

# ITU-T overview of NGN Management

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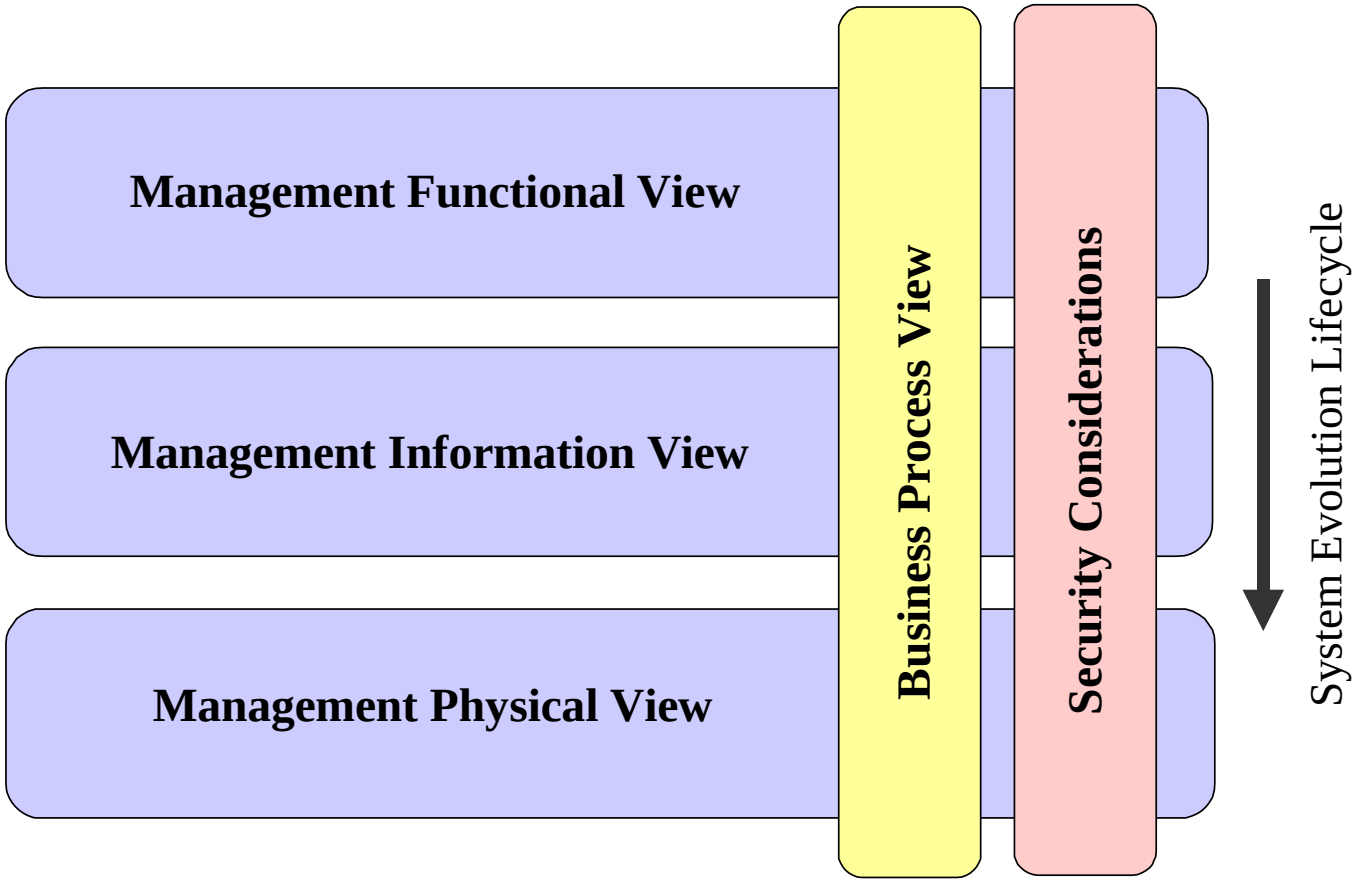
# Outline

