivateIDResponse"></wsdl:output>
        <wsdl:fault name="faultDelPublicIDFromPrivateID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetPrivateID">
        <wsdl:input name="msgGetPrivateIDRequest" message="ws-IMS-
CX:msgGetPrivateIDRequest" wsaw:Action="urn:#GetPrivateID"></wsdl:input>
        <wsdl:output name="msgGetPrivateIDResponse" message="ws-IMS-
CX:msgGetPrivateIDResponse"
wsaw:Action="urn:#GetPrivateIDGetPrivateIDResponse"></wsdl:output>
        <wsdl:fault name="faultGetPrivateID" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddPrivateID">
        <wsdl:input name="msgAddPrivateIDRequest" message="ws-IMS-
CX:msgAddPrivateIDRequest" wsaw:Action="urn:#AddPrivateID"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#AddPrivateIDResponse"></wsdl:output>
        <wsdl:fault name="faultAddPrivateID" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opModPrivateID">
        <wsdl:input name="msgModPrivateIDRequest" message="ws-IMS-
CX:msgModPrivateIDRequest" wsaw:Action="urn:#ModPrivateID"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#ModPrivateIDResponse"></wsdl:output>
        <wsdl:fault name="faultModPrivateID" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDelPrivateID">
        <wsdl:input name="msgDelPrivateIDRequest" message="ws-IMS-
CX:msgDelPrivateIDRequest" wsaw:Action="urn:#DelPrivateID"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#DelPrivateIDResponse"></wsdl:output>
        <wsdl:fault name="faultDelPrivateID" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetPrivateIDFromPublicID">
        <wsdl:input name="msgGetPrivateIDFromPublicIDRequest" message="ws-IMS-
CX:msgGetPrivateIDFromPublicIDRequest"
wsaw:Action="urn:#GetPrivateIDFromPublicID"></wsdl:input>
        <wsdl:output name="msgGetPrivateIDFromPublicIDResponse" message="ws-IMS-
CX:msgGetPrivateIDFromPublicIDResponse"
wsaw:Action="urn:#GetPrivateIDFromPublicIDGetPrivateIDFromPublicIDResponse"></wsdl:out
put>
        <wsdl:fault name="faultGetPrivateIDFromPublicID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetPrivateIDFromIMS_Subscription">
        <wsdl:input name="msgGetPrivateIDFromIMS_SubscriptionRequest" message="ws-
IMS-CX:msgGetPrivateIDFromIMS_SubscriptionRequest"
wsaw:Action="urn:#GetPrivateIDFromIMS_Subscription"></wsdl:input>
        <wsdl:output name="msgGetPrivateIDFromIMS_SubscriptionResponse" message="ws-
IMS-CX:msgGetPrivateIDFromIMS_SubscriptionResponse"

