Oracle® Communications Convergent Charging Controller

Mobile Application Part (MAP) Protocol Implementation Conformance Statement

Release 6.0.1

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Contents

About This Document

Scope

This document defines the extent to which Messaging Manager complies with the Mobile Application Part of ETSI's GSM specification.

Audience

This document is intended to be read by Oracle staff. It has been prepared on the assumption that the reader is familiar with Messaging Manager as well as the short message capabilities of the GSM specification.

Document Conventions

Typographical Conventions

The following terms and typographical conventions are used in the Oracle Communications Convergent Charging Controller documentation.

Formatting Convention	Type of Information
Special Bold	Items you must select, such as names of tabs. Names of database tables and fields.
Italics	Name of a document, chapter, topic or other publication. Emphasis within text.
Button	The name of a button to click or a key to press. **Example:** To close the window, either click **Close**, or press **Esc**.
Key+Key	Key combinations for which the user must press and hold down one key and then press another. Example: **Ctrl+P** or **Alt+F4**.
`Monospace`	Examples of code or standard output.
`Monospace Bold`	Text that you must enter.
variable	Used to indicate variables or text that should be replaced with an actual value.
menu option > menu option >	Used to indicate the cascading menu option to be selected. Example: **Operator Functions > Report Functions**
hypertext link	Used to indicate a hypertext link.

Specialized terms and acronyms are defined in the glossary at the end of this guide.

Chapter 1

Messaging Manager and ETSI Document Versions

Overview

Introduction

This chapter defines the version of Messaging Manager and the ETSI document against which it is compared.

In this chapter

This chapter contains the following topics.

Messaging Manager

MMX implementation

This document states compliance for Messaging Manager version 3.1.1. The environment for this version of Messaging Manager is defined below:

- Target platform
  - Platform - SPARC Solaris
  - Operating system - SunOS 5.9
  - Database - Oracle 9.2.05
- Build environment
  - Compiler - GNU GCC 3.2.3
  - Binutils - GNU binutils 2.14
- Oracle packages
  - SMS 3.0
  - ACS 2.4
  - SLEE 3.2
  - Hughes IF 3.4.26

ETSI

ETSI documents

This statement of compliance refers to the two European Telecommunications Standards Institute (ETSI) documents listed below.

- *Digital cellular telecommunications system (Phase 2+); Mobile Application part (MAP) specification (GSM 09.02 version 7.5.0 Release 1998)*.

Note: For the purpose of this document, *Digital cellular telecommunications system (Phase 2+); Mobile Application part (MAP) specification (GSM 09.02 version 7.5.0 Release 1998)* will be referred to as *GSM 09.02*.

- *Digital cellular telecommunications system (Phase 2+); Technical realization of the Short Message Service (SMS) Point-to-Point (PP), (3GPP TS 03.40 version 7.5.0 Release 1998).*

  Note: For the purpose of this document, *Digital cellular telecommunications system (Phase 2+); Technical realization of the Short Message Service (SMS) Point-to-Point (PP), (3GPP TS 03.40 version 7.5.0 Release 1998)* will be referred to as *TS 03.40*.

Chapter 2

Compliance Statement

Overview

Introduction

This chapter identifies which MAP services are supported by Messaging Manager.

Given the specialised nature of Messaging Manager, and for the sake of brevity, only compliance with the Short Messaging Services is described in detail.

In this chapter

This chapter contains the following topics.

ETSI References

Convention

- Where possible the relevant clause number of *GSM 09.02* is included in brackets at the end of each topic title.
- In some cases *GSM 09.02* refers to clauses of *TS 04.03*. Where this happens, reference is made to *TS 04.03* in the compliance statement.

Specification Sections 7 through 11

Introduction

Statements of compliance with sections 7 through 11 of *GSM 09.02* follow.

Common MAP services

Messaging Manager complies.

Where used by Messaging Manager, map services are correctly mapped onto TCAP primitives.

Mobility services (8)

Messaging Manager does not comply.

Operation and maintenance services (9)

Messaging Manager does not comply.

