

3GPP2 S.R0137-0
Version 1.0
Date: December 2008



Common IMS Impacts to 3GPP2 Specifications

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REVISION HISTORY

Revision

Date

Rev. 0 v1

Initial
Publication

December 2008

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Table 1 3GPP2 MMD to 3GPP Common IMS Document Mapping 12

SCOPE

This document identifies the impacts to 3GPP2 specifications of Common IMS.

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1 Introduction

This document identifies the MMD network entities and interfaces that are covered by the documents in the first phase of Common IMS. Future enhancements to these entities and interfaces, as they pertain to the transferred documents, will be made in 3GPP rather than 3GPP2. Additional enhancements may continue to be made in 3GPP2 as needed.

A mapping between 3GPP2 MMD/IMS Stage 2/Stage 3 specifications and 3GPP Common IMS specifications, as well as other Stage 2/Stage 3 specifications and Stage 1 specifications, is also provided.

The 3GPP2 input to Common IMS for phase 1 is described in 3GPP work item descriptions [SP080220] and [CP080218].

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3 Definitions, Symbols and Abbreviations

3.1 Definitions

Common IMS

This is the common IMS core network as defined through coordination by 3GPP and 3GPP2. It incorporates network requirements from non-3GPP IMS networks, such as ETSI TISPAN and 3GPP2.

3.2 Symbols and Abbreviations

3GPP	Third Generation Partnership Project
3GPP2	Third Generation Partnership Project 2
AAA	Authentication, Authorization, Accounting
ACR	Anonymous Communication Rejection
AF	Application Function
BCMCS	Broadcast Multicast Services
BSC	Base Station Controller
BTS	Base Transceiver Station
CAT	Customized Alerting Tones
CB	Communication Barring
CDIV	Communications Diversion
CN	Core Network
CONF	Conference
CSCF	Call Session Control Function
CW	Call Waiting
DSI	Dynamic Subscriber Information
ECT	Explicit Communication Transfer
EIA	Electronics Industry Alliance
EIR	Equipment identity Register
ETSI	European Telecommunications Standards Institute
FA	Flexible Alerting
HLR	Home Location Register
HOLD	Communication HOLD
HSS	Home Subscriber Server
IM	IP Multimedia
IMS	IP Multimedia Subsystem
IMS-MGW	IMS Media Gateway
IP	Internet Protocol
MAP	Mobile Application Part
MGW	Media Gateway
MM	Mobility Manager
MMD	Multimedia Domain
MS	Mobile Station

MWI	Message Waiting Indicator	1
OIP	Originating Identification Presentation	2
OIR	Originating Identification Restriction	3
OP	Organizational Partner	4
OSA	Open Service Access	5
OSF	Operations Systems Function	6
OSS	Operations Support System	7
PCF	Packet Control Function	8
PCRF	Policy and Charging Rules Function	9
P-CSCF	Proxy-CSCF	10
PSTN	Public Switched Telephone Network	11
RNC	Radio Network Controller	12
SDP	Session Description Protocol	13
SIP	Session Initiation Protocol	14
SS	Supplemental Services	15
TIA	Telecommunications Industry Association	16
TIP	Terminating Identification Presentation	17
TIR	Terminating Identification Restriction	18
TISPAN	Telecommunications and Internet converged Services and Protocols for Advanced Networking	19
TR	Technical Report	20
TS	Technical Specification	21
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4 3GPP2 Network Architecture Reflecting Common IMS Elements

Figure 1 shows the 3GPP2 All IP Network Architecture Model with the cdma2000^{®1} Access Network and including MMD IMS elements and reference points, as described within [S.R0037-B v1.0]. The gray highlighted network elements and heavy line reference points (dashed for signaling and solid for media) are supported by 3GPP2's MMD/IMS related specifications and are included in the first Phase of 3GPP Common IMS work transfer.

¹ cdma2000[®] is the trademark for the technical nomenclature for certain specifications and standards of the Organizational Partners (OPs) of 3GPP2. Geographically (and as of the date of publication), cdma2000[®] is a registered trademark of the Telecommunications Industry Association (TIA-USA) in the United States.