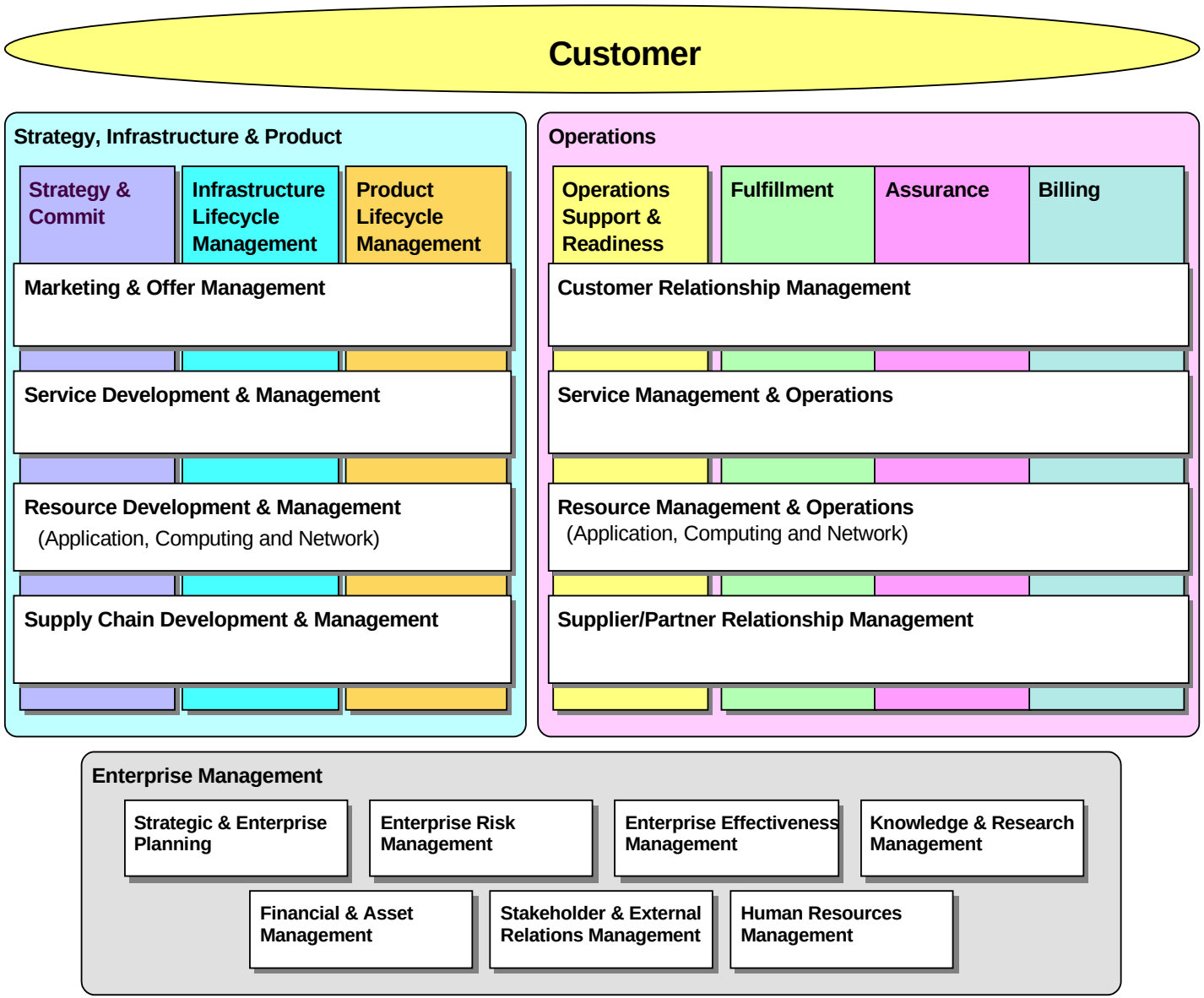
- ITU-T SG 4
- NGN Management Focus Group (NGNMFG)
- NGN Management Specification Roadmap

Based on input from Dave Sidor, Nortel Networks, Chairman of ITU-T SG 4 and NGNMFG