Call handling services (10)

Messaging Manager does not comply.

Supplementary services related services (11)

Messaging Manager does not comply.

Short Message Service Management Services (12)

Introduction

Statements of compliance for clauses of section 12 of *GSM 09.02* follow.

MAP-SEND-ROUTING-INFO-FOR-SM service (12.1)

Messaging Manager complies.

Messaging Manager supports the receipt of these messages and Messaging Manager Navigator supports the construction of them.

The MAP-SEND-ROUTING-INFO-FOR-SM service takes 14 parameters. These are covered under the following headings.

- Invoke Id
- MSISDN
- SM-RP-PRI
- Service Centre Address
- SM-RP-MTI
- SM-RP-SMEA
- GPRS Support Indicator
- IMSI
- Network Node Number
- LMSI
- GPRS Node Indicator
- Additional Number
- User error
- Provider error

Invoke Id (7.6.1.1)

Messaging Manager complies.

Invoke Id is always zero for messages sent from Messaging Manager Navigator. Messaging Manager Navigator never sends two messages in the same dialogue.

MS ISDN (7.6.2.17)

Messaging Manager complies.

MS ISDN is mapped to the generic message's destination address.

SM-RP-PRI (7.6.8.5)

Messaging Manager complies.

SM-RP-PRI maps to the generic message's priority indicator with all but Normal mapping set to *true*.

Note: Messaging Manager Navigator caches HLR responses independently of this variable. If the cell phone's switched-off status is ignored, a high priority request may receive the same response as a previous low priority request.

Service centre address (7.6.2.27)

Messaging Manager complies.

- For inbound SRISMs, the service centre address is correctly proxied.
- For messages generated by Messaging Manager, the service centre address identifies the message centre associated with the inbound path.
- For messages constructed by ACS (Messaging Manager Navigator query nodes), this field is blank.

SM-RP-MTI (7.6.8.16)

Messaging Manager does not comply.

SM-RP-MTI is ignored by MTX and is not proxied to the HLR.

SM-RP-SMEA (7.6.8.17)

Messaging Manager does not comply.

SM-RP-SMEA is ignored by Messaging Manager and is not proxied to the HLR.

GPRS Support Indicator (7.6.8.15)

Messaging Manager complies.

- Received values are stored internally as the GprsSupported flag and correctly proxied to the HLR.
- For Messaging Manager generated messages, the configuration value from XMS.MAP.gprsSupport is used. All values are mapped to *true* except 'unsupported'.
- For ACS generated messages, the configuration value from RIMS.ChassisActions.RimsChassisAction.allowGPRS is used.

IMSI (7.6.2.1)

Messaging Manager complies.

IMSI is stored in MapTransaction's imsi variable. It is not stored in GenericMessage.

Network Node number (7.6.2.43)

Messaging Manager complies.

It is possible for the Network Node number to be the SGSN number in an HLR response.

LMSI (7.6.2.16)

Messaging Manager does not comply.

LMSI is the value returned by RIMS and stored in MapTransaction's lmsi variable. However Messaging Manager allows this lmsi to be sent to the SGSN and thus violates clause 7.6.2.16 of *TS 03.40*.

GPRS Node Indicator (7.6.8.14)

Messaging Manager complies.

Messaging Manager Navigator examines this field to determine the SGSN and Network Node numbers. The GPRS Node Indicator is not returned by Messaging Manager Navigator to Messaging Manager but Messaging Manager correctly constructs it for SRSIM responses.

Additional number (7.6.2.46)

Messaging Manager complies.

User error (7.6.1.4)

Messaging Manager does not comply.

On error, this field is not examined or acted upon.

Provider error (7.6.1.3)

Messaging Manager does not comply.

MAP-MO-FORWARD-SHORT-MESSAGE service (12.2)

Messaging Manager complies.

Messaging Manager supports receipt and construction of these messages.

The MAP-MO-FORWARD-SHORT-MESSAGE service takes seven parameters. These are covered under the following headings.

