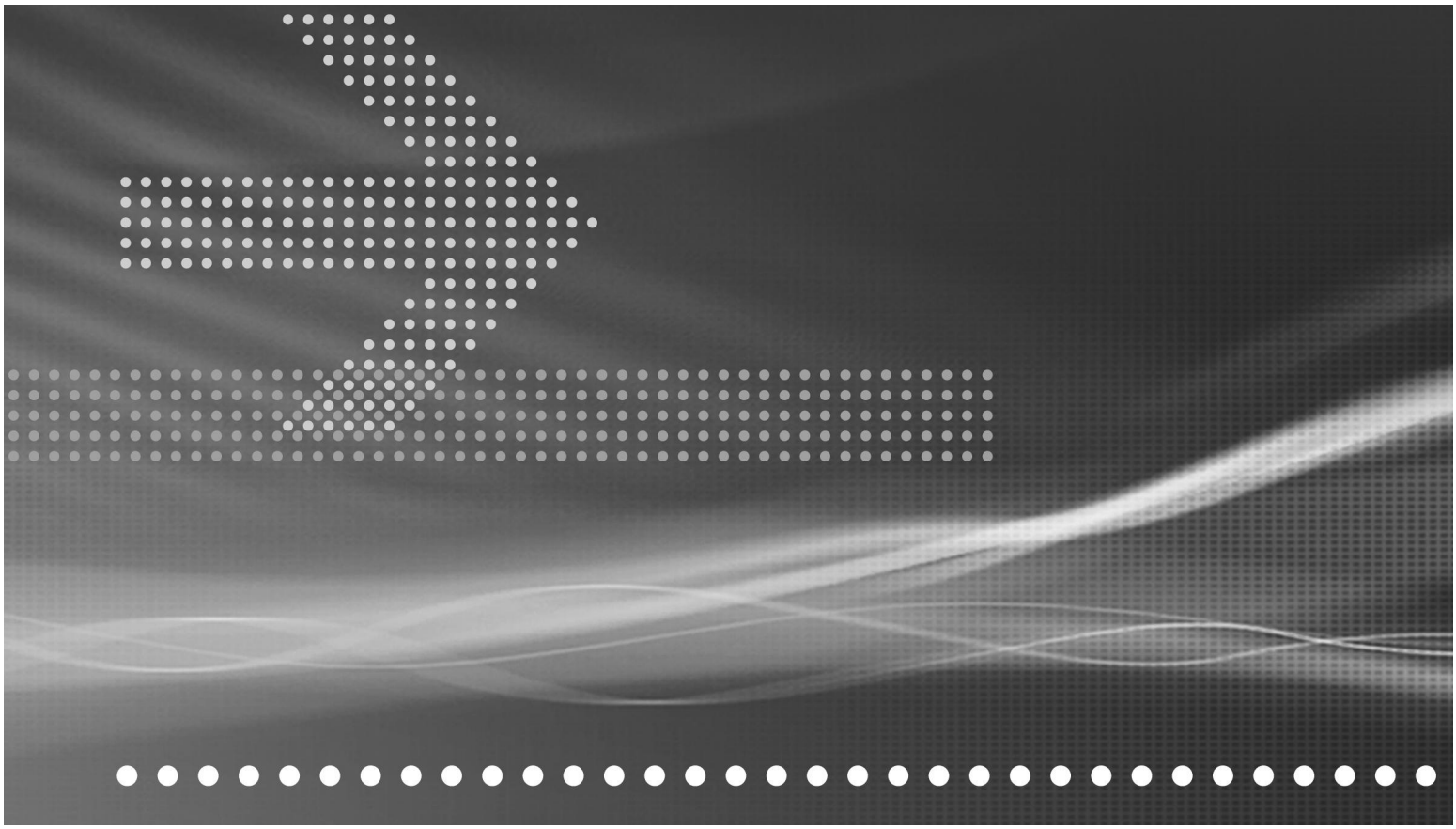

# Alcatel-Lucent

## IP MULTIMEDIA SUBSYSTEM RELEASE 08.02.01

**SOLUTION EXTERNAL RELEASE NOTES**

275-100-
004R08.02.01
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# Contents

# About this document

## Purpose

The purpose of this document is to provide a general overview of the IP Multimedia Subsystem (IMS) Release 08.02.01, including a list of the network element load versions, IMS network level test results, and known issues to assist service providers with field deployments of IMS Release 08.02.01.

## Reason for revision

This is the first issue of the IMS Release 08.02.01 Release Notes document.

## Intended audience

The intended audience for this document includes all personnel who need information about the IMS 08.02.01 release, its functions, and network elements.

This document can be used by the following audiences:

- Planning and design personnel
- Maintenance personnel
- Management personnel
- System installation and integration personnel

## Supported systems

See Chapter 7, System Requirements, for information on systems supported in Release 08.02.01.

## Conventions used

There are no special typographical conventions used in this document.

### Technical support

For technical support, contact your local Alcatel-Lucent customer support team. See the Alcatel-Lucent Support web site (http://alcatel-lucent.com/support/) for contact information.

### How to order

This document is available on the Online Customer Support Site (OLCS). To order this document and other Alcatel-Lucent documents, contact your local sales representative or use the Online Customer Support Site (OLCS) web site (https://support.alcatel-lucent.com).

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# 1 Release components

## Overview

### Purpose

This chapter describes the loads that comprise Release 08.02.01 and the documentation deliverables included in this release.

# Software deliverables

Table 1-1 lists the loads that comprise Release 08.02.01.

**Table 1-1 Software release identification**

| Network Element/Application | Load Name in IMS 08.02.00 | Load Name in IMS 08.02.01 | Load Changed Since IMS 08.02.00? |
|---|---|---|---|
| 1300 Cross Management Center (XMC) | R6.2.2.5<br><br>Then patch R6.2.2-P01<br><br>Then patch R6.2.2-N08 | R6.2.2.5<br><br>Then patch to R6.2.2-P01<br><br>Then patch to R6.2.2-N08 | No |
| **1310 Operations and Maintenance Console – Provisioning (OMC-P)** | OMC-P13_02_00_00 | **OMC-P13_02_00_01** | **Yes** |
| **5410 Presence Server (PS)**<br><br>**5410 XML Document Management Server (XDMS)** | 5.0 SP1 Hp | **5.0 SP1.1 Hp** | **Yes** |
| **5420 Converged Telephony Server (CTS)** | R17.21.00.00<br><br>Then patch to R17.21.00.01 | **R17.21.00.00**<br><br>**Then patch to R17.21.01.00**<br><br>**Then patch to R17.21.01.01** | **Yes** |
| **5440 IMS-PC Client** | 5440_PCC_r4.0.0_v2295_nonPCM | **5440_PCC_r4.0.0_v2315_nonPCM** | **Yes** |
| **5450 IP Session Control (ISC)/ IP Resource Controller (IRC)** | R17.21.00.00<br><br>Then patch to R17.21.00.01 | **R17.21.00.00**<br><br>**Then patch to R17.21.01.00**<br><br>**Then patch to R17.21.01.01** | **Yes** |
| 5900 Media Resource Function (MRF) | MRF6.3.4.1 | MRF6.3.4.1 | No |
| 8615 Instant enhanced Charging Collection Function (IeCCF) | N440 Hardware:<br>IeCCF R26SU8 and hotslide0106<br><br>MAS_ltmasr26-p0814 | N440 Hardware:<br>IeCCF R26SU8 and hotslide0106<br><br>MAS_ltmasr26-p0814 | No |
| 8650 Subscriber Data Manager (SDM) (HSS on ATCA) | SDM2.0.1:<br>sdm8650-small-compact-v2-r4.002.0520-22.zip<br><br>Plus SDM 2.0.1 IAP002:<br>sdm8650-small-compact-v2-r4.002.0610-40.iso | SDM2.0.1:<br>sdm8650-small-compact-v2-r4.002.0520-22.zip<br><br>Plus SDM 2.0.1 IAP002:<br>sdm8650-small-compact-v2-r4.002.0610-40.iso | No |
| Acme Packet Session Director (4250) | C5.1.1p23 | C5.1.1p23 | No |
| Fortinet Fortigate Firewall | v3.0.MR5.8108 | v3.0.MR5.8108 | No |
| VitalQIP | VitalQIP R7.1 PR2 (patch B158) | VitalQIP R7.1 PR2 (patch B158) | No |

# How to obtain software

Please contact your Alcatel-Lucent representative to obtain software.