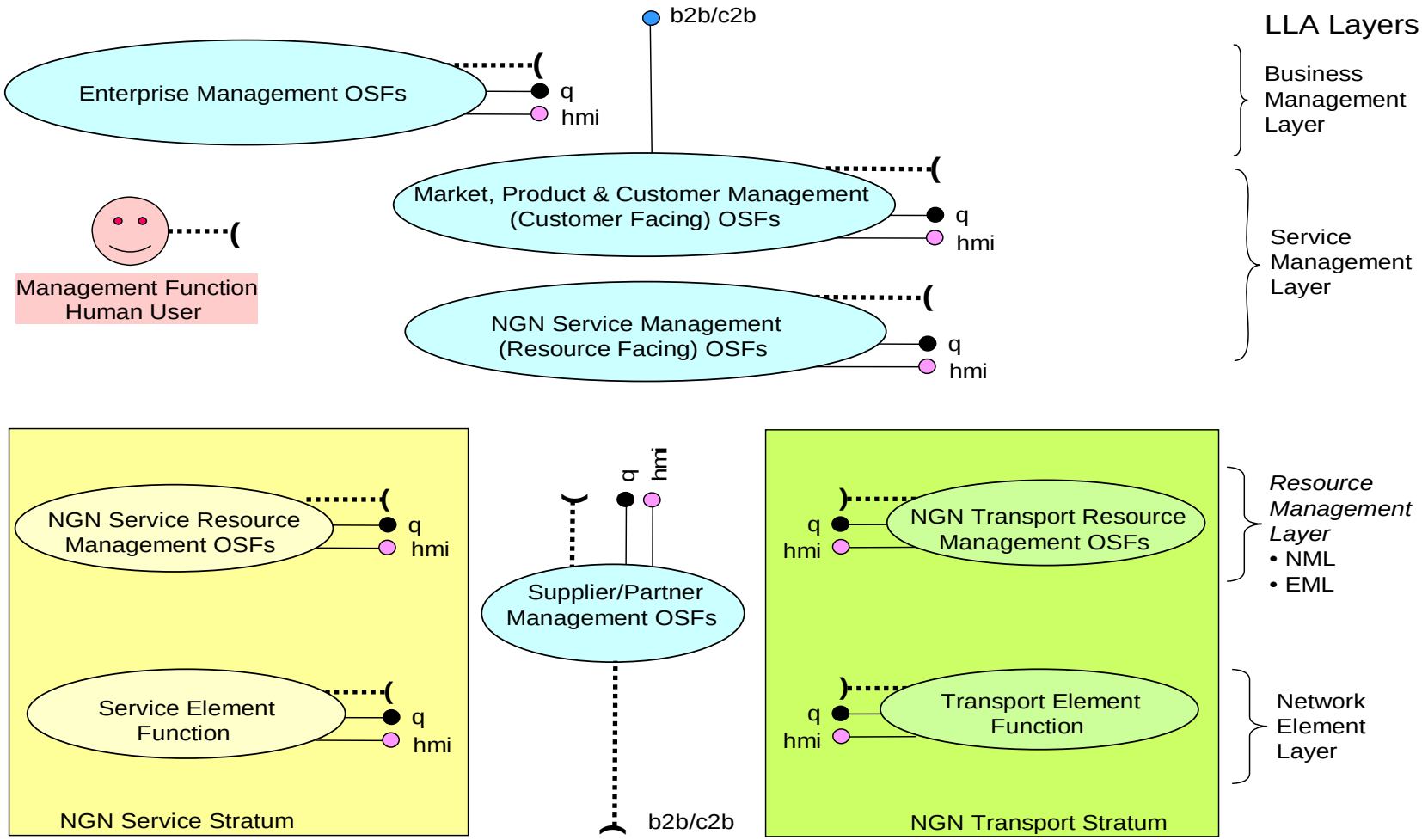
# NGN Management Architecture (M.3060)