- Invoke Id
- SM RP DA
- SM RP OA
- SM RP UI
- IMSI
- User error
- Provider error

Invoke Id (7.6.1.1)

Messaging Manager complies.

SM-RP-DA (7.6.8.1)

Messaging Manager complies.

SM-RP-DA is stored in GenericSM's sMSCAddress field. For outgoing messages this field is populated from a lookup of the originating and destination addresses hashed together into a map of all known MSCs.

SM-RP-OA (7.6.8.2)

Messaging Manager complies.

SM-RP-OA is stored in GenericSM's originatingAddress field.

SM-RP-UI (7.6.8.4)

Messaging Manager complies.

The following three PDU-specific fields affect SM-RP-UI.

- SMS-DELIVER-REPORT
- SMS-SUBMIT
- SMS-COMMAND

SMS-DELIVER-REPORT (9.2.2.1a)

Messaging Manager does not comply.

SMS-DELIVER-REPORT is defined in *TS 03.40*.

Messaging Manager assumes that all received MO-Forward-SMs contain an SMS-Submit as the RP UI. SMS-Deliver-Report PDUs are never constructed by Messaging Manager.

SMS-SUBMIT (9.2.2.2)

SMS-SUBMIT is defined in *TS 03.40*.

A compliance statement for each element of SMS-SUBMIT is listed below.

Map field	GenericSM location	Compliance statement
TP-Message-Type-Indicator		Messaging Manager complies. TP-Message-Type-Indicator is not stored in Messaging Manager. All MO-Forward-SMs are assumed to be SMS-Submits.
TP-Reject-Duplicates	RejectDuplicates	Messaging Manager complies.
TP-Validity-Period-Format	ValidityPeriod	Messaging Manager complies.
TP-Reply-Path	ProvideReplyPath	Messaging Manager complies.
TP-User-Data-Header-Indicator	UserDataHeaderPresent	Messaging Manager complies.
TP-Status-Report-Request	StatusReportRequested	Messaging Manager complies. TP-Status-Report-Request turns on the smeRequested bit of statusReportRequested.
TP-Message-Reference	MessageReference	Messaging Manager complies.
TP-Destination-Address	destinationAddress	Messaging Manager complies.
TP-Protocol-Identifier	ProtocolIdentifier	Messaging Manager complies. Translated to Messaging Manager encoding via the protocolIdMap configuration option.
TP-Data-Coding-Scheme	MessageWaitingGroup, MessageWaitingType, MessageWaitingIndicator, currentAlphabet, MessageClass	Messaging Manager complies. The DCS itself is not stored internally. Its components are stored as separate variables.
TP-Validity-Period	ValidityPeriod	Messaging Manager complies.

Map field	GenericSM location	Compliance statement
TP-User-Data-Length	UserDataLength, userDataHeaderLength	Messaging Manager complies.
TP-User-Data	UserData, userDataHeader	Messaging Manager complies.

SMS-COMMAND (9.2.2.4)

Messaging Manager does not comply.

SMS-COMMAND is defined in *TS 03.40*.

Messaging Manager assumes that all received MO-Forward-SMs contain an SMS-Submit as the RP UI. SMS-Command PDUs are never constructed by Messaging Manager.

IMSI (7.6.2.1)

Messaging Manager complies.

For MAP version 3, the incoming IMSI is stored in OriginatingImsi and sent to Messaging Manager Navigator where it updates the cache. If the originating imsi is present, outgoing messages have the originating imsi set.

User error (7.6.1.4)

Messaging Manager does not comply.

On receipt of a user error, Messaging Manager translates the error using the forwardSmErrorMap configuration option. The result is then stored in GenericSMResult's resultCode variable.

Provider error (7.6.1.3)

Messaging Manager does not comply.

Messaging Manager treats receipt of a provider error as a transientFailure.

MAP-REPORT-SM-DELIVERY-STATUS service (12.3)

Messaging Manager does not comply.

Messaging Manager cannot handle the receipt or construction of a MAP-REPORT-SM-DELIVERY-STATUS message.