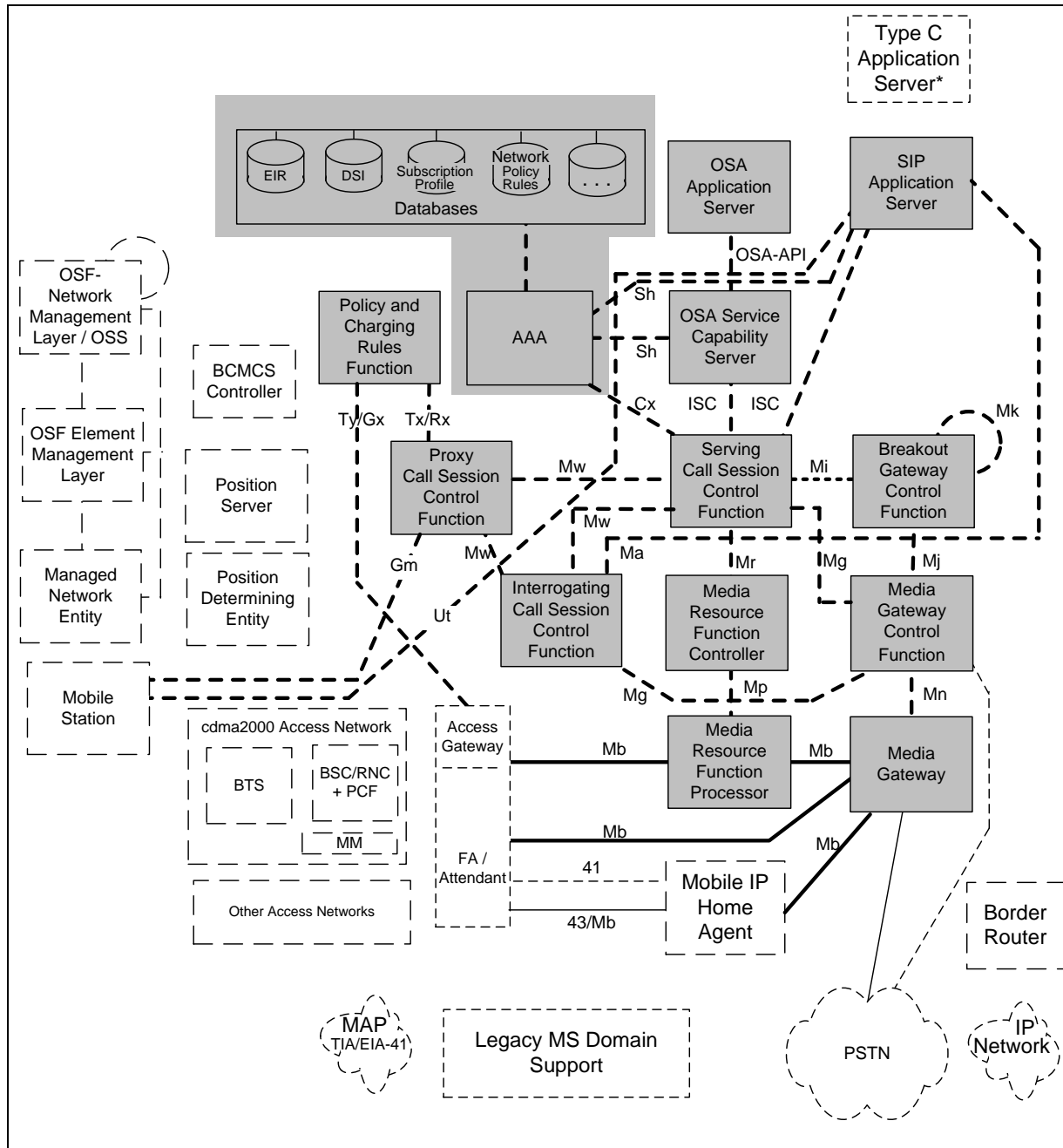


Figure 1 3GPP2 Network Architecture Model reflecting Common IMS Entities

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4.1 MMD IMS versus Common IMS Entities & Reference points

4.1.1 Home Subscriber Server

One area of difference between MMD IMS and Common IMS is the definition of the Home Subscriber Server (HSS). MMD regards this as being made up of two entities: 1) the IMS Authentication, Authorization and Accounting (AAA), and 2) the subscriber and other databases. For MMD IMS the Cx and Sh reference points/interfaces terminate directly on the AAA component; whereas, for Common IMS the HSS is treated as a single entity with the Cx and Sh reference points/interfaces terminating on it. Also, the Common IMS HSS includes a legacy circuit switched Home Location Register (HLR) function; whereas, the 3GPP2 MMD HSS does not include the HLR functionality.

4.1.2 Policy

The Policy and Charging Rules Function (PCRF), strictly speaking, is not part of IMS. It is an optional component which can be supported even when IMS is not supported. However, the PCRF and its interfaces are being considered for migration to 3GPP, along with Common IMS material.