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wsaw:Action="urn:#GetPrivateIDFromIMS_SubscriptionGetPrivateIDFromIMS_SubscriptionResp
onse"></wsdl:output>
    <wsdl:fault name="faultGetPrivateIDFromIMS_Subscription" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opAddPrivateIDToIMS_Subscription">
    <wsdl:input name="msgAddPrivateIDToIMS_SubscriptionRequest" message="ws-IMS-
CX:msgAddPrivateIDToIMS_SubscriptionRequest"
wsaw:Action="urn:#AddPrivateIDToIMS_Subscription"></wsdl:input>
    <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#AddPrivateIDToIMS_SubscriptionResponse"></wsdl:output>
    <wsdl:fault name="faultAddPrivateIDToIMS_Subscription" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opModPrivateIDFromIMS_Subscription">
    <wsdl:input name="msgModPrivateIDFromIMS_SubscriptionRequest" message="ws-
IMS-CX:msgModPrivateIDFromIMS_SubscriptionRequest"
wsaw:Action="urn:#ModPrivateIDFromIMS_Subscription"></wsdl:input>
    <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#ModPrivateIDFromIMS_SubscriptionResponse"></wsdl:output>
    <wsdl:fault name="faultModPrivateIDFromIMS_Subscription" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opDelPrivateIDFromIMS_Subscription">
    <wsdl:input name="msgDelPrivateIDFromIMS_SubscriptionRequest" message="ws-
IMS-CX:msgDelPrivateIDFromIMS_SubscriptionRequest"
wsaw:Action="urn:#DelPrivateIDFromIMS_Subscription"></wsdl:input>
    <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#DelPrivateIDFromIMS_SubscriptionResponse"></wsdl:output>
    <wsdl:fault name="faultDelPrivateIDFromIMS_Subscription" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opGetSDAuthFromPrivateID">
    <wsdl:input name="msgGetSDAuthFromPrivateIDRequest" message="ws-IMS-
CX:msgGetSDAuthFromPrivateIDRequest"
wsaw:Action="urn:#GetSDAuthFromPrivateID"></wsdl:input>
    <wsdl:output name="msgGetSDAuthFromPrivateIDResponse" message="ws-IMS-
CX:msgGetSDAuthFromPrivateIDResponse"
wsaw:Action="urn:#GetSDAuthFromPrivateIDGetSDAuthFromPrivateIDResponse"></wsdl:output>
    <wsdl:fault name="faultGetSDAuthFromPrivateID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opAddSDAuthToPrivateID">
    <wsdl:input name="msgAddSDAuthToPrivateIDRequest" message="ws-IMS-
CX:msgAddSDAuthToPrivateIDRequest"
wsaw:Action="urn:#AddSDAuthToPrivateID"></wsdl:input>
    <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#AddSDAuthToPrivateIDResponse"></wsdl:output>
    <wsdl:fault name="faultAddSDAuthToPrivateID" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opModSDAuthFromPrivateID">
    <wsdl:input name="msgModSDAuthFromPrivateIDRequest" message="ws-IMS-
CX:msgModSDAuthFromPrivateIDRequest"
wsaw:Action="urn:#ModSDAuthFromPrivateID"></wsdl:input>
    <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#ModSDAuthFromPrivateIDResponse"></wsdl:output>
    <wsdl:fault name="faultModSDAuthFromPrivateID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opDelSDAuthFromPrivateID">
    <wsdl:input name="msgDelSDAuthFromPrivateIDRequest" message="ws-IMS-
CX:msgDelSDAuthFromPrivateIDRequest"
wsaw:Action="urn:#DelSDAuthFromPrivateID"></wsdl:input>
    <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#DelSDAuthFromPrivateIDResponse"></wsdl:output>

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        <wsdl:fault name="faultDelSDAuthFromPrivateID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetChargeAddressFromPrivateID">
        <wsdl:input name="msgGetChargeAddressFromPrivateIDRequest" message="ws-IMS-
CX:msgGetChargeAddressFromPrivateIDRequest"
wsaw:Action="urn:#GetChargeAddressFromPrivateID"></wsdl:input>
        <wsdl:output name="msgGetChargeAddressFromPrivateIDResponse" message="ws-IMS-
CX:msgGetChargeAddressFromPrivateIDResponse"
wsaw:Action="urn:#GetChargeAddressFromPrivateIDGetChargeAddressFromPrivateIDResponse">
</wsdl:output>
        <wsdl:fault name="faultGetChargeAddressFromPrivateID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddChargeAddressToPrivateID">
        <wsdl:input name="msgAddChargeAddressToPrivateIDRequest" message="ws-IMS-
CX:msgAddChargeAddressToPrivateIDRequest"
wsaw:Action="urn:#AddChargeAddressToPrivateID"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#AddChargeAddressToPrivateIDResponse"></wsdl:output>
        <wsdl:fault name="faultAddChargeAddressToPrivateID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opModChargeAddressFromPrivateID">
        <wsdl:input name="msgModChargeAddressFromPrivateIDRequest" message="ws-IMS-
CX:msgModChargeAddressFromPrivateIDRequest"
wsaw:Action="urn:#ModChargeAddressFromPrivateID"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#ModChargeAddressFromPrivateIDResponse"></wsdl:output>
        <wsdl:fault name="faultModChargeAddressFromPrivateID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDelChargeAddressFromPrivateID">
        <wsdl:input name="msgDelChargeAddressFromPrivateIDRequest" message="ws-IMS-
CX:msgDelChargeAddressFromPrivateIDRequest"
wsaw:Action="urn:#DelChargeAddressFromPrivateID"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#DelChargeAddressFromPrivateIDResponse"></wsdl:output>
        <wsdl:fault name="faultDelChargeAddressFromPrivateID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetIMS_Subscription">
        <wsdl:input name="msgGetIMS_SubscriptionRequest" message="ws-IMS-
CX:msgGetIMS_SubscriptionRequest" wsaw:Action="urn:#GetIMS_Subscription"></wsdl:input>
        <wsdl:output name="msgGetIMS_SubscriptionResponse" message="ws-IMS-
CX:msgGetIMS_SubscriptionResponse"
wsaw:Action="urn:#GetIMS_SubscriptionGetIMS_SubscriptionResponse"></wsdl:output>
        <wsdl:fault name="faultGetIMS_Subscription" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddIMS_Subscription">
        <wsdl:input name="msgAddIMS_SubscriptionRequest" message="ws-IMS-
CX:msgAddIMS_SubscriptionRequest" wsaw:Action="urn:#AddIMS_Subscription"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#AddIMS_SubscriptionResponse"></wsdl:output>
        <wsdl:fault name="faultAddIMS_Subscription" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opModIMS_Subscription">
        <wsdl:input name="msgModIMS_SubscriptionRequest" message="ws-IMS-
CX:msgModIMS_SubscriptionRequest" wsaw:Action="urn:#ModIMS_Subscription"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#ModIMS_SubscriptionResponse"></wsdl:output>
        <wsdl:fault name="faultModIMS_Subscription" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDelIMS_Subscription">

