
Source: SA5
Title: Rel-4 CR32.101 (3G Telecom Management principles and high level requirements)
Document for: Approval
Agenda Item: 7.5.3

Doc-1st-Level	Doc-2nd-Level	Spec	CR	Rev	Phase	Subject	Cat	Version Current	Version -New	Workitem
SP-010465	S5-010522	32.101	015		Rel-4	Reference Corrections	F	4.1.0	4.2.0	OAM-AR

CR-Form-v4

CHANGE REQUEST

⌘ **32.101** CR **015** ⌘ ev **-** ⌘ Current version: **4.1.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Reference Corrections		
Source:	⌘ SA5		
Work item code:	⌘ OAM-AR	Date:	⌘ 07/09/2001
Category:	⌘ F	Release:	⌘ REL-4
	<p>Use <u>one</u> of the following categories:</p> <p>F (correction)</p> <p>A (corresponds to a correction in an earlier release)</p> <p>B (addition of feature),</p> <p>C (functional modification of feature)</p> <p>D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>		<p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2)</p> <p>R96 (Release 1996)</p> <p>R97 (Release 1997)</p> <p>R98 (Release 1998)</p> <p>R99 (Release 1999)</p> <p>REL-4 (Release 4)</p> <p>REL-5 (Release 5)</p>

Reason for change:	⌘ The list of references and abbreviations are incorrect and need to be aligned with the other clauses of the TS.
Summary of change:	⌘ Incorrect 32-series references are fixed. Two unused references are deleted. Two references previously unused are now used. The abbreviations clause is updated.
Consequences if not approved:	⌘ Unused or incorrect References will be present, some Abbreviation definitions will be missing.

Clauses affected:	⌘ 2, 3.2, 5.2.3, 7.9, Annex D		
Other specs affected:	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	
Other comments:	⌘		

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

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

- [1] ITU-T Recommendation M.3010 (2000): "Principles for a telecommunications management network".
- [2] 3GPP TS 22.101: "Service Principles".
- [3] 3GPP TS 32.111-x: "3G Fault Management Requirements".
- [4] IETF RFC 959: "File Transfer Protocol (FTP)"; October 1985, J. Postel, J. Reynolds, ISI. (Status: Standard).
- [5] IETF RFC 783: "Trivial File Transfer Protocol (TFTP)"; rev. 2, June 1981, K.R. Sollins MIT. (Status: Unknown).
- [6] IETF RFC 1157: "A Simple Network Management Protocol (SNMP)"; May 1990, J. Case, SNMP Research, M. Fedor, Performance Systems International, M. Schoffstall, Performance Systems International, J. Davin, MIT Laboratory for Computer Science. (Status: Standard).
- [7] IETF RFC2401: "Security Architecture for the Internet Protocol"; November 1998. (Status: Proposed Standard).
- [8] The Object Management Group (OMG) "The Common Object Request Broker: Architecture and Specification", Revision 2.3, June 1999.
- [9] ITU-T Recommendation Q.811-1997: "Lower Layer Protocol Profiles for the Q3 Interface".
- [10] ITU-T Recommendation Q.812-1997: "Upper Layer Protocol Profiles for the Q3 Interface".
- [11] ITU-T Recommendation X.650-1996 "Information Technology - Open Systems Interconnection – Basic Reference Model: Naming and Addressing".
- [12] ITU-T Recommendation X.700-1992: "Management Framework for Open Systems Interconnection (OSI)".
- [13] ISO IS 8571-1:1988: "Information Processing Systems - Open Systems Interconnection - File Transfer, Access and Management - Part 1: General Introduction".
- [14] ISO IS 8571-2:1988: "Information Processing Systems - Open Systems Interconnection - File Transfer, Access and Management - Part 2: Virtual Filestore Definition".
- [15] ISO IS 8571-3:1988: "Information Processing Systems - Open Systems Interconnection - File Transfer, Access and Management - Part 3: File Service Definition".
- [16] ISO IS 8571-4:1988 "Information Processing Systems - Open Systems Interconnection - File Transfer, Access and Management - Part 4: File Protocol Specification".
- [17] ISO/IEC ISP 10607-1:1995: "Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 1: Specification of ACSE, Presentation and Session Protocols for the use by FTAM".