3GPP2 MMD specifies the Tx interface [X.S0013-013-0 v1.0] between a PCRF and an Application Function (AF), e.g., the P-CSCF, and the Ty interface [X.S0013-014-0 v1.0] between a PCRF and an Access Gateway. In 3GPP Release 8, both the Rx interface [TS 29.214] and the Gx interface [TS 29.212] are enhanced and new Gxx interface [TS 29.212] and S9 interface [TS 29.215] are specified. The functionality for Tx and Ty interfaces are incorporated into the Release 8 Rx, Gx, Gxx and S9 interfaces.

4.1.3 Media Gateway (MGW)

The Media Gateway (MGW) shown in Figure 1 is equivalent to the IMS-MGW (IMS Media Gateway) in [TS 23.002].

5 3GPP2 to Common IMS Documentation Mapping

Table 1 below shows a mapping between 3GPP2 MMD specifications and the 3GPP Common IMS Release 8 specifications where future Common IMS development will be captured.

Table 1 3GPP2 MMD to 3GPP Common IMS Document Mapping

3GPP2 Specification	3GPP2 Title	3GPP Specification
[X.S0013-000-B v1.0]	Overview	[TS 23.002] [TS 23.228]
[X.S0013-002-B v1.0]	IP Multimedia Subsystem – Stage 2	[TS 23.228]
[X.S0013-003-B v1.0]	IP Multimedia Session Handling; IP Multimedia Call Model – Stage 2	[TS 23.218]
[X.S0013-004-B v1.0]	IP Multimedia Call Control Protocol Based on SIP and SDP - Stage 3	[TS 24.229]
[X.S0013-005-B v1.0]	IP Multimedia Subsystem Cx Interface Signaling flows and Message Contents	[TS 29.228]
[X.S0013-006-B v1.0]	Cx Interface Based on the Diameter Protocol; Protocol Details	[TS 29.229]
[X.S0013-007-A v1.0]	IP Multimedia Subsystem - Charging Architecture	[TS 32.240]
[X.S0013-008-A v1.0]	IP Multimedia Subsystem - Offline Accounting Information Flows and Protocol	[TS 32.260] [TS 32.299]
[X.S0013-009-0 v1.0]	IMS/MMD Call Flow Examples	[TR 24.930]
[X.S0013-010-B v1.0]	IP Multimedia Subsystem Sh interface; Signaling flows and message contents – Stage 2	[TS 29.328]
[X.S0013-011-B v1.0]	Sh Interface based on Diameter Protocols Protocol Details – Stage 3	[TS 29.329]
[X.S0013-012-0 v1.0]	Service Based Bearer Control – Stage 2	[TS 23.203]
[X.S0013-013-0 v1.0]	Service Based Bearer Control – Tx Interface Stage 3	[TS 29.213] [TS 29.214]
[X.S0013-014-0 v1.0]	Service Based Bearer Control – Ty Interface Stage 3	[TS 29.212] [TS 29.215]

3GPP2 Specification	3GPP2 Title	3GPP Specification
[X.S0013-016-0 v1.0]	Messaging Service Using the IP Multimedia Subsystem	[TS 24.247]
[X.S0027-000-A v1.0]	Presence Overview	No 3GPP equivalent
[X.S0027-001-0 v1.0]	Presence Service: Architecture and Functional Description	[TS 23.141]
[X.S0027-002-0 v1.0]	Presence Security	[TS 33.141]
[X.S0027-003-0 v1.0]	Presence Stage 3	[TS 24.141]
[X.S0027-004-0 v1.0]	Network Presence	No 3GPP equivalent
[X.S0029-0 v1.0]	Conferencing Using the IP Multimedia (IM) Core Network (CN) Subsystem	[TS 24.147]
[X.S0049-0 v1.0] ¹	All-IP Network Emergency Call Support	[TS 23.167] [TS 23.003] [TS 24.229]
[X.S0055-0 v1.0]	MMD Supplementary Services	[TS 22.173] (SS Stage 1) [TS 24.173] [TS 24.182] (CAT) [TS 24.238] (SIP Based User Configuration) [TS 24.239] (FA) [TS 24.604] (CDIV) [TS 24.605] (CONF) [TS 24.606] (MWI) [TS 24.607] (OIP/OIR) [TS 24.608] (TIP/TIR) [TS 24.610] (HOLD) [TS 24.611] (ACR/CB) [TS 24.615] (CW) [TS 24.628] (Common Basic Communications Procedures) [TS 24.629] (ECT)
[S.S0086-B v2.0]	IMS Security Framework	[TS 33.203]

¹ Note that Annex A and C of X.S0049-0 v1.0 are not transferred to 3GPP but are retained in [X.S0060-0 v1.0].