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        <wsdl:input name="msgDelIMS_SubscriptionRequest" message="ws-IMS-
CX:msgDelIMS_SubscriptionRequest" wsaw:Action="urn:#DelIMS_Subscription"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#DelIMS_SubscriptionResponse"></wsdl:output>
        <wsdl:fault name="faultDelIMS_Subscription" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetIMS_SubscriptionFromPublicID">
        <wsdl:input name="msgGetIMS_SubscriptionFromPublicIDRequest" message="ws-IMS-
CX:msgGetIMS_SubscriptionFromPublicIDRequest"
wsaw:Action="urn:#GetIMS_SubscriptionFromPublicID"></wsdl:input>
        <wsdl:output name="msgGetIMS_SubscriptionFromPublicIDResponse" message="ws-
IMS-CX:msgGetIMS_SubscriptionFromPublicIDResponse"
wsaw:Action="urn:#GetIMS_SubscriptionFromPublicIDGetIMS_SubscriptionFromPublicIDRespon
se"></wsdl:output>
        <wsdl:fault name="faultGetIMS_SubscriptionFromPublicID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetIMS_SubscriptionFromPrivateID">
        <wsdl:input name="msgGetIMS_SubscriptionFromPrivateIDRequest" message="ws-
IMS-CX:msgGetIMS_SubscriptionFromPrivateIDRequest"
wsaw:Action="urn:#GetIMS_SubscriptionFromPrivateID"></wsdl:input>
        <wsdl:output name="msgGetIMS_SubscriptionFromPrivateIDResponse" message="ws-
IMS-CX:msgGetIMS_SubscriptionFromPrivateIDResponse"
wsaw:Action="urn:#GetIMS_SubscriptionFromPrivateIDGetIMS_SubscriptionFromPrivateIDResp
onse"></wsdl:output>
        <wsdl:fault name="faultGetIMS_SubscriptionFromPrivateID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetService_Profile">
        <wsdl:input name="msgGetService_ProfileRequest" message="ws-IMS-
CX:msgGetService_ProfileRequest" wsaw:Action="urn:#GetService_Profile"></wsdl:input>
        <wsdl:output name="msgGetService_ProfileResponse" message="ws-IMS-
CX:msgGetService_ProfileResponse"
wsaw:Action="urn:#GetService_ProfileGetService_ProfileResponse"></wsdl:output>
        <wsdl:fault name="faultGetService_Profile" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddService_Profile">
        <wsdl:input name="msgAddService_ProfileRequest" message="ws-IMS-
CX:msgAddService_ProfileRequest" wsaw:Action="urn:#AddService_Profile"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#AddService_ProfileResponse"></wsdl:output>
        <wsdl:fault name="faultAddService_Profile" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opModService_Profile">
        <wsdl:input name="msgModService_ProfileRequest" message="ws-IMS-
CX:msgModService_ProfileRequest" wsaw:Action="urn:#ModService_Profile"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#ModService_ProfileResponse"></wsdl:output>
        <wsdl:fault name="faultModService_Profile" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDelService_Profile">
        <wsdl:input name="msgDelService_ProfileRequest" message="ws-IMS-
CX:msgDelService_ProfileRequest" wsaw:Action="urn:#DelService_Profile"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#DelService_ProfileResponse"></wsdl:output>
        <wsdl:fault name="faultDelService_Profile" message="ws-IMS-CX:msgException"
wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetService_ProfileFromPublicID">
        <wsdl:input name="msgGetService_ProfileFromPublicIDRequest" message="ws-IMS-
CX:msgGetService_ProfileFromPublicIDRequest"
wsaw:Action="urn:#GetService_ProfileFromPublicID"></wsdl:input>