- [18] ISO/IEC ISP 10607-2:1995: "Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 2: Specification of Document Types, Constraint sets and Syntaxes".
- [19] ISO/IEC ISP 10607-3:1995: "Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 3: Specification of AFT 11 Simple File Transfer Service (Unstructured)".
- [20] ITU-T Recommendation X.710-1997: "Information Technology – Open Systems Interconnection - Common Management Information Service".
- [21] ITU-T Recommendation X.711-1997: "Information Technology – Open Systems Interconnection - Common Management Information Protocol Specification".
- [22] ITU-T Recommendation X.25-1996: "Interface between Data Terminal Equipment (DTE) and Data Circuit Terminating (DCE) for Terminals operating in the Packet Mode and connected to Public Data Networks by Dedicated Circuit".
- [23] ISO/IEC ISP 11183-1:1992: "Information technology -- International Standardized Profiles AOM1n.OSI Management – Management Communications -- Part 1: Specification of ACSE, presentation and session protocols for the use by ROSE and CMISE".
- [24] ISO/IEC 9545:1994: "Information Processing Systems - Open Systems Interconnection - Application Layer Structure".
- [25] ITU-T Recommendation X.200-1994: "Information Technology-Open Systems Interconnection-Basic Reference Model: The Basic Model".
- [26] ITU-T Recommendation (CCITT) X.208 (1988): "Specification of Abstract Syntax Notation One (ASN.1)".
- [27] ITU-T Recommendation (CCITT) X.209 (1988): "Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)".
- [28] ITU-T Recommendation X.210-1993: "Information Technology-Open Systems Interconnection-Basic Reference Model: Conventions for the definition of OSI Services".
- [29] ITU-T Recommendation X.211-1995: "Information Technology-Open Systems Interconnection-Physical Service Definition".
- [30] ITU-T Recommendation X.212-1995: "Information Technology-Open Systems Interconnection-Data link Service Definition".
- [31] ITU-T Recommendation X.213-1995: "Information Technology-Open Systems Interconnection-Network Service Definition".
- [32] ITU-T Recommendation X.223-1993: "Use of X.25 to provide the OSI Connection-mode network service for ITU-T applications".
- [33] ITU-T Recommendation X.214-1995: "Information Technology-Open Systems Interconnection-Transport Service Definition".
- [34] ITU-T Recommendation X.224-1995: "Information Technology-Open Systems Interconnection-Protocol for providing the connection-mode transport service".
- [35] ITU-T Recommendation X.215-1995: "Information Technology-Open Systems Interconnection-Session Service Definition".
- [36] ITU-T Recommendation X.225-1995: "Information Technology-Open Systems Interconnection-Connection-oriented session protocol: Protocol specification".
- [37] ITU-T Recommendation X.216-1994: "Information Technology-Open Systems Interconnection-Presentation Service Definition".
- [38] ITU-T Recommendation X.226-1994: "Information Technology-Open Systems Interconnection-Connection-oriented presentation protocol: Protocol specification".

- [39] ITU-T Recommendation X.217-1995: "Information Technology-Open Systems Interconnection-Service definition for the association control service element".
- [40] ITU-T Recommendation X.227-1995: "Information Technology-Open Systems Interconnection-Connection-oriented protocol for the association control service element: Protocol specification".
- [41] ITU-T (CCITT) Recommendation X.219 (1988): "Remote Operations: Model, Notation and Service Definition".
- [42] ITU-T (CCITT) Recommendation X.229 (1988): "Remote Operations: Protocol Specification".
- [43] ISO/IEC 7776:1995: "Information technology – Telecommunications and information exchange between systems -- High-level data link control procedures - Description of the X.25 LAPB-compatible DTE data link procedures.
- [44] ISO/IEC 8208:1995: "Information technology -- Data communications -- X.25 Packet Layer Protocol for Data Terminal Equipment.
- [45] ISO/IEC 8878:1992: "Information technology -- Telecommunications and information exchange between systems -- Use of X.25 to provide the OSI Connection-mode Network Service.
- [46] IETF RFC 1006, ISO Transport on top of the TCP, Marshall T. Rose, Dwight E. Cass, Northrop Research and Technology Center, May 1987. Status: Standard.
- [47] IETF RFC 793, Transmission Control Protocol (TCP) DARPA Internet Program Protocol Specification, Information Sciences Institute, University of Southern California, September 1981. Status: Standard.
- [48] IETF RFC 791, Internet Protocol (IP) DARPA Internet Program Protocol Specification, Information Sciences Institute, University of Southern California, September 1981. Status: Standard.
- [49] ITU-T Recommendation X.680-1997: "Information Technology-Abstract Syntax Notation One (ASN.1): Specification of Basic Notation".
- [50] Void.
- [51] 3GPP TS 22.115: "Service aspects; Charging and Billing".
- [52] The Object Management Group (OMG) "The Common Object Request Broker: Architecture and Specification", Revision 2.1.
- [53] 3GPP TS 32.400-series: "3G Performance Management Requirements".
- [54] 3GPP TS 32.600: "3G Configuration Management Requirements". - Concept and High Level Requirements".
- ...
- [100] TMF GB910: "Telecom Operations Map"; Approved Version 2.1 March 2000, (may be downloaded from <http://www.tmforum.org>).
- [101] 3GPP TS 32.102: "3G Telecom Management Architecture".
- [102] ITU-T Recommendation M.3013-2000: "Considerations for a telecommunications management network".
- ~~[103] ITU-T Recommendation X.290-1995: "OSI Conformance Testing Methodology and Framework for Protocol Recommendations for ITU-T Applications—General concepts".~~
- [103] Void.
- [104] 3GPP TR 21.801 v4.0.0 "Specification Drafting Rules".
- [105] TMF GB910B: "TOM Application Note, Mobile Services: Performance Management and Mobile Network Fraud and Roaming Agreement Management"; Public Evaluation Version 1.1, September 2000. (May be downloaded free from <http://www.tmforum.org>.)