MAP-READY-FOR-SM service (12.4)

Messaging Manager does not comply.

Messaging Manager cannot handle the receipt or construction of a MAP-READY-FOR-SM message.

MAP-ALERT-SERVICE-CENTRE service (12.5)

Messaging Manager does not comply.

Messaging Manager can handle receipt of MAP-ALERT-SERVICE-CENTRE messages and uses such messages to update the Messaging Manager Navigator cache. However Messaging Manager does not pass the message on to the originating SMSC or attempt to redeliver the message.

In the context of the service provided by MAP-ALERT-SERVICE-CENTRE, Messaging Manager's failure to comply does not matter. A failed FDA should be followed by an attempted MO delivery. The message is therefore stored at an SMSC and the SMSC receives an alert-service-centre message. It is also possible to configure Messaging Manager such that alert-service-centre messages are sent directly from the HLR to the originating SMSC.

MAP-ALERT-SERVICE-CENTRE takes five parameters. These are covered under the following headings.

- Invoke Id
- MSIsdn-Alert
- Service Centre Address
- User error
- Provider error

Invoke Id (7.6.1.1)

Messaging Manager complies.

MSIsdn-Alert (7.6.2.29)

Messaging Manager complies.

The value of MSIsdn-Alert is invalidated in the Messaging Manager Navigator cache.

Service centre address (7.6.2.27)

Messaging Manager does not comply.

The service centre address is ignored by Messaging Manager Navigator.

User error (7.6.1.4)

Messaging Manager does not comply.

Messaging Manager never replies with an error — only with an empty TCAP_END.

Provider error (7.6.1.3)

Messaging Manager does not comply.

MAP-INFORM-SERVICE-CENTRE service (12.6)

Messaging Manager does not comply.

Messaging Manager cannot handle receipt of the MAP-INFORM-SERVICE-CENTRE message.

Messaging Manager Navigator can use this message to update its cache. However Messaging Manager Navigator does not pass the message on to the originating SMSC nor does it attempt to deliver the message. Messaging Manager Navigator only examines the mw-Status flag, with a transientFailure being "mnrf or mcef or (mnrg & GPRS supported)".

All other values set the cache element status to *successful*.

MAP-SEND-INFO-FOR-MT-SMS service (12.7)

Messaging Manager does not comply.

Messaging Manager cannot handle the receipt or construction of the MAP-SEND-INFO-FOR-MT-SMS message.

MAP-SEND-INFO-FOR-MO-SMS service (12.8)

Messaging Manager does not comply.

Messaging Manager cannot handle the receipt or construction of the MAP-SEND-INFO-FOR-MO-SMS message.

MAP-MT-FORWARD-SHORT-MESSAGE service (12.9)

Messaging Manager supports receipt and construction of these messages.

The MAP-MT-FORWARD-SHORT-MESSAGE service takes seven parameters. A compliance statement for each parameter is made under one of the following headings.

- Invoke Id
- SM RP DA
- SM RP OA
- SM RP UI
- More Messages To Send
- User error
- Provider error

Invoke Id (7.6.1.1)

Messaging Manager complies.

SM-RP-DA (7.6.8.1)

Messaging Manager does not comply.

SM-RP-DA is stored in either of the GenericSM's destinationImsi or destinationLmsi fields.

Messaging Manager allows an LMSI to be sent to the SGSN. This functionality violates clause 7.6.2.1.6 of *GSM 09.02*.

SM-RP-OA (7.6.8.2)

Messaging Manager complies.

SM-RP-OA is stored in GenericSM's serviceCentreAddress field. For FDA-constructed messages, this field is obtained from GenericSM's originatingAddress field.

SM-RP-UI (7.6.8.4)

Messaging Manager complies.

The compliance of individual PDU-specific fields is listed under the following three headings.

- SMS-DELIVER
- SMS-SUBMIT-REPORT
- SMS-STATUS-REPORT

SMS-DELIVER (9.2.2.1)

SMS-DELIVER is defined in *TS 03.40*.