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        <wsdl:output name="msgGetService_ProfileFromPublicIDResponse" message="ws-
IMS-CX:msgGetService_ProfileFromPublicIDResponse"
wsaw:Action="urn:#GetService_ProfileFromPublicIDGetService_ProfileFromPublicIDResponse
"></wsdl:output>
        <wsdl:fault name="faultGetService_ProfileFromPublicID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddService_ProfileToPublicID">
        <wsdl:input name="msgAddService_ProfileToPublicIDRequest" message="ws-IMS-
CX:msgAddService_ProfileToPublicIDRequest"
wsaw:Action="urn:#AddService_ProfileToPublicID"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#AddService_ProfileToPublicIDResponse"></wsdl:output>
        <wsdl:fault name="faultAddService_ProfileToPublicID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opModService_ProfileFromPublicID">
        <wsdl:input name="msgModService_ProfileFromPublicIDRequest" message="ws-IMS-
CX:msgModService_ProfileFromPublicIDRequest"
wsaw:Action="urn:#ModService_ProfileFromPublicID"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#ModService_ProfileFromPublicIDResponse"></wsdl:output>
        <wsdl:fault name="faultModService_ProfileFromPublicID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDelService_ProfileFromPublicID">
        <wsdl:input name="msgDelService_ProfileFromPublicIDRequest" message="ws-IMS-
CX:msgDelService_ProfileFromPublicIDRequest"
wsaw:Action="urn:#DelService_ProfileFromPublicID"></wsdl:input>
        <wsdl:output name="msgResponse" message="ws-IMS-CX:msgResponse"
wsaw:Action="urn:#DelService_ProfileFromPublicIDResponse"></wsdl:output>
        <wsdl:fault name="faultDelService_ProfileFromPublicID" message="ws-IMS-
CX:msgException" wsaw:Action="urn:#msgException"></wsdl:fault>
    </wsdl:operation>
</wsdl:portType>
<wsdl:binding name="bdIMS-CX" type="ws-IMS-CX:ptIMS-CX">
    <wsoap12:binding xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
style="document"
transport="http://www.w3.org/2003/05/soap/bindings/HTTP/"></wsoap12:binding>
    <wsdl:operation name="opGet">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:GetRequest"
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAdd">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:AddRequest"
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>

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        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opMod">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:ModRequest "
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDel">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:DelRequest "
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetPublicID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:GetPublicIDRequest "
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddPublicID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:AddPublicIDRequest "
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>

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        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opModPublicID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:ModPublicIDRequest"
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="opDelPublicID">
            <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:DelPublicIDRequest"
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
            <wsdl:input>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:input>
            <wsdl:output>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:output>
            <wsdl:fault>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:fault>
            </wsdl:operation>
            <wsdl:operation name="opGetPublicIDFromIMS_Subscription">
                <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDFromIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
                <wsdl:input>
                    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
                </wsdl:input>
                <wsdl:output>
                    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
                </wsdl:output>
                <wsdl:fault>
                    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
                </wsdl:fault>
                </wsdl:operation>
                <wsdl:operation name="opGetPublicIDFromPrivateID">
                    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
                    <wsdl:input>

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        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddPublicIDToPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPublicIDToPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opModPublicIDFromPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPublicIDFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDelPublicIDFromPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPublicIDFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetPrivateID">