[106] ~~3GPP TS 22.121: “The Virtual Home Environment”.~~

[106] ~~Void.~~

3 Definitions and abbreviations

3.2 Abbreviations

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

API	Application Programming Interface
ASN.1	Abstract Syntax Notation One
ATM	Asynchronous Transfer Mode
B2B	Business to Business
B-ISDN	Broadband ISDN
BOOTP	Boot protocol
CDR	Call Detail Record
CEIR	Common Equipment Identification Register
CLI	Command Line Interface
CMIP	Common Management Information Protocol
CMIP/GDMO	Common Management Information Protocol/Guidelines for the Definition of Managed Objects
COPS	Common Open Policy Service
COPS-PR	COPS Usage for Policy Provisioning
CORBA IIOP	Common Object Request Broker Architecture Internet Inter-ORB Protocol
CORBA	Common Object Request Broker Architecture
CORBA/IDL	Common Object Request Broker Architecture/Interface Definition Language
CPE	Customer Premises Equipment
DCN	Data Communications Network
DECT	Digital Enhanced Cordless Telecommunications
DHCP	Dynamic Host Configuration Protocol
DNS	Directory Name Service
DSS1	Digital Subscriber System 1
EM	Element Manager
EMS	Element Management System
FFS	For Further Study
FTAM	File Transfer Access and Management
FTP	File Transfer Protocol
ftp	FTP
GDMO	Guidelines for the Definition of Managed Objects
GSM	Global System for Mobile communications
HLR	Home Location Register
HSS	Home Subscriber Server
IDL	Interface Definition Language
IETF	Internet Engineering Task Force
IIOP	Internet Inter-ORB Protocol
IN	Intelligent Network
INAP	Intelligent Network Application Part
IRP	Integration Reference Point
ISDN	Integrated Services Digital Network
LDAP	Lightweight Directory Access Protocol
LDUP	LDAP Duplication/Replication/Update Protocols
LLA	Logical Layered Architecture
MAP	Mobile Application Part
MExeXE	Mobile Execution Environment
MIB	Management Information Base
MMI	Man-Machine Interface
NM	Network Manager
NMS	Network Management System
NRM	Network Resource Model

OS	Operations System
OSI	Open Systems Interconnection
OSS	Operations Support System & System Support
PCF	Policy Control Function
PDP	Policy Decision Point
PDH	Plesiochronous Digital Hierarchy
PIB	Policy Information Base
PKI	Public Key Infrastructure
PSTN	Public Switched Telephone Network
QoS	Quality of Service
RNC	Radio Network Controller
RSVP	Resource ReserVation Protocol
SDH	Synchronous Digital Hierarchy
SLA	Service Level Agreement
SNMP	Simple Network Management Protocol (IETF)
SNMP/SMI	SNMP/Structure of Management Information
SOM	Service Operations Management
SS7	Signalling System No. 7
TCP/IP	Transmission Control Protocol/ Internet Protocol
tftp	trivial ftp
TM	Telecom Management
TMF	TeleManagement Forum
TMN	Telecommunications Management Network (ITU-T)
TOM	Telecom Operations Map (TMF)
UML	Unified Modelling Language
UMTS	Universal Mobile Telecommunication System
UPT	Universal Personal Telecommunication
USIM	Universal Subscriber Identity Module
UTRA	Universal Terrestrial Radio Access
VHE	Virtual Home Environment