Compliance for individual elements of SMS-DELIVER is listed below.

Map field	GenericSM location	Compliance statement
TP-Message-Type-Indicator		Messaging Manager complies.
TP-More-Messages-to-Send		Messaging Manager complies. • Messaging Manager complies only if it is Messaging Manager that generates TP-More-Messages-to-Send. • Always set to "no more messages to send". • TP-More-Messages-to-Send is ignored in inbound messages. The non SM-RP-UI sendMoreMessages parameter is used instead. See *More Messages To Send* (on page 14).
TP-Reply-Path	ProvideReplyPath	Messaging Manager complies. • Messaging Manager complies only if it is Messaging Manager that generates TP-Reply-Path. • Always set TP-Reply-Path to *false*. • Saved in GenericSM from inbound message. **Note:** TP-Reply-Path was not part of the MAP phase 1 specification.
TP-User-Data-Header-Indicator	UserDataHeaderPresent	Messaging Manager complies. From an inbound message, TP-User-Data-Header-Indicator is saved in GenericSM. **Note:** TP-User-Data-Header-Indicator was not part of the MAP phase 1 specification.
TP-Status-Report-Indication	StatusReportRequested	Messaging Manager complies. • Messaging Manager uses only the smeRequested bit. • From an inbound message, TP-Status-Report-Indication is saved in GenericSM. **Note:** TP-Status-Report-Indication was not part of the MAP phase 1 specification.
TP-Originating-Address	OriginatingAddress	Messaging Manager complies. From an inbound message, TP-Originating-Address is saved in GenericSM.
TP-Protocol-Identifier	ProtocolIdentifier	Messaging Manager complies. • A configurable mapping from the incoming TP-Protocol-Identifier may have occurred. • From an inbound message, TP-

Map field	GenericSM location	Compliance statement
		Protocol-Identifier is saved in GenericSM.
TP-Data-Coding-Scheme	MessageWaitingGroup, MessageWaitingType, MessageWaitingIndicator, currentAlphabet, MessageClass	Messaging Manager complies. The DCS itself is not stored internally. Its components are stored as separate variables.
TP-Service-Centre-Time-Stamp		Messaging Manager complies. • userTimezone's local time is used. • TP-Service-Centre-Time-Stamp is ignored in inbound messages.
TP-User-Data-Length	UserDataLength, userDataHeaderlength	Messaging Manager complies. From an inbound message, TP-User-Data-Length is saved in GenericSM.
TP-User-Data	UserData, userDataHeader	Messaging Manager complies. From an inbound message, TP-User-Data is saved in GenericSM.

SMS-SUBMIT-REPORT (9.2.2.2a)

Messaging Manager does not comply.

SMS-SUBMIT-REPORT is defined in *TS 03.40*.

Messaging Manager cannot construct or receive these messages.

SMS-STATUS-REPORT (9.2.2.3)

SMS-STATUS-REPORT is defined in *TS 03.40*.

Compliance for individual elements of SMS-STATUS-REPORT is listed below.

Map field	GenericSM location	Cmpliance statement
TP-Message-Type-Indicator		Messaging Manager complies.
TP-User-Data-Header-Indication		Messaging Managercomplies. • Messaging Manager complies only if it is Messaging Manager that generates TP-User-Data-Header-Indication. • TP-User-Data-Header-Indication is hard-coded to *false*. • TP-User-Data-Header-Indication is ignored in inbound messages.
TP-More-Messages-to-Send		Messaging Manager complies. • Messaging Manager complies only if it is Messaging Manager that generates TP-More-Messages-to-Send. • TP-More-Messages-to-Send is