# Document deliverables

For Release 08.02.01, this document is the only solution document that is being published. The following solution documents are impacted by 08.02.01 features:

- *IMS Solution Technical Description*, 275-100-000
- *IMS Solution OAM&P,* 275-100-001
- *IMS Solution Interface Changes Specifications*, 275-100-050
- *IMS Solution System Parameters,* 275-100-057
- *IMS Solution Ports and Protocols,* 275-100-058
- *IMS Solution Growth,* 275-100-059

See Appendix A for the impacted sections of these solution documents.

For all other solution documents, please use the latest version (Release 08.01.00).

See the next section, “To obtain documentation”, for detailed information on how to obtain IMS Solution documentation.

# To obtain documentation

IMS Solution and product documentation is available to IMS Solution customers through OnLine Customer Support (OLCS).

To navigate OLCS, do the following:

1. Go to (https://support.alcatel-lucent.com/portal/productIndexByCat.do).
2. After a successful login, select **Services Collaboration** from the list on the left side of the page.
3. Select **IMS Solutions** from the list in the middle of the page.

From here, you can access the documentation through either the **IMS Solution Level Documentation** section or by selecting a network element from the **Links to network elements in the IMS Solution** section.

# 2 New features

## Overview

### Purpose

This chapter lists the features included in Release 08.02.01.

## New features

The following features are included in this release:

**Table 2-1 Features released in 08.02.01**

| Feature Number | Feature Title |
|---|---|
| 13987.30 | Presence Content XDMS |
| 13987.31 | RCS 1.0 support by PS/XDMS 5.0 |
| 33333.140 | IMS Solution Level Software Upgrade Development & Test for IMS 8.1 to IMS 8.2 Software Upgrade Path |
| 33333.243 | Test of NNI interface for XDMS 5.0 in IMS 8.2 |
| 33333.255 | RCS 1.0 Testing of Tri-Op Functions |
| 33333.261 | Early IMS Security Testing with 8650 SDM in IMS8.2 |
| 33333.304 | IMS 8.2 O&M End to End Testing |

# Functionality

See the specific NE documentation for configuration information.

# Enhancements

There are no non-feature enhancements in this release.

# 3 Test results

## Overview

### Purpose

This chapter provides information on test execution and pass rates.

## Test results/exit criteria

The following table shows the results of the IMS 08.02.01 test program. See Table 6-1 for exceptions.

**Table 3-1 NLT test results**

| Solution | Progress Rate | Quality (Pass Rate) | Exit Criteria Status (Reached/Not Reached) |
|---|---|---|---|
| ***Feature test on IMS08.02.01*** | 100% | 97.1% | Reached |
| ***total*** | 100% | 97.1% | |

# 4 Changes to fault management, ports, protocols, and parameters

## Overview

### Purpose

This chapter describes fault management changes (interfaces, alarms, and messages), port and protocol, and system parameter changes in this release.

## Interface changes

### Changes to Northbound Interfaces

No northbound interface changes have been reported for this release.

### Changes to Southbound Interfaces

Please consult the NE-specific documentation for southbound interface changes in this release.

## Alarm changes

No alarm changes have been reported for this release.

## Message changes

Please consult the NE-specific documentation for new messages or changes to messages in this release.

## Port changes

No port changes have been reported for this release.

## Protocol changes

No protocol changes have been reported for this release.

## System parameter changes

No system parameter changes have been reported for this release.

# 5 Resolved issues

## Overview

### Purpose

This chapter describes customer-reported ARs and NLT-reported problems resolved in this release.

There are no customer-reported or NLT-reported problems for IMS Release 08.02.01.

# Resolved issues

This section does not apply to this release since there are no customer-reported or NLT-reported problems.

# 6 Known issues

## Overview

### Purpose

This chapter describes NLT-reported issues that remain open in Release 08.02.01.

# Known issues and workarounds

As of August 2009, no customer-reported ARs have been opened against this release.

Table 6-1 lists the severity 2 issues that were not resolved in the network element loads that are part of this release.

**Table 6-1 NLT-reported severity 2 open issues from IMS 08.02.00**

| NE to Lead | Resolve Rls | Fixed in Load | Current Status | Solution(s) | Exception Description | Impact Statement / Workaround |
|---|---|---|---|---|---|---|
| 8650 SDM | IMS 08.02.02 | Under Investigation | In Progress | ECS / RCS | A conf.ini and network.ini files creation guide needs to be put in install. doc. | Service Impacted:<br>Documentation enhancement to fill in the configuration files<br>Impact:<br>Installation improvement |
| ACME 4250 | IMS 08.02.02 | Under Investigation | Under Investigation | ECS/RCS | Subscribe message sent from a user defined as ANONYMOUS is rejected by ACME. | Service Impacted:<br>Retrieve the service capabilities of another user with anonymous fetch operation<br>Consequence:<br>When ACME is used at the access, the anonymous user cannot retrieve the service capabilities supported by another user. For mobile access, ACME is not used and the anonymous user can successfully retrieve the service capability.<br><br>This issue only concerns fixed access which is using the ACME. |

| NE to Lead | Resolve Rls | Fixed in Load | Current Status | Solution(s) | Exception Description | Impact Statement / Workaround |
|---|---|---|---|---|---|---|
| PS/XDMS | IMS 08.02.02 | 5.0 SP1.2 | On Target | ECS | Revoke a contact that doesn't work in NNI configuration. | Service Impacted:<br>Revoking a user from its contact list when this user is in another IMS network (If user A revokes the Presence Relationship with user B, both users shall no longer receive any more updates of their Presence Information for a certain period of time specified by User A).<br>Consequence:<br>User A is able to revoke User B, however, User A still appears offline in User B's address book. |

# 7 System requirements

## Overview

### Purpose

This chapter describes IMS GUI Java dependencies and compatibility restrictions.

## Software requirements

### IMS GUIs JAVA Dependency

Table 7-1 shows IMS GUIs with Java installation dependencies (listed in order of installation sequence).

**Table 7-1 IMS GUIs with Java installation dependencies**

| | |
|---|---|
| LCP MI GUI | Java installed per link provided during initial start of MI GUI (Java 1.5.0_06) |
| XMC GUI | Java installed per link provided during initial start of MI GUI (Java 1.5.0_15) |

The following NE GUIs do not have Java dependencies: 5420 CTS, 5450 ISC, 1310 OMC-P, 5900 MRF.

### SUN Operating System Patch Level for Non-Integrated Components

Table 7-2 shows the SUN OS patch level for non-integrated components.

**Table 7-2 SUN OS system patch level for non-integrated components**

| Network Element | OS Level |
|---|---|
| VitalQIP Enterprise | Solaris 10 Generic_127111-09 |
| VitalQIP DNS | Solaris 10 Generic_127111-09 |
| 1310 OMC-P | Solaris 10 Generic_127111-09 |

# Software licensing keys

This section does not apply to this release. See the specific NE documentation for more information.

# Hardware requirements

Specific hardware requirements are addressed by the network element level release notes and documentation.

# Compatibility restrictions

Backward compatibility is supported for the IMS solution software upgrade sequence from IMS 08.01.00 or IMS 08.01.01 to IMS 08.02.01. See the *IMS Solution Release 08.01.00 Software Upgrade* document, 275-100-035R08.01.00, and specific NE documentation for more information. The specific upgrade path must be provided by each network element.

# 8 Installation and upgrade notes

## Overview

### Purpose

This chapter provides information on installation, upgrade procedures and security hardening.

## Performing first-time installation

Contact your Alcatel-Lucent representative for first-time installation assistance.

## Performing upgrades

The following solution-level document describes the recommended installation and upgrade sequence for the IMS network elements:

- *Alcatel-Lucent IP Multimedia Subsystem Release 08.01.00 Software Upgrade* 275-100-035R08.01.00

## Upgrade paths

Upgrade to IMS 08.02.01 is supported from IMS 08.01.00 or IMS 08.01.01. Network Elements may require multiple transitions to go from IMS 08.01.00 or IMS 08.01.01 to IMS 08.02.01; refer to the specific NE documentation for further details.

# Security hardening

Security hardening procedures and information for IMS release NEs are on OLCS. Go to: https://services.support.lucent.com/services/, click on IMS Solutions, then click on the security hardening IMS Release. From this page, you can click on each NE for security hardening details.