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        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:GetPrivateIDRequest"
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:AddPrivateIDRequest"
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opModPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:ModPrivateIDRequest"
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDelPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:DelPrivateIDRequest"
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>

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        <wsdl:operation name="opGetPrivateIDFromPublicID">
            <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDFromPublicIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
            <wsdl:input>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:input>
            <wsdl:output>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:output>
            <wsdl:fault>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="opGetPrivateIDFromIMS_Subscription">
            <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDFromIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
            <wsdl:input>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:input>
            <wsdl:output>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:output>
            <wsdl:fault>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="opAddPrivateIDToIMS_Subscription">
            <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPrivateIDToIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
            <wsdl:input>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:input>
            <wsdl:output>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:output>
            <wsdl:fault>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="opModPrivateIDFromIMS_Subscription">
            <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPrivateIDFromIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
            <wsdl:input>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:input>
            <wsdl:output>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:output>
            <wsdl:fault>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:fault>
        </wsdl:operation>

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        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDelPrivateIDFromIMS_Subscription">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPrivateIDFromIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetSDAuthFromPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetSDAuthFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddSDAuthToPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddSDAuthToPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opModSDAuthFromPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModSDAuthFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>

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        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDelSDAuthFromPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelSDAuthFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetChargeAddressFromPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetChargeAddressFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddChargeAddressToPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddChargeAddressToPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opModChargeAddressFromPrivateID">

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        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModChargeAddressFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDelChargeAddressFromPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelChargeAddressFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetIMS_Subscription">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddIMS_Subscription">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>

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        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opModIMS_Subscription">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
    </wsdl:operation>
<wsdl:operation name="opDelIMS_Subscription">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
    </wsdl:operation>
<wsdl:operation name="opGetIMS_SubscriptionFromPublicID">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionFromPublicIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
    </wsdl:operation>
<wsdl:operation name="opGetIMS_SubscriptionFromPrivateID">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>

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        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetService_Profile">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetService_ProfileRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddService_Profile">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddService_ProfileRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opModService_Profile">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModService_ProfileRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDelService_Profile">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-