Map field	GenericSM location	Cmpliance statement
		always set to "no more messages to send". • TP-More-Messages-to-Send is ignored in inbound messages.
TP-Status-Report-Qualifier		Messaging Manager complies. • Messaging Manager complies only if it is Messaging Manager that generates TP-Status-Report-Qualifier. • TP-Status-Report-Qualifier is hard-coded to 0 — SmsCommands are not supported. • TP-Status-Report-Qualifier is ignored in inbound messages. **Note:** TP-Status-Report-Qualifier was not part of the MAP specification prior to phase 2+.
TP-Message-Reference	MessageReference	Messaging Manager complies. From inbound messages, TP-Message-Reference is saved in GenericSM.
TP-Recipient-Address	OriginatingAddress	Messaging Manager complies. From inbound messages, TP-Recipient-Address is saved in GenericSM.
TP-Service-Centre-Time-Stamp	ServiceCentre-TimeStamp	Messaging Manager complies. • If TP-Service-Centre-Time-Stamp is null, userTimezone's local time is used. • TP-Service-Centre-Time-Stamp is ignored in inbound messages.
TP-Discharge-Time	ServiceCentreTimestamp	Messaging Manager does not comply. • Messaging Manager uses the SCTS time. • TP-Discharge-Time is ignored in inbound messages.
TP-Status	DeliverySucceeded	Messaging Manager does not comply. • If deliverySucceeded is *false*, TP-Status is set to the configured delivery-FailureStatusCode. • If deliverySucceeded is *true*, TP-Status is set to 0. • In inbound messages, if TP-Status = 0, deliverySucceeded is set to *true*. • In inbound messages, if TP-Status ≠ 0, deliverySucceeded

Map field	GenericSM location	Cmpliance statement
		is set to *false*.
TP-Parameter-Indicator		Messaging Manager complies. • No optional parameters are ever included. • Ignored in inbound messages. **Note:** TP-Parameter-Indicator was not part of the MAP specification prior to phase 2+.
TP-Protocol-Identifier		Messaging Manager does not comply. • TP-Protocol-Identifier is not set by Messaging Manager. • TP-Protocol-Identifier is ignored in inbound messages. **Note:** TP-Parameter-Indicator was not part of the MAP specification prior to phase 2+.
TP-Data-Coding-Scheme		Messaging Manager does not comply. TP-Data-Coding-Scheme is not set by Messaging Manager. TP-Data-Coding-Scheme is ignored in inbound messages. **Note:** TP-Data-Coding-Scheme was not part of the MAP specification prior to phase 2+.
TP-User-Data-Length		Messaging Manager does not comply. • TP-User-Data-Length is not set by Messaging Manager. • TP-User-Data-Length is ignored in inbound messages. **Note:** TP-User-Data-Length was not part of the MAP specification prior to phase 2+.
TP-User-Data		Messaging Manager does not comply. • TP-User-Data is not set by Messaging Manager. • TP-User-Data is ignored in inbound messages. **Note:** TP-User-Data was not part of the MAP specification prior to phase 2+.

More Messages To Send (7.6.8.7)

Messaging Manager complies.

- For inbound messages, Messaging Manager examines More Messages To Send and enacts the correct response.
- On outbound messages the more message flag is never set. Messaging Manager separates messages into individual dialogues.

User error (7.6.1.4)

Messaging Manager does not comply.

On receipt, Messaging Manager translates user errors using the forwardSmErrorMap configuration. The result is stored in GenericSMResult's resultCode variable.

Provider error (7.6.1.3)

Messaging Manager does not comply.

Specification sections 13 and 13A

Introduction

Statements of compliance for clauses of Sections 13 and 13A of *GSM 09.02* follow.

Network-Requested PDP Context Activation services (13)

Messaging Manager does not comply.

Messaging Manager treats a Network-Requested PDP Context Activation message as a transientFailure.

Location Service Management Services (13A)

Messaging Manager does not comply.

Glossary of Terms

ACS

Advanced Control Services configuration platform.

CC

Country Code. Prefix identifying the country for a numeric international address.

Convergent

Also “convergent billing”. Describes the scenario where post-paid and pre-paid calls are handed by the same service platform and the same billing system. Under strict converged billing, post-paid subscribers are essentially treated as “limited credit pre-paid”.

ETSI

European Telecommunications Standards Institute

FDA

First Delivery Attempt - the delivery of a short message directly to the SME rather than relaying it through the MC.