# Feature activation

Feature activation is done at the NE-level. Please consult with your Alcatel-Lucent customer support team for more information.

# Obtaining and installing third-party software

Contact your Alcatel-Lucent customer support team for more information.

# A Release 08.02.01 Solution Documentation Impacts

## Purpose

This appendix includes the Release 08.02.01-impacted sections of the *IMS Solution Technical Description* document, *IMS Solution Growth* document, the *IMS Interface Changes Specifications* document, the *IMS Solution System Parameters* document, and the *IMS Solution Ports and Protocols* document.

The following features impact the *Technical Description* document:

- 13987.30 – Presence Content XDMS ( located on attached pages 3-27 – 3-31, 3-39 – 3-41, 3-108-109)
- 13987.31 – RCS 1.0 support by PS/XDMS 5.0 (located on attached pages 3-27 – 3-41)
- 33333.243 – Test of NNI interface for XDMS 5.0 in IMS 8.2 (located on attached pages 3-29 – 3-31)
- 33333.255 – RCS 1.0 Testing of Tri-Op Functions (located on attached pages 3-108 – 3-109, 10-23 – 10-24)
- 33333.261 – Early IMS Security Testing with 8650 SDM in IMS8.2 (located on attached pages 7-37 – 7-39)

The *Interface Changes Specifications* document is impacted on the following pages:

- 1-4

The *Growth* document is impacted on the following pages:

- 4-4 – 4-7

The *System Parameters* document is impacted on the following pages:

- 2-2, 5-2, 30-2, 36-2 – 36-6

The *Ports and Protocols* document is impacted on the following pages:

- 2-1 – 2-2, 3-1 – 3-2, 4-1, 6-1, 22-1 – 22-2, 25-1 – 25-2

# 5410 PS

## Purpose

This topic describes the 5410 Presence Server (PS).

## Functions

The 5410 PS is a SIP application server in IMS.

The 5410 PS provides the following services:

- Presence services in accordance with the Open Mobile Alliance Presence Model
- Interoperability between servers and devices for managing user presence information
- Service enabler for other services which can retrieve presence information to enhance a service

The 5410 PS provides the following functions:

| Functions | Description |
|---|---|
| PS | • Collects presence information from presentities and notifies watchers.<br>• A presentity is a person, service, or device that publishes presence information to a presence server.<br>• A watcher requests presence information from a presence server, it provides requested information to watcher<br>• Allows the subscriber to publish a link to their status-icon in their presence information to support the dynamic avatar (icon) feature in Rich Communication Suite. |
| Resource List Server | Manages subscriptions to presence lists (resource-lists), which enables a watcher application to subscribe to the presence information of multiple presentities using a single subscription transaction. |
| Access control | Applies presence rules. Presence rules define access policies for subscriptions. |
| Presence Network Agent (PNA) | Collects presence information from network equipment. |
| Presence User Agent (PUA) | Collects presence information about presentity. |

The 5410 PS provides the following services to support RCS 1.0:

- Store and notify presence information of all contacts in the contact list
- Store and Notify status-icon link to support dynamic avatar (icon)
- Store and notify the person elements in the presence document

- Store and notify the permanent presence state
- Handle anonymous authorization rule

The 5410 PS is managed using a GUI. This interface is based on the 5400 IAS GUI. The 5410 PS provides an additional GUI, which is integrated in the 5400 IAS GUI.

The 5410 PS is not provisioned directly by the 8950 SAM but requires initial filter criteria (iFC) in the HSS. If there is an eSM in the system, the iFC resides in the 1440 USDS. If there is a 8650 SDM in the system, the iFC resides in the 8650 SDM.

### Supported hardware platforms

The 5410 PS runs on the 5400 Advanced Telecommunications Computing Architecture (ATCA) platform and HP DL380.

### Supported interfaces

The 5410 PS supports the following interfaces:

| Interface | between... | and... |
|---|---|---|
| ISC | S-CSCF | 5410 PS |
| Ma | I-CSCF | 5410 PS |
| Pen (SIP) | PNA | 5410 PS |
| Peu (SIP) | PS | PUA |
| SNMP (fault management, performance management) | 5410 PS | 1300 XMC |
| Sh | 5410 PS | HSS |

### Supported northbound systems

The 1300 XMC provides fault management and performance management functionality for the 5410 PS.

### Charging

The 5410 PS does not support charging functions.

### Product documentation

For details on the 5410 PSand a full list of Presence-related specifications, refer to *Alcatel-Lucent 5410 Presence Server Reference Guide,* 3BL 76751 0401 RKZZA.

# 5410 XDMS

## Purpose

This topic describes the 5410 Extensible Markup Language (XML) Document Management Server (XDMS).

## Functions

The 5410 XDMS is a SIP application server and an XCAP server in IMS.

The 5410 XDMS provides the following functions:

- Functionality for contact lists.
- Users can create and maintain address lists that are accessible from any service and from any device. It provides interoperability between servers and devices for managing user information.
  The search function has the capability of searching for user profiles (in shared profile, XDMS) and searching for groups of users (in shared group, XDMS).
- Acts as a service enabler for other services which can retrieve presence information to enhance a service.
  Stores and handles access to presence authorization rules, contact lists, user profiles, and shared groups.
- Retrieves and stores the status-icon in the Presence content XDMS to support the dynamic avatar (icon) feature in Rich Communication Suite.
- The XDMS shared group manages new XML shared group document and associated extended group advertisements. The 5410 XDMS includes an Aggregation proxy to route XCAP requests to the proper XDMS servers.

### Services

The 5410 XDMS provides the following services to support RCS 1.0:

- Store and retrieve the status-icon in the Presence content XDMS to support the dynamic avatar (icon) feature.
- Retrieve the status-icon information from an XDMS located in another operator's network. For this purpose, the 5410 XDMS includes Cross network proxy.
- Support telephone URI in international public telecommunication number format.
- Store the presence authorization rules.
- Maintain the rcs list that includes all the authorized contacts of the user.

### Aggregation proxy

The Aggregation proxy is the only contact point for the XDM client to access XML documents stored in XDMS.

The Aggregation proxy performs the following functions:

- User authentication using the HTTP Digest authentication scheme
- External authentication mapping using the CustomPatchProxylet to retrieve the user identity from the header set
- Alias management
- Routing XCAP requests to the XDMS or to the Cross Network proxy
- OMA directory processing to build the final response to the XDM client
- XCAP-capabilities processing to build the final response to the XDM client
- Tracking XCAP requests using access logs
- Forwarding search requests and search responses between the client and the search function

#### Cross network proxy

The Cross network proxy acts as a single point to handle XCAP requests over trusted connections between two networks.

The Cross network proxy performs the following functions:

- Authorization of trusted network
- Routing individual outgoing XCAP requests to the Cross network proxy of the remote network
- Routing individual incoming XCAP responses to the Aggregation proxy
- Secured data transfer between two networks

#### Configuration management

The 5410 XDMS has a native web-based GUI that supports configuration management functionality.

The 5410 XDMS is not provisioned directly by the 8950 SAM but requires initial filter criteria (iFC) in the HSS. If there is an eSM in the system, the iFC resides in the 1440 USDS. If there is a 8650 SDM in the system, the iFC resides in the 8650 SDM.

### Supported hardware platforms

The 5410 XDMS runs on the 5400 Advanced Telecommunications Computing Architecture (ATCA) IMS Application Server (AS) and HP DL380.

### Supported interfaces

The 5410 XDMS supports the following interfaces:

| Interface | between... | and... |
|---|---|---|
| ISC | S-CSCF | 5410 XDMS |

| Interface | between... | and... |
|---|---|---|
| Ma interface | I-CSCF | 5410 XDMS |
| SNMP (fault management, performance management) | 5410 XDMS | 1300 XMC |
| Ut (XCAP) | 5410 XDMS | UE |
| XCAP | 5410 XDMS | Acme Packet® Net-Net® Session Director |
| Sh | 5410 XDMS | HSS |
| SIP | 5410 XDMS | 7510 MG |

### Supported northbound systems

The 1300 XMC provides fault management and performance management functionality for the 5410 XDMS.

### Charging

The 5410 XDMS does not support charging functions.

### Product documentation

For more information on the 5410 XDMS, refer to the *Alcatel-Lucent A5350 XDMS Reference Guide,* 3BL 77755 0400 RKZZA.