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CX:DelService_ProfileRequest" soapActionRequired="true"
wsdl:required="true"></wsdl:operation>
  <wsdl:input>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:input>
  <wsdl:output>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:output>
  <wsdl:fault>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opGetService_ProfileFromPublicID">
  <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetService_ProfileFromPublicIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
  <wsdl:input>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:input>
  <wsdl:output>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:output>
  <wsdl:fault>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opAddService_ProfileToPublicID">
  <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddService_ProfileToPublicIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
  <wsdl:input>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:input>
  <wsdl:output>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:output>
  <wsdl:fault>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opModService_ProfileFromPublicID">
  <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModService_ProfileFromPublicIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
  <wsdl:input>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:input>
  <wsdl:output>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:output>
  <wsdl:fault>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:fault>
</wsdl:operation>

```



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        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opDelService_ProfileFromPublicID">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelService_ProfileFromPublicIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>

    <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
</wsdl:operation>
</wsdl:binding>
<wsdl:binding name="bdHSS-Cx" type="ws-IMS-CX:ptIMS-CX">
    <wsoap12:binding xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
style="document"
transport="http://www.w3.org/2003/05/soap/bindings/HTTP/"></wsoap12:binding>
    <wsdl:operation name="opGetIMS_Subscription">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddIMS_Subscription">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opModIMS_Subscription">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-

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CX:ModIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsdl:operation>
  <wsdl:input>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:input>
  <wsdl:output>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:output>
  <wsdl:fault>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opDelIMS_Subscription">
  <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
  <wsdl:input>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:input>
  <wsdl:output>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:output>
  <wsdl:fault>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opGetIMS_SubscriptionFromPublicID">
  <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionFromPublicIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
  <wsdl:input>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:input>
  <wsdl:output>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:output>
  <wsdl:fault>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opGetIMS_SubscriptionFromPrivateID">
  <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetIMS_SubscriptionFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
  <wsdl:input>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:input>
  <wsdl:output>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:output>
  <wsdl:fault>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:fault>
</wsdl:operation>

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        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetSDAuthFromPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetSDAuthFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
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            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opAddSDAuthToPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddSDAuthToPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opModSDAuthFromPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModSDAuthFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opDelSDAuthFromPrivateID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelSDAuthFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>

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        <wssoap12:body xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wssoap12:body>
    </wsdl:output>
    <wsdl:fault>
        <wssoap12:body xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wssoap12:body>
    </wsdl:fault>
    </wsdl:operation>
    <wsdl:operation name="opGetPrivateID">
        <wssoap12:operation xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:GetPrivateIDRequest"
soapActionRequired="true" wsdl:required="true"></wssoap12:operation>
        <wsdl:input>
            <wssoap12:body xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wssoap12:body>
        </wsdl:input>
        <wsdl:output>
            <wssoap12:body xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wssoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wssoap12:body xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wssoap12:body>
        </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="opAddPrivateID">
            <wssoap12:operation xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:AddPrivateIDRequest"
soapActionRequired="true" wsdl:required="true"></wssoap12:operation>
            <wsdl:input>
                <wssoap12:body xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wssoap12:body>
            </wsdl:input>
            <wsdl:output>
                <wssoap12:body xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wssoap12:body>
            </wsdl:output>
            <wsdl:fault>
                <wssoap12:body xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wssoap12:body>
            </wsdl:fault>
            </wsdl:operation>
            <wsdl:operation name="opModPrivateID">
                <wssoap12:operation xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:ModPrivateIDRequest"
soapActionRequired="true" wsdl:required="true"></wssoap12:operation>
                <wsdl:input>
                    <wssoap12:body xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wssoap12:body>
                </wsdl:input>
                <wsdl:output>
                    <wssoap12:body xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wssoap12:body>
                </wsdl:output>
                <wsdl:fault>
                    <wssoap12:body xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wssoap12:body>
                </wsdl:fault>
                </wsdl:operation>
                <wsdl:operation name="opDelPrivateID">
                    <wssoap12:operation xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:DelPrivateIDRequest"
soapActionRequired="true" wsdl:required="true"></wssoap12:operation>
                    <wsdl:input>
                        <wssoap12:body xmlns:wssoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wssoap12:body>
                    </wsdl:input>

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        <wsdl:output>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
      </wsdl:operation>
      <wsdl:operation name="opGetPrivateIDFromPublicID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDFromPublicIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
      </wsdl:operation>
      <wsdl:operation name="opGetPrivateIDFromIMS_Subscription">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPrivateIDFromIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
      </wsdl:operation>
      <wsdl:operation name="opAddPrivateIDToIMS_Subscription">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPrivateIDToIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
      </wsdl:operation>
      <wsdl:operation name="opModPrivateIDFromIMS_Subscription">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-

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CX:ModPrivateIDFromIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsdl:operation>
  <wsdl:input>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:input>
  <wsdl:output>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:output>
  <wsdl:fault>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opDelPrivateIDFromIMS_Subscription">
  <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPrivateIDFromIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
  <wsdl:input>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:input>
  <wsdl:output>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:output>
  <wsdl:fault>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opGetPublicID">
  <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:GetPublicIDRequest"
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
  <wsdl:input>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:input>
  <wsdl:output>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:output>
  <wsdl:fault>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opAddPublicID">
  <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:AddPublicIDRequest"
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
  <wsdl:input>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:input>
  <wsdl:output>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:output>
  <wsdl:fault>
    <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
  </wsdl:fault>
</wsdl:operation>

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        <wsdl:operation name="opModPublicID">
            <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:ModPublicIDRequest"
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
            <wsdl:input>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:input>
            <wsdl:output>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:output>
            <wsdl:fault>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="opDelPublicID">
            <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-CX:DelPublicIDRequest"
soapActionRequired="true" wsdl:required="true"></wsoap12:operation>
            <wsdl:input>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:input>
            <wsdl:output>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:output>
            <wsdl:fault>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="opGetPublicIDFromIMS_Subscription">
            <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDFromIMS_SubscriptionRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
            <wsdl:input>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:input>
            <wsdl:output>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:output>
            <wsdl:fault>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:fault>
        </wsdl:operation>
        <wsdl:operation name="opGetPublicIDFromPrivateID">
            <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetPublicIDFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
            <wsdl:input>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:input>
            <wsdl:output>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:output>
            <wsdl:fault>
                <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
            </wsdl:fault>
        </wsdl:operation>

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        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opAddPublicIDToPrivateID">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddPublicIDToPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
    </wsdl:operation>
<wsdl:operation name="opModPublicIDFromPrivateID">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModPublicIDFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
    </wsdl:operation>
<wsdl:operation name="opDelPublicIDFromPrivateID">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelPublicIDFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
    </wsdl:operation>
<wsdl:operation name="opGetService_Profile">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetService_ProfileRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>

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        <wsdl:output>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
      </wsdl:operation>
      <wsdl:operation name="opAddService_Profile">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddService_ProfileRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
      </wsdl:operation>
      <wsdl:operation name="opModService_Profile">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModService_ProfileRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
      </wsdl:operation>
      <wsdl:operation name="opDelService_Profile">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelService_ProfileRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
        <wsdl:input>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:input>
        <wsdl:output>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
          <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
      </wsdl:operation>
      <wsdl:operation name="opGetService_ProfileFromPublicID">
        <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetService_ProfileFromPublicIDRequest" soapActionRequired="true"

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wsdl:required="true"></wsdl:operation>

    <wsdl:input>
      <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
      <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
      <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="opAddService_ProfileToPublicID">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddService_ProfileToPublicIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
      <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
      <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
      <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="opModService_ProfileFromPublicID">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModService_ProfileFromPublicIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
      <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
      <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
      <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="opDelService_ProfileFromPublicID">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelService_ProfileFromPublicIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
      <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
      <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>