5.2.3 Solution Set (SS) level

For an IRP Information Model at the logical level there will be at least one Solution Set defined. A Solution Set is a mapping of the Information Service to one of several technologies (for a full definition refer to subclause 3.1).

See Annex C for the valid UMTS Management IRP Solution Sets. See also [102]

7.9 Accounting Management

3G call event data will be based on the requirements specified in 3GPP TS 22.115 "Service aspects; Charging and Billing" [51]. The main content of 3G call event data will be:

- Layout and formats of raw call and event data for the 3G switching nodes (circuit and packet switched);
- Data generation dependent on call states and 3GPP TS 22.115 [51] service requirements;
- Formal description of the call and event data records in ASN.1[49] and definition of a file transfer mechanism (FTP).

Annex D (informative): QoS Management

D.1.3.3 Element Management System

The Element Management system is responsible for aggregating and transferring the collected performance measurements and generated alarms/events.

The Element Management System provides the following functions:

Performance Management

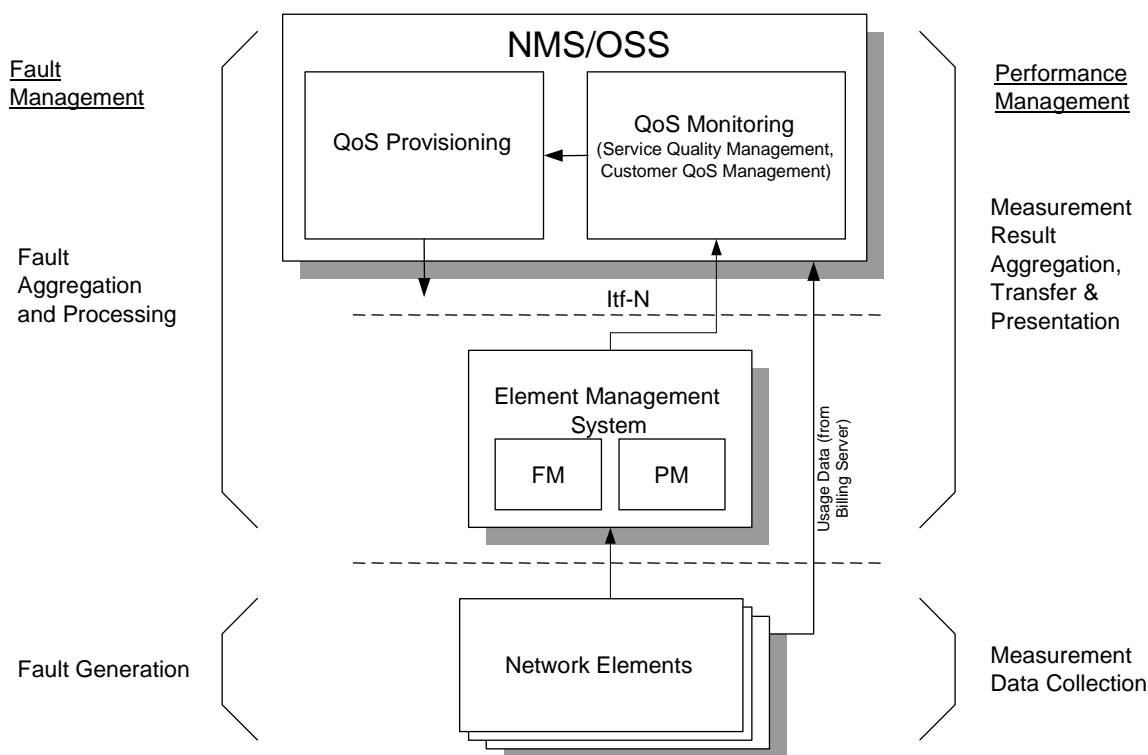
- Measurement data collection
 - Measurement types. Corresponds to the measurements as defined in 3GPP TS 32.404 and 3GPP TS 32.403/annex C, i.e. measurement types specified in the present document, defined by other standards bodies, or manufacturer defined measurement types;
 - Measured network resources. The resource(s) to which the measurement types shall be applied have to be specified
 - Measurement recording, consisting of periods of time at which the NE is collecting (that is, making available in the NE) measurement data.