# Rich Communication Suite

### What is RCS?

Starting with IMS Release 7.1, the Alcatel-Lucent IMS architecture is compatible with Rich Communication Suite (RCS) 1.0.

RCS is an industry effort focused on the use of IMS for enabling mobile phones with rich communication.

### Services

RCS phase 1.0 provides the following services:

- Enhanced Address Book: Presence information integrated into the phonebook interface.
- Presence information with dynamic avatar (icon) supported by Presence Content XDMS.
- Sharing of social presence information with a list of contacts agreed by the subscriber.
- Fetching capability of all contacts in the contact list.
- File transfer as in Open Mobile Alliance (OMA) Instant Messaging (IM) SIMPLE 1.0.
- Peer-to-peer chat service and Group chat:
  - Ad hoc group messaging session as in OMA IM SIP SIMPLE 1.0
- Content Sharing:
  - Video Share
  - Image Share
- Enhanced services:
  - Hyper Availability to express the desire of the subscriber to communicate with contacts in the contact list.
  - Permanent presence state
  - Presence authorization rules such as Anonymous authorization rule, Own authorization rule, Default presence authorization rule
  - Favourite link setting
  - Note with a maximum of 100 characters along with emoticons

### Capabilities

RCS provides the following capabilities:

- Wide and large-scale IMS deployment
- Inter-operability between different terminal vendor RCS clients
- RCS service inter-working between operators

### Supported access networks

RCS supports the following access networks:

- WCDMA
- EDGE

### Supported application servers

The Alcatel-Lucent RCS is supported by the following application servers:

- 5410 PS
- 5410 XDMS
- 5430 MMIM

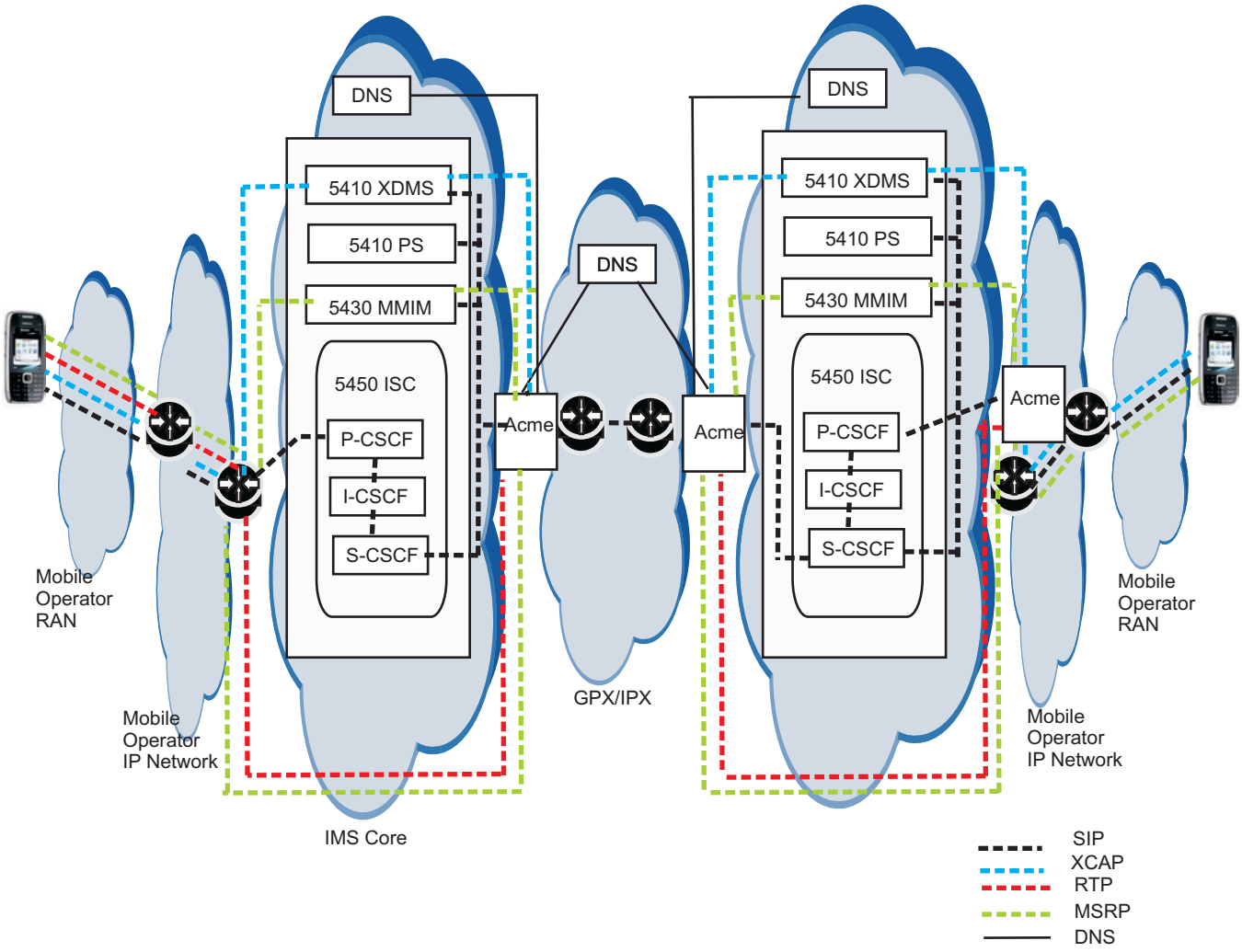
### Standard compliance

The RCS supporting application servers 5410 PS, 5410 XDMS, and the 5440 PC Client are compliant with OMA release V1.1 and to the standards that are referenced by OMA release V1.1 for the Presence and XDMS services.

The 5410 XDMS and the 5440 PC Client are also compliant with OMA V2.0 limited to status-icon handling.

### Supported architecture

The RCS supports the following architecture:




## Supported clients and terminals

The Alcatel-Lucent RCS is supported by the 5440 PC Client.

The Alcatel-Lucent RCS solution is inter-operable with RCS phase 1.0 compliant terminals.

## References

Refer to the 5410 PS, 5410 XDMS, 5430 MMIM, and 5440 PC Client product descriptions.

# 5440 PC Client

## Purpose

This topic describes the 5440 PC Client.

## Functions

The 5440 PC Client is a PC-based application that offers instant communication services such as voice and video telephony to end users (subscribers).

The 5440 PC Client provides the following services:

- Audio calls
- Video calls
- Video share
- Call log, call forwarding, call blocking
- Personal address book with presence information and dynamic avatar (icon)
- Personal profile
- Messaging including instant messaging, SMS, and MMS
- History of audio, video and messaging sessions
- MS outlook add-in to access 5440 PC Client with MS Outlook
- Anydial add-in to place calls to a valid phone number on a web page

The 5440 PC Client supports the following services in RCS 1.0:

- Sharing of social presence information with a list of contacts agreed by the subscriber.
- Presence information with dynamic avatar (icon) supported by Presence Content XDMS.
- Subscribers with telephone URI in international public telecommunication number format.
- Overriding willingness and hyper availability
- Favourite link (e.g. Homepage)
- Presence caching and persistence data
- Anonymous service retrieval

The 5440 PC Client has an integrated soft phone for voice and video calls. However, the client can be deployed without the integrated soft phone, in which case calls can be made using the associated phone.

The 5440 PC Client interacts with the 5430 MMIM server to provide messaging services.

### Supported hardware platform

The 5440 PC Client is installed on the end user's PC operating on Microsoft Windows 2000, XP, or Vista.

### Supported interfaces

The 5440 PC Client supports the following interfaces:

| Interface | between... | and... |
|---|---|---|
| SIP | 5440 PC Client | 5410 PS |
| SIP , XCAP | 5440 PC Client | 5410 XDMS |
| HTTP, HTTPs | 5440 PC Client | 5420 PCM |
| SIP | 5440 PC Client | 5420 CTS |
| SIP, MSRP | 5440 PC Client | 5430 MMIM |

### Supported northbound systems

The northbound systems are not applicable for the 5440 PC Client.

### Charging

The 5440 PC Client does not perform any charging function.

### Product documentation

For more information on 5440 PC Client, refer to the *5440 PC Client User Guide,* 270-713-051.

# RCS services

## Purpose

This topic provides general descriptions of the Rich Communication Suite services that are supported in IMS.