GPRS

General Packet Radio Service - employed to connect mobile cellular users to PDN (Public Data Network- for example the Internet).

GSM

Global System for Mobile communication.

It is a second generation cellular telecommunication system. Unlike first generation systems, GSM is digital and thus introduced greater enhancements such as security, capacity, quality and the ability to support integrated services.

HLR

The Home Location Register is a database within the HPLMN (Home Public Land Mobile Network). It provides routing information for MT calls and SMS. It is also responsible for the maintenance of user subscription information. This is distributed to the relevant VLR, or SGSN (Serving GPRS Support Node) through the attach process and mobility management procedures such as Location Area and Routing Area updates.

HPLMN

Home PLMN

IMSI

International Mobile Subscriber Identifier. A unique identifier allocated to each mobile subscriber in a GSM and UMTS network. It consists of a MCC (Mobile Country Code), a MNC (Mobile Network Code) and a MSIN (Mobile Station Identification Number).

The IMSI is returned by the HLR query (SRI-SM) when doing FDA. This tells the MSC exactly who the subscriber is that the message is to be sent to.

ISDN

Integrated Services Digital Network - set of protocols for connecting ISDN stations.

ITU

International Telecommunication Union

LMSI

The subscriber's Local Mobile Subscriber Identity. When the subscriber is roaming, FDA uses both a LMSI and an IMSI.

MAP

Mobile Application Part - a protocol which enables real time communication between nodes in a mobile cellular network. A typical usage of the protocol would be for the transfer of location information from the VLR to the HLR.

MC

Message Centre. Also known as SMSC.

MCC

Mobile Country Code. In the location information context, this is padded to three digits with leading zeros. Refer to ITU E.212 ("Land Mobile Numbering Plan") documentation for a list of codes.

Messaging Manager

The Messaging Manager service and the Short Message Service components of Oracle Communications Convergent Charging Controller product. Component acronym is MM (formerly MMX).

MM

Messaging Manager. Formerly MMX, see also *XMS* (on page 20) and *Messaging Manager* (on page 18).

MNC

Mobile Network Code. The part of an international address following the mobile country code (MCC), or at the start of a national format address. This specifies the mobile network code, that is, the operator owning the address. In the location information context, this is padded to two digits with a leading zero. Refer to ITU E.212 ("Land Mobile Numbering Plan") documentation for a list of codes.

MO

Mobile Originated

MS

Mobile Station

MSC

Mobile Switching Centre. Also known as a switch.

MSIN

Mobile Station Identification Number.

MSISDN

Mobile Station ISDN number. Uniquely defines the mobile station as an ISDN terminal. It consists of three parts; the country code (CC), the national destination code (NDC) and the subscriber number (SN).

MT

Mobile Terminated

PLMN

Public Land Mobile Network

RIMS

Routing Information for Mobile Services. Used to cache HLR lookup information.

Note: Now known as "Messaging Manager Navigator".

SGSN

Serving GPRS Support Node

SLEE

Service Logic Execution Environment

SME

Short Message Entity - This is an entity which may send or receive short messages. It may be located in a fixed network, a mobile, or an SMSC.

SMS

Depending on context, can be:

- Service Management System hardware platform
- Short Message Service
- Service Management System platform
- Convergent Charging Controller Service Management System application

SMSC

Short Message Service Centre stores and forwards a short message to the indicated destination subscriber number.

SN

Service Number

SRI

Send Routing Information - This process is used on a GSM network to interrogate the HLR for subscriber routing information.

TCAP

Transaction Capabilities Application Part – layer in protocol stack, message protocol.

VLR

Visitor Location Register - contains all subscriber data required for call handling and mobility management for mobile subscribers currently located in the area controlled by the VLR.

XMS

Three letter code used to designate some components and path locations used by the Oracle Communications Convergent Charging Controller *Messaging Manager* (on page 18) service and the Short Message Service. The published code is *MM* (on page 18) (formerly MMX).

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