```

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        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opGetChargeAddressFromPrivateID">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:GetChargeAddressFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opAddChargeAddressToPrivateID">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:AddChargeAddressToPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opModChargeAddressFromPrivateID">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:ModChargeAddressFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>
    <wsdl:output>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:output>
    <wsdl:fault>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="opDelChargeAddressFromPrivateID">
    <wsoap12:operation xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
soapAction="urn:cablelabs.com:namespaces:packetcable:wsdl:IMS-
CX:DelChargeAddressFromPrivateIDRequest" soapActionRequired="true"
wsdl:required="true"></wsoap12:operation>
    <wsdl:input>
        <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
    </wsdl:input>

```

```

        <wsdl:output>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:output>
        <wsdl:fault>
            <wsoap12:body xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
use="literal"></wsoap12:body>
        </wsdl:fault>
    </wsdl:operation>
</wsdl:binding>
<wsdl:service name="svIMS-CX">
    <wsdl:port name="IMS-CX-soap12-http" binding="ws-IMS-CX:bdIMS-CX">
        <wsoap12:address xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
location="https://host/svIMS-CX/bdIMS-CX">
            <!--Replace with Current Binding Address-->
            <wsam:EndpointReference>
                <!--Replace with Current Binding Address-->
                <wsam:Address>https://host/svIMS-CX/bdIMS-CX</wsam:Address>
            </wsam:EndpointReference>
        </wsoap12:address>
    </wsdl:port>
    <wsdl:port name="HSS-Cx-soap12-http" binding="ws-IMS-CX:bdHSS-Cx">
        <wsoap12:address xmlns:wsoap12="http://schemas.xmlsoap.org/wsdl/soap12/"
location="https://host/svIMS-CX/bdHSS-Cx">
            <!--Replace with Current Binding Address-->
            <wsam:EndpointReference>
                <!--Replace with Current Binding Address-->
                <wsam:Address>https://host/svIMS-CX/bdHSS-Cx</wsam:Address>
            </wsam:EndpointReference>
        </wsoap12:address>
    </wsdl:port>
</wsdl:service>
</wsdl:definitions>

```

Appendix I Acknowledgements

CableLabs wishes to thank the PacketCable Provisioning focus team participants for various contributions and efforts that led to the development of this specification. Specifically, the following individuals are thanked for their direct contributions (alphabetical by company name):

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Eduardo Cardona and the PacketCable Architects, CableLabs, Inc.

Appendix II Revision History

The following ECN was incorporated in PKT-SP-UE-DATA-I02-100527.

| ECN | ECN Date | Summary |
|---------------------|----------|--|
| UE-DATA-N-09.0621-4 | 4/12/10 | HSS Provisioning Interface for the User Profile data, and UE spec updates to cover EUE ECNs, ECRs, and OMA-DM 1.3. |