## Supported services

The following services are supported in RCS 1.0:

- Address book
- File transfer
- Messaging services
- Content sharing services

## Address book

The address book stores the details of all the contacts in the contact list along with dynamic presence information. The RCS supports the contacts with the international public telecommunication number format.

The RCS provides the following address book services:

- Enhanced address book
- Network address book

### Enhanced address book

The enhanced address book stores the contact details and the presence information related to overriding willingness and hyper availability, status-icon, homepage, the note, and the emoticons. The enhanced address book also stores the supported services for the subscriber. The subscriber can make a call or start a chat session using the contact details in the enhanced address book.

### Network address book

The network address book stores the published profile of all the subscribers in the network. The subscribers can retrieve a contact's published profile from the network address book, but cannot make any changes to the published profile on the network.

## File transfer

The file transfer service helps the subscribers to send and receive files from the contacts in the contact list. The subscriber can send a file to multiple contacts. A dedicated SIP session and MSRP connection is established to transfer the file. The RCS supports the file transfer even when the sender or the receiver is involved in a chat session.

### Messaging services

The messaging services allow the subscribers to send and receive instant messages, SMS, and MMS to the contacts stored in the address book.

### Content sharing

The RCS supports the following sharing services:

- Video share
- Image share

#### Video share

The video share service helps the subscribers to establish a video share call and transfer the video. The shared video can either be a pre-stored video or live video. The video transfer is initiated either by the subscriber or by the called party.

#### Image share

The image share service helps the subscribers to establish an image share call transfer the image. The image share is initiated either by the subscriber or by the called party.

### Products supporting RCS services

| Service | Product |
|---|---|
| Address book service with presence information | 5410 PS |
| File transfer | Supported by core IMS network |
| Messaging services | Supported by core IMS network |

# IMS authentication schemes

## Introduction

An IMS user must be authenticated before they can register successfully with IMS.

The CSCF supports the authentication of both registered and unregistered UEs. The user identities in the SIP message are used to authenticate each subscriber.

The IMS authentication schemes are:

1. HTTP Digest with Message-Digest algorithm 5 (MD5)
2. IMS Authentication and Key Agreement (AKA)
3. Early IMS Security (EIS)
4. Network Attachment Sub-System (NASS)-Bundled

**Note:** No authentication is a valid option for IMS 7.0.

## Handling of SIP Register message in IMS releases

Prior to IMS 7.0, when the SIP REGISTER message did not have the authorization header, the I-CSCF would perform the User Authentication Request (UAR) query on the HSS (on the USDS) by setting the private user identity (ID) to 0. This is a proprietary interface between the USDS and the CSCF on the 5450 ISC.

Starting with IMS 7.0, the IMS has a new I-CSCF function to challenge or reject the SIP REGISTER request when the request does not provide the I-CSCF with the private user ID needed for the HSS query. The challenge option is applicable to all authentication schemes except the EIS scheme where the authorization header is used. With the new challenge option at the I-CSCF, the I-CSCF generates the 401 unauthorized message instead of the S-CSCF, to challenge the UE for a private user ID.

## HTTP Digest with MD5

The HTTP Digest authentication may be used in UE registration of all access types except GSM GPRS. When this authentication is used, the SIP REGISTER message from the UE may or may not contain the authorization header. If the SIP REGISTER messages do not contain the authorization header, the I-CSCF may challenge, reject, or query the HSS with private user ID set to zero.

**Reference:** For information on call flows based on HTTP Digest with MD5 authentication, refer to the *User Equipment registration message flow (Using HTTP Digest with MD5)* section in *IMS call flows* chapter.

## IMS AKA

IMS AKA is the mutual authentication scheme mandated by 3GPP/3GPP2 between the UE and the IMS home network.

For the AKA authentication scheme, the SIP REGISTER message must have an authorization header. Any non-secure message without an authorization header will be rejected. In this authentication scheme, the HSS and the Universal Subscriber Identity Module (USIM) and IP Multimedia Services Identity Module (ISIM) share a long-term key associated with the private user ID.

In this scheme, the CSCF supports the following:

- Retrieval of AKA authentication vectors from the HSS
- Validation of user authentication
- Authentication failures including user authentication failure, network authentication failure, incomplete authentication failure, and synchronization failure

This scheme uses the Digest-AKAv1-MD5 algorithm to map AKA parameters to the HTTP Digest authentication.

### EIS

Early IMS Security (EIS), by 3GPP is for UEs that do not support USIM and ISIM. Typically, this mechanism is required by operators deploying over GSM GPRS access transport where UEs are on existing GSM mobiles.

In EIS, the REGISTER message does not use the authorization header. The I-CSCF derives the IP Multimedia Private Identity (IMPI) from the Temporary IP Multimedia Public Identity (IMPU), and uses it when sending the UAR. The EIS supports mapping of one IMPI to multiple IMPUs. For each subscriber, there should be at least one IMPU derived from IMSI. The IMSI is used only for UE registration.

The P-CSCF inserts the source IP address in the **`received`** parameter in the Via Header for SIP messages. The S-CSCF communicates with the HSS to validate the IP address in the Via Header against the UE's IP address stored during registration. Both the 1440 USDS HSS and the 8650 SDM HSS support this validation function.

The S-CSCF also checks whether the P-CSCF serves the GPRS access type. If the access type is not GPRS, the S-CSCF sends a `403 forbidden` message indicating to the UE that the access type is not supported.

The EIS solution works by creating a secure binding in the HSS between the IMPI/IMPU and the UE's IP address stored during registration. Thus, the IMS level signaling and the IMS identities claimed by the subscriber can be securely connected to the domain.

When the EIS authentication mechanism is used, there is no authentication challenge (there is no REGISTER/401 for registration procedures).

**Reference:** For information on call flows based on EIS authentication scheme, refer to *User Equipment registration message flow (Using EIS)* section in *IMS call flows* chapter.

### EIS limitations

The EIS has the following limitations:

- The GPRS Gateway Support Node (GGSN) must be in the home network.
- There is a one-to-one relationship between the IMSI for GPRS access transport and the IMPI for IMS.
- The same IP Multimedia Public User Identity (IMPU) can only be associated with one IMPI (for each terminal).
- There is no Network Address Translation (NAT) present between the GGSN and the P-CSCF.
- The Via Header remains unchanged between the UE and the S-CSCF for requests and responses sent from the UE to the S-CSCF. The S-CSCF assumes that the Via Header from the UE is the last Via Header in UE-originated SIP requests.

### NASS-Bundled

The NASS-Bundled authentication scheme is defined by TISPAN to authenticate UEs, using the user location. This authentication mechanism is required by operators that have NASS-enabled DSL access transport.

For the NASS-Bundled authentication scheme, the REGISTER message may or may not have the private user ID in the REGISTER message. When the REGISTER message does not have the authorization header, the I-CSCF either rejects the REGISTER and sends a `403 forbidden` message to the UE or sends a `401 unauthorized` message to challenge or query the UE by setting the private user identity to 0. The I-CSCF supports this proprietary extension to the Cx interface.

**Reference:** For information on call flows based on NASS-Bundled authentication scheme, refer to *User Equipment registration message flow (Using NASS-Bundled)* section in *IMS call flows* chapter.

# Summary of changed interfaces between release 08.01.00 and release 08.02.00

## Purpose

This topic provides a summary of the changed interfaces between IMS release 08.01.00 and release 08.02.00.

## Summary of interface changes

**Important!** A change in a network element software release does not automatically mean that the interfaces supported by the network element have changed.