D.1.4 QoS Management References

D.1.4.1 Policy Based QoS Provisioning References

The following documents apply to policy-based QoS provisioning:

1. IETF RFC 3060, "Policy Core Information Model – Version 1 Specification", Moore et al., February 2001. <http://www.ietf.org/rfc/rfc3060.txt>
2. IETF RFC 2251 Lightweight Directory Access Protocol (v3), M. Wahl, T. Howes, S. Kille, December 1997. <http://www.ietf.org/rfc/rfc2251.txt>
3. IETF RFC 2940 Definitions of Managed Objects for Common Open Policy Service (COPS) Protocol Clients. A. Smith, D. Partain, J. Seligson. October 2000. <http://www.ietf.org/rfc/rfc2940.txt>



4. IETF RFC 3084 COPS Usage for Policy Provisioning (COPS-PR). K. Chan, J. Seligson, D. Durham, S. Gai, K. McCloghrie, S. Herzog, F. Reichmeyer, R. Yavatkar, A. Smith. March 2001. <http://www.ietf.org/rfc/rfc3084.txt>
5. IETF RFC 2748 The COPS (Common Open Policy Service) Protocol. J. Boyle, R.Cohen, D. Durham, S. Herzog, R. Rajan, A. Sastry. January 2000, <http://www.ietf.org/rfc/rfc2748.txt>
6. IETF RFC 2753 A Framework for Policy-based Admission Control. R. Yavatkar, D. Pendarakis, R. Guerin. January 2000. <http://www.ietf.org/rfc/rfc2753.txt>

D.1.4.2 Policy Based QoS Monitoring References

The following documents apply to QoS monitoring:

7. 3GPP TS 32.101, 3G Telecom Management: Principles and high level requirements
8. 3GPP TS 32.102, 3G Telecom Management Architecture
9. 3GPP TS 32.104401: Telecommunication Management; 3G Performance Management (PM)
10. 3GPP, TS 32.200005 Telecommunication Management; Charging Management; Charging Principles, Charging and Billing; 3G Call and Event Data for the Circuit Switched Domain.
11. 3GPP, TS 32.205: Telecommunications Management; Charging and Billing; 3G Charging data description for the Circuit Switched (CS) domain.
12. 3GPP, TS 32.2015 Telecommunication Management; Charging Management and Billing; 3G Call and Event Charging Data Description for the Packet Switched Domain.
13. 3GPP, TS 32.600406, Telecommunication Management; Configuration Management; 3G Configuration Management concepts and requirements.
14. 3GPP TS 32.111-1: Telecommunication Management; Fault Management; 3G fault management requirements
15. IETF RFC 959 File Transfer Protocol, J. Postel, J.K. Reynolds. Oct-01-1985. <http://www.ietf.org/rfc/rfc0959.txt?number=959>
16. IETF RFC 1901 Simple Network Management Protocol, v2, J. Case, K. McCloghrie, M. Rose, S. Waldbusser. January 1996. <http://www.ietf.org/rfc/rfc1901.txt?number=1901>
17. IETF RFC 2573 SNMP Applications. D. Levi, P. Meyer, B. Stewart. April 1999. <http://www.ietf.org/rfc/rfc2573.txt?number=2573>
18. IETF RFC 1907 Management Information Base for Version 2 of the Simple Network Management Protocol (SNMPv2). SNMPv2 Working Group, J. Case, K. McCloghrie, M. Rose, S. Waldbusser. January 1996. <http://www.ietf.org/rfc/rfc1907.txt?number=1907>
19. TelemanagementForum (TMF) Telecom Operations Map (TOM), GB910, Approved Version 2.1, March 2000. <http://www.tmforum.org/>
20. TelemanagementForum (TMF) TOM Application Note, Mobile Services: Performance Management and Mobile Network Fraud and Roaming Agreement Management, GB910B, Public Evaluation Version 1.1, September 2000. <http://www.tmforum.org/>
21. TeleManagement Forum (TMF) NGOSS specifications <http://www.tmforum.org/>