The following table lists the network elements and indicates if their interfaces have changed between IMS release 08.01.00 and release 08.02.00:

| Product | Product release for IMS 08.01.00 | Product release for IMS 08.02.00 | Supported interface(s) | Interface(s) changed<br>• Y (yes)<br>• N (no) |
|---|---|---|---|---|
| 1300 Convergent Network Management Center (CMC) | 2.1.7 | 2.1.8 | SNMP | N |
| | | | FTP | N |
| | | | SOAP XML | N |
| | | | HTTP/HTTPS | N |
| | | | MTOSI | N |
| | | | SFTP | Y |
| | | | LDAP | Y |
| | | | IPSEC | Y |
| 1300 Cross Domain Management Center (XMC) | 6.2.2.5 | 6.2.2.5 | HTTP/HTTPS | N |
| | | | SNMP | N |
| | | | SOAP/XML | N |
| | | | XML via FTP/Secure FTP | N |

| Product | Product release for IMS 08.01.00 | Product release for IMS 08.02.00 | Supported interface(s) | Interface(s) changed<br>• Y (yes)<br>• N (no) |
|---|---|---|---|---|
| 1310 Operations and Management Console – Provisioning (OMC-P) | R13.2 | R13.2 | SNMP | N |
| | | | XML | N |
| | | | FTP/Secure | N |
| | | | FTP | N |
| | | | FTP GET | N |
| | | | XML SOAP | N |
| 1440 Operations and Maintenance Center - HSS and HLR (OMC-H) | R7.7 | R7.7 | ASCII | N |
| | | | SNMP | N |
| | | | FTP/SFTP | N |
| | | | CORBA | N |
| | | | SSH | N |
| 5020 Media Gateway Controller -12 (MGC-12) | MGCSX30 NGVI SP2 | MGCSX312 NGVI SP3 | SNMP | N |
| | | | FTP/sFTP | N |
| 5100 Converged Messaging System (CMS) | R10 SU3 | R10 SU3 | FTP | N |
| | | | SNMP | N |
| | | | HTTP/HTTP(s) | N |
| | | | LDAP | N |
| 5400 IMS Application Server (IAS) | R 1.3.3 | R 1.3.3 | CORBA | N |
| | | | SOAP/XML | N |
| | | | FTP/SFTP | N |
| | | | SNMP | N |
| 5400 Intelligent Services Gateway (ISG) | 8.1 | 8.1 | SNMP | N |
| 7302/7330 Intelligent Services Access Manager - Voice (ISAM-V) | R3.7 | R3.7 | SNMP | N |

| Product | Product release for IMS 08.01.00 | Product release for IMS 08.02.00 | Supported interface(s) | Interface(s) changed<br>• Y (yes)<br>• N (no) |
|---|---|---|---|---|
| 8610 Instant Convergent Charging (ICC) | 4.6.2 Data MD02 | 4.6.2 Data MD02 | Ro (Diameter) | N |
| | | | SNMP | N |
| | | | SOAP | N |
| 8615 Instant Enhanced Charging Collection Function (IeCCF) | 26 SU8<br>MAS 26 SU8 | 27 SU5<br>MAS 27 SU2 | Bx | Y |
| | | | Ga | Y |
| | | | Rf (Diameter) | Y |
| | | | Sh | N |
| | | | Ro (Diameter) | N |
| 8650 Subscriber Data Manager (SDM) | R2.0 | R2.0.1 | CORBA | N |
| | | | SNMP | N |
| 8950 Services Activation Manager (SAM) | On Sun/Linux platform: R16.0.2<br>On HP platform: R15.5.4 | On Sun/Linux platform: R16.0.2 SU1<br>On HP platform: R15.5.4 | LDAP | N |
| | | | SOAP/XML | N |
| | | | SNMP | N |
| | | | CORBA | N |
| ACME Element Management System (EMS) | 6.0.0p3 | 6.0.0p3 | SNMP<br>HTTP/HTTPS | N |
| Billing and Traffic System (BTS) | R6.4.1.0.15 | R6.4.1.0.15 | AMA/BAF | N |
| | | | CDR | N |
| Enhanced Services Manager (eSM) | R26 SU9 | R26 SU9 | CORBA | N |
| | | | XML/SOAP | N |
| VitalQIP Dynamic Host Configuration Protocol (DHCP) | R7.1 | R7.1 | SNMP | N |
| VitalQIP Domain Name System (DNS) | | | | |

| Product | Product release for IMS 08.01.00 | Product release for IMS 08.02.00 | Supported interface(s) | Interface(s) changed<br>• Y (yes)<br>• N (no) |
|---|---|---|---|---|
| VitalQIP tElephone NUmbering Mapping (ENUM) | R1.2 | R1.2 | SNMP | N |
| | | | XML/SOAP | N |

# 5420 CTS

## Growth guidelines

In IMS, the 5420 Converged Telephony Server (CTS) is a Session Initiation Protocol (SIP) telephony application server.

### Growing the 5420 CTS

While growing the 5420 CTS, the following considerations must be kept in mind:

- The 5420 CTS servers are addressed using a Fully Qualified Domain Name (FQDN), where the FQDN is defined as a domain name system record. The domain name system does not need to be updated with the Internet Protocol (IP) address(es) of the newly-grown hardware.
- The 5420 CTS servers must be defined in the Home Subscriber Server (HSS), created in initial Filter Criteria tables, and then subscribers must be assigned to the associated initial Filter Criteria.
- If needed, update the Charging Collection Function (CCF) to allow the newly-added 5420 CTS generate Accounting Request (ACR).

### New Ethernet inter-connections

No new Ethernet inter-connections are required if growing a blade on an existing 5400 LCP. New Ethernet inter-connections are required for new 5400 LCP instances.

### Updating the 5420 PCM

The 5420 PCM is an optional function of the 5420 CTS. The 5420 PCM can be used to activate and deactivate many 5420 CTS-based features and administer their associated data.

If the 5420 PCM supports 5420 CTS features, then the 5420 PCM must also be updated.

**Note:** The 5420 PCM was moved out from 5420 CTS R6.2. The 5420 LCM is supported in 5420 CTS 6.2.1 but not in 5420 CTS 6.2. From 5420 CTS 7.0, the name will be changed to 5420 PCM.

### Updating the 1310 OMC-P to support new hardware

The 1310 OMC-P must be re-synchronized if a blade is added or a new CTS is grown or added to support the newly-grown hardware. A new blade or CTS data is populated via either *base_cfg.ksh* or via FSGUI. A configuration synchronization is needed so that the 1310 OMC-P is aware about the blade.

### Provisioning via the 1310 OMC-P

The 8950 SAM provisions the 5420 CTS via the OMC-P. The 8950 SAM does not communicate with the 5420 CTS network elements directly and uses the OMC-P to provision the CTS.

The 8950 SAM must be connected to each of the 1310 OMC-P instances.

### Geographical-redundancy considerations

The 5420 CTS supports geographical-redundancy. If a CTS fails, it is isolated and will no longer be called by the 5450 ISC. The 5450 ISC calls an alternate CTS by the initial filter criteria. An interface between the primary and alternate CTSs keeps the subscriber data in sync. The growth is needed on both primary and protection sides.

## Reference

For 5400 LCP, refer to *Chapter 5, Manage system configuration – hardware growth in Alcatel-Lucent 5400 LCP Configuration Management,* 270-702-014.

For 1000 configurations, refer to *Part V, Configuration Management, Manage system configuration - hardware growth chapter* in *Alcatel-Lucent Control Platform 1000 Operations, Administration, Maintenance and Provisioning,* 275-900-882.

For 1800 configurations, refer to *Part V, Configuration Management, Manage system configuration - hardware growth chapter* in *Alcatel-Lucent Control Platform 1000/1800 Operations, Administration, Maintenance and Provisioning,* 275-900-872.

# 5410 PS

## Growth guidelines

In IMS, the 5410 Presence Server (PS) is a SIP application server supporting presence services.

**Note:** Alcatel-Lucent Services performs hardware growth for the 5410 PS.

### Growing the PS

The 5410 PS can be grown by the 5400 Advanced Telecommunications Computing Architecture (ATCA) platform growth and the HP DL380 growth.

The 5410 PS is grown in ATCA by adding new shelves or cabinets. The 5410 PS is grown in the HP platform by adding nodes. As new servers are added, the fully qualified domain name (FQDN) associated with these servers must be updated in the domain name system to allow the newly-grown server(s) to be accessed by other IMS elements. If existing FQDNs are used, no updates are required to the IMS elements. Once a new FQDN is introduced, IMS elements need to be updated to use the newly-created FQDN.

### Updating the 1300 XMC

The 1300 XMC provides fault management and performance management functionality for the 5410 PS, so updates are required on the 1300 XMC.

### New Ethernet connections

The 5410 PS connects to the core network via IP connections, so new Ethernet inter-connections are required.

## Reference

Refer to the *Alcatel-Lucent 5410 Presence Server Reference Guide,* 3BL 76751 0401 RKZZA.

# 5410 XDMS

## Growth guidelines

In IMS, the 5410 Extensible Markup Language (XML) Document Management Server (XDMS) is a SIP application server and an XML Configuration Access Protocol (XCAP) application server.

**Note:** Alcatel-Lucent Services performs hardware growth for the 5410 XDMS.

### Growing the XDMS

The 5410 XDMS can be grown by the 5400 Advanced Telecommunications Computing Architecture (ATCA) platform growth and the HP DL380 growth.

The 5410 XDMS is grown in ATCA by adding new shelves or cabinets. The 5410 XDMS is grown in the HP platform by adding nodes. As new servers are added, the fully qualified domain name (FQDN) associated with these servers must be updated in the domain name system to allow the newly-grown server(s) to be accessed by other IMS elements. If existing FQDNs are used, no updates are required to the IMS elements. Once a new FQDN is introduced, IMS elements need to be updated to use the newly-created FQDN.

### Updating the 1300 XMC

The 1300 XMC provides fault management and performance management functionality for the 5410 XDMS, so updates are required on the 1300 XMC.

### New Ethernet connections

The 5410 XDMS connects to the core network via IP connections, so new Ethernet inter-connections are required.

## Reference

Refer to the *Alcatel-Lucent 5410 XDMS Reference Guide,* 3BL 77755 0401 RKZZA.

# 1300 XMC

## System Parameters

| System Parameter/ Field/Attribute | Description | Range | Default Value | Notes |
|---|---|---|---|---|
| **XMC server general parameters** | | | | |
| XMC hostname | Hostname is configured on the XMC. | String | None | XMC hostname can only include letters, digits, or dash (-) characters. The first character must be a letter.<br>The hostname must not be set to 'xmc' or 'XMC' Strings.<br>It must be unique in the customer's network. |

# 1440 OMC-H

## System Parameters

| System Parameter/ Field/Attribute | Description | Range | Default Value | Notes |
|---|---|---|---|---|
| session_poll_period | The period in minutes to check that the opened user sessions are alive.<br>Requires stop and start of the process to load the new value | 10 seconds -<br>3600 seconds | 15 minutes | The value does not have any range but it is advisable to keep a low value as this is related to the heartbeat of the client. A higher value could increase the traffic between the OMC-H and the client. |

# 8650 SDM

## System Parameters

| SystemParameter/ Field/Attribute | Description | Range Value | Default Value | Notes |
|---|---|---|---|---|
| Password | HTTP Digest authentication Password data. Only digits and English letters will be allowed. | Type: string<br>Length: 4 to 32 | No default | Password. Optional |

# BTS

## System Parameters

| System Parameter/ Field/ Attribute | Description | Range | Default Value | Notes |
|---|---|---|---|---|
| GdiPath | GDI Date path. | | ./data | |
| EnableConfig-urableLDC | This parameter identifies what value is for the character 3 of Timing Indicator field in the last LDC record. | 0 or 1 | 0 | 0 -The character 3 of Timing Indicator field would be 2 or 9 for non-GR or GR last LDC record. (default) 1 - character 3 of Timing Indicator field would be 4 or 5 for non-GR or GR last LDC record. |
| IMSCallPty CategorModGen | Enables or disables the generation of Calling Party Category module for CTS. | 0 - Disable 1 - Enable | 0 | |
| IMSCall TypeModGen | Enables or disables the generation of module 616 for the IMS call type. | 0 - Disable 1 - Enable | 0 | |
| IMSWhole saleIdModGen | Enables or disables the generation of module 198 for the Calling Party and called party Wholesale ID. | 0 - Disable 1 - Enable | 0 | |
| IMSAccess NetworkId ModGen | Enables or disables the generation of module 198 for the IMS Access Network Information. | 0 - Disable 1 - Enable | 0 | |
| IMSAOC ModGen | Enables or disables the generation of module 621 for the Advice of Charge. | 0 - Disable 1 - Enable | 0 | |

| System Parameter/ Field/ Attribute | Description | Range | Default Value | Notes |
|---|---|---|---|---|
| IMSService InfoMod Gen | Enables or disables the generation of module 198 for the Service Identifier. | 0 - Disable<br>1 - Enable | 0 | |
| CGPNMode ForSDSTrig | For AIN SDS triggers, this parameter defines whether the original calling party number in incoming signaling message should be captured in the Originating Number field (Originating NPA and Originating Number) in structure code 625 (and optionally module 164), or the modified calling party number should be captured. | 0 - Record original calling party number<br>1 - Record modified calling party number | 0 | |
| ACMTime StampModule Gen | Enables or disables ACM timestamp module generation (Module 621). | 0 - Disable<br>1 - Enable | 0 | |
| ACMTime StampModule Cntxt | ACM timestamp module context. The default is set to 90051. | | 90051 | |
| ASCII FieldSeparator | The default field separator character in the ASCII billing CDR output is the comma. When this parameter is set to 1, a comma will be used as the field separator in the ASCII billing CDR. When it is set to 2, the pipe '\|' character will be used instead of the comma. | 1 or 2 | 1 | 1 - standard comma field separator (default) 2 - alternate pipe field separator. |

| System Parameter/ Field/ Attribute | Description | Range | Default Value | Notes |
|---|---|---|---|---|
| IMSCDR FileIntvl | Defines the IMS STATS CDR file interval when the StatsEnable parameter is set to 3. The default is every fiveMinutes. This is for the 5420 CTS only. | 5Minutes<br>15Minutes<br>30Minutes<br>1 Hour<br>I Day | | |
| PegReport Header | Specifies whether or not to include a Peg Counts report header. | 0 or 1 | 0 | 0 - Header is disabled (default)<br>1 - Include header |
| BH Granularity | Specifies the granularity of the busy hour calculation. | 5Minutes<br>30Minutes<br>1 hour | 30<br>Minutes | |
| ISDN_CCS _Report | Specifies whether or not to generate the ISDN CCS report. | 0 - Reporting is disabled<br>1 - Enable space delimited report<br>2 - Enable comma delimited report<br>3 - Enable both reports (default)" | 3 | |
| ISDN_CCS _FileIntvl | Defines the interval at which the ISDN CCS report file is created. The default is every hour. | 5 Min<br>15 Min<br>30 Min<br>1 Hour<br>I Day | 1hour | 5Min - 5 minutes<br>15Min - 15 minutes<br>30Min - 30 minutes<br>1Hour - 1 hour<br>1Day - 1 day |

| System Parameter/ Field/ Attribute | Description | Range | Default Value | Notes |
|---|---|---|---|---|
| PRI_CCS_ Report | Specifies whether or not to generate the PRI CCS report. | 0 - Reporting is disabled<br>1 - Enable space delimited report<br>2 - Enable comma delimited report<br>3 - Enable both reports (default) | 3 | |
| PRI_CCS_ FileIntvl | Defines the interval at which the PRI CCS report file is created. | 5 Min<br>15 Min<br>30 Min<br>1 Hour<br>I Day | 1 Hour | 5Min - 5 minutes<br>15Min - 15 minutes<br>30Min - 30 minutes<br>1Hour - 1 hour<br>1Day - 1 day |
| SnmpTrapId | Unique BTS SNMP Trap ID for OSS northbound system to recognize BTS element. | | The default is the Switch Prefix name. | |
| DialedDigits ModuleGen | Dialed Digits Module Generation. | 0,1,2,3 | 0 | 0 - Disable<br>1 - Generate Outpulse digits using Module 101<br>2 - Generate Outpulse digits using Module 621<br>3 - Generate dialed digits using Module 198 |

| System Parameter/ Field/ Attribute | Description | Range | Default Value | Notes |
|---|---|---|---|---|
| GdiHoldFor PriBts | This attribute is used along with GDI V2 otherwise not. | 0 or 1 | 0 | 0-Disable<br>1-Do not process the primary GDI files locally as this is a secondary BTS.<br>Files will be copied to a primary BTS for processing. |
| GdiMaxPriM Byte | This attribute is used along with GDI V2 otherwise not. The maximum mega bytes used for primary GDI files. | 0-2000 | 500 MB | |
| StatsEnable | Enables or disables the Enhanced Database Traffic Statistics. | 0 to 3 | 2 | 0 - Disable<br>1 - Enable Enhanced Database Traffic Statistics<br>2 - Enable TCA or tsaa traffic statistics (default)<br>3 - Enable for IMS CDR statistics |

# Ports and Protocols - 1300 Cross-Domain Management Center

## Overview

### Purpose

The following table provides a listing of the ports and protocols available from the 1300 XMC in the IMS Solution.

## 1300 XMC

| Destination Port(s) | Protocol | Service | Configurable | Firewall Impacting | Initiator/ Receiver | Flow | Description |
|---|---|---|---|---|---|---|---|
| **Flows between NMC and XMC server for 3GPP Northbound interface** | | | | | | | |
| 8081 | TCP | SOAP | No | Yes | NMC → XMC | Unidirec-tional | WSDL interface through specific URL |
| **Flows between XMC server and OMC-P** | | | | | | | |
| 8080 | TCP | SOAP/ HTTP | No | yes | XMC → OMC-P | Unidirec-tional | NE discovery |
| **Flows between PC and OMC-P** | | | | | | | |

| Destination Port(s) | Protocol | Service | Configurable | Firewall Impacting | Initiator/ Receiver | Flow | Description |
|---|---|---|---|---|---|---|---|
| 14000 | TCP | RMI | No | Yes | PC → NE | Unidirec-tional | Client-server communication for NE access |

# Ports and Protocols - 1310 Operations and Management Console - Provisioning

## Overview

### Purpose

The following table provides a listing of the ports and protocols available from the 1310 OMC-P in the IMS Solution.

## 1310 OMC-P

| Destination Port(s) | Protocol | Service | Configurable | Firewall Impacting | Initiator/ Receiver | Flow | Description |
|---|---|---|---|---|---|---|---|
| 22 | TCP | SSH | No | Yes | OMC-P ⇆ ALGP/LCP/ MAS User Client/OSS ⇆ OMC-P, OMC-P ⇆OMC-P | Bidirectional | Secure Shell for craft access and SFTP. |
| 8009 | TCP | AJP | No | No | OMC-P ⇆ OMC-P | Bidirectional | Internal only. AJP logging |

| Destination Port(s) | Protocol | Service | Configurable | Firewall Impacting | Initiator/ Receiver | Flow | Description |
|---|---|---|---|---|---|---|---|
| 8443 | TCP | HTTPS | Yes | Yes | OS ⇆ OMC-P | Bidirectional | Secured interface for OMC-P Web API (SOAP/XML API). |
| 9650 | TCP | XML | Yes | Yes | 1310 OMC-P ⇆ 5450 ISC, 5420 CTS | Bidirectional | 5060 ICS, 5420 CTS, 5450 ISC/IRC - destination port for configuration management. |
| 14014 | UDP | SNMP | Yes | Yes | PCM→ 1310 OMC-P | Unidirec-tional | Recomm-ended SNMP trap receiver port for PCM. Default is 14002. |
| 14016 | UDP | SNMP | Yes | Yes | MAS → OMC-P | Unidirec-tional | Default SNMP trap receiver port for MAS. |

**Notes:**

1. The term "ALGP" refers to the "Alcatel-Lucent Gateway Platform", which can be a media gateway (MG), media gateway controller (MGC), or signaling gateway (SG).
2. The "internal HSS" is a unique construct of the ICS configuration.

# 4 Ports and Protocols - 1440 Operations and Maintenance Center - Home Location Register

## Overview

### Purpose

The following table provides a listing of the ports and protocols available from the 1400 OMC-H in the IMS Solution.

## 1440 OMC-H

| Destination Port | Protocol | Service | Configurable | Firewall Impacting | Initiator/ Receiver | Flow | Description |
|---|---|---|---|---|---|---|---|
| 123 | UDP | NTP | No | Yes | OMC-H → NTP server | Unidirec-tional | Network time of day sync |

# 6 Ports and Protocols - 1540 Litespan

## Overview

### Purpose

The following table provides a listing of the ports and protocols available from the 1540 Litespan in the IMS Solution.

## 1540 Litespan

| Destination Port(s) | Protocol | Service | Configurable | Firewall Impacting | Initiator/ Receiver | Flow | Description |
|---|---|---|---|---|---|---|---|
| **LSE** | | | | | | | |
| 49152 to 52177 | UDP | RTP or RTCP | No | | LSE ⇄ Access Gateway | Bidirec-tional | |

# 22 Ports and Protocols - 5900 Media Resource Function

## Overview

### Purpose

The following table provides a listing of the ports and protocols available from the 5900 MRF in the IMS Solution.

## 5900 MRF

| Destination Port(s) | Protocol | Service | Configurable | Firewall Impacting | Initiator/ Receiver | Flow | Description |
|---|---|---|---|---|---|---|---|
| **MRFC** | | | | | | | |
| 8444 | TCP | HTTPS | No | Yes | Administra -tor → MCDP | Unidirec- tional | MCDP console |
| **MRFP** | | | | | | | |
| 10071 | TCP | sip_ thsdb | Yes | No | Internal communi -cation | Bidirectional | ACS internal communication |
| 10073 | TCP/UDP | tns | Yes | No | Internal communi -cation | Bidirectional | ACS internal communication |

| Destination Port(s) | Protocol | Service | Configurable | Firewall Impacting | Initiator/ Receiver | Flow | Description |
|---|---|---|---|---|---|---|---|
| 780 | TCP | sip_ thsdb | Yes | No | Internal communi -cation | Unidirec- tional | ACS internal communication |
| 840 | TCP | sip_ thsdb | Yes | No | Internal communi -cation | Bidirectional | ACS internal communication |
| 860 | TCP | sip_ thsdb | Yes | No | Internal communi -cation | Bidirectional | ACS internal communication |
| 2301 | TCP | hpsmhd | No | No | Internal communi -cation | Bidirectional | rotatelogs |
| 5061 | UDP | SIP | No | Yes | AS ⇆ MRF-P | Bidirectional | Signalisation SIP (MRFP) |
| 5432 | TCP | postmaster | Yes | No | Internal communi -cation | Bidirectional | ACS internal communication |
| 5560 | TCP | tp260dvr | No | No | Internal communi -cation | Bidirectional | ACS internal communication |
| 8080 | TCP | muxer | Yes | No | Internal communi -cation | Bidirectional | ACS internal communication |
| 2381 | TCP | hpsmhd | No | No | Internal communi -cation | Bidirectional | rotatelogs |
| 8443 | TCP | muxer | Yes | o | Internal communi -cation | Bidirectional | ACS internal communication |

# 25 Ports and Protocols - 7510 Media Gateway

## Overview

### Purpose

The following table provides a listing of the ports and protocols available from the 7510 MG in the IMS Solution.

## 7510 MGW

The following table provides a listing of some of the ports and protocols available from the 7510 MGW in the IMS Solutions.

| Destination Port(s) | Protocol | Service | Configurable | Firewall Impacting | Initiator/ Receiver | Flow | Description |
|---|---|---|---|---|---|---|---|
| 64981-64988 | UDP | TRACE-ROUTE | No | Yes | 7510MGW ⇆ IP network | Bidirectional | Destination ports |
| 64980-64987 | UDP | TRACE-ROUTE | No | Yes | 7510MGW ⇆ IP network | Bidirectional | source ports |
| 3784 | UDP | BFD | No | Yes | 7510 MG ⇆ BFD peer (Router) | Bidirectional | Port of BFD control packets. |

| Destination Port(s) | Protocol | Service | Configurable | Firewall Impacting | Initiator/ Receiver | Flow | Description |
|---|---|---|---|---|---|---|---|
| 3785 | UDP | BFD | No | Yes | 7510 MG ⇆ BFD peer (Router) | Bidirectional | Port of BFD echo packets. |

# Acronym List

**A**

**ATCA**
Advanced Telecommunications Computing Architecture

**AR**
Action Register

**C**

**CI**
Controlled Introduction

**CTS**
Converged Telephony Server

**G**

**GUI**
Graphical User Interface

**H**

**HSS**
Home Subscriber Server

**I**

**IeCCF**
Instant enhanced Charging Collection Function

**IMS**
IP Multimedia System

**IRC**
IP Resource Control

**ISC**
IP Session Control

**M**

**MRF**
Media Resource Function

**N**

**NE**
Network Element

**NLT**
Network Level Test

**O**

**OLCS**
OnLine Customer Support

**OMC-P**
Operations and Maintenance Console – Provisioning

**P**

**PS**
Presence Server

**S**

**SDM**
Subscriber Data Manager

**X**

**XDMS**
XML Document Management Server

**XMC**
Cross-domain Management Center