# Business Process View
# (M.3050 series = TMF eTOM)



# NGN Management
# Logical Layered Architecture (M.3060)



# Security of the Management Plane (M.3016 series)

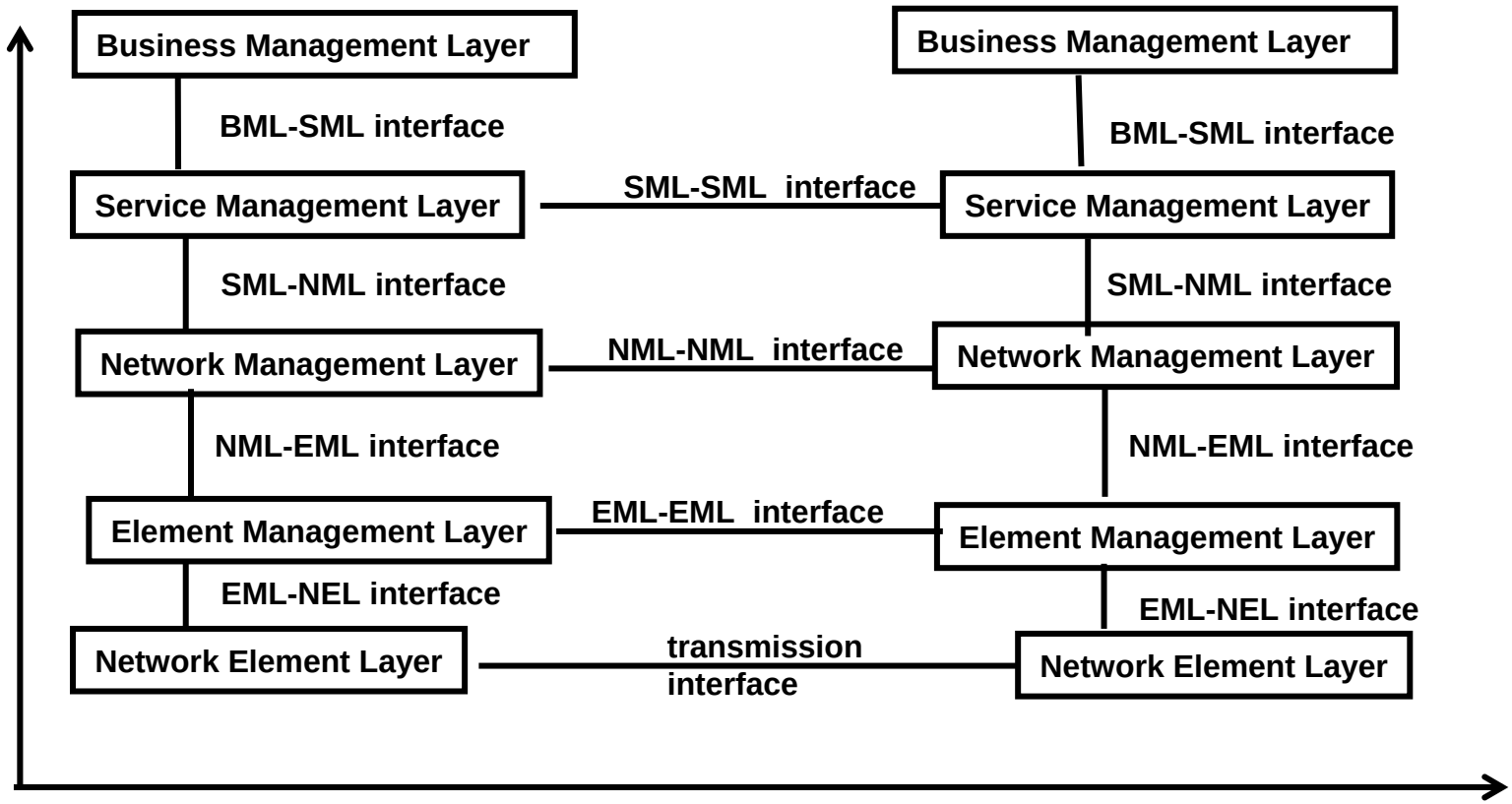
- Based on ATIS/TMOC T1.276 but designed for global application
  - M.3016.0: Overview
  - M.3016.1: Requirements
  - M.3016.2: Services
  - M.3016.3: Mechanisms
  - M.3016.4: Profile proforma
- Proforma allows SDOs and forums to profile other M.3016 parts for local application

# NGN Management Focus Group (NGNMFG)

- Established by ITU-T SG 4 in Sept 2004 at FGNGN request to support NGN Release 1
- Based on a proposal from leaders of major SDOs, forums, and consortia
- Focused on the following (FCAPS) management interfaces:
  - Network Element – Management System
  - Management System – Management System

FCAPS - Fault, Configuration, Accounting, Performance, and Security Management

# NGNMFG Scope: FCAPS Management Interfaces




- **Transmission interfaces are excluded**

# Organizations with most active participants

- ITU-T SG 4 and SG 15
- ATIS TMOC
- ETSI TISPAN WG8
- TeleManagement Forum (TMF)
- Distributed Management Task Force (DMTF)
- 3GPP SA5
- 3GPP2 TSG-S WG5
- OASIS WSDM
- IETF Operations and Management Area

# NGN Management FG – Objectives - 1

General goal: To provide the management interface capabilities to support the ITU-T objectives for Release 1

- To agree with the high level management requirements and architecture in Y.2001, Y.2011, Y.2201 and Y. 2012
- To collaborate with world's major SDOs, forums, and consortia
  - Emphasizing reuse of their management specifications where relevant

# NGN Management FG – Objectives – 2

- To produce a NGN Management Specification Roadmap focused on Release 1 which identifies
  - Requirements
  - Framework, principles, and architecture
  - Interface specifications, both protocol-neutral and protocol-specific
- To identify specification “overlaps” and stimulate their owners to harmonize them
- To identify “gaps” and best organization(s) to fill the gaps
- As a last resort, to produce specifications

# NGN Management Specification Roadmap- 1

- ITU-T SG 4
  - M.3016 series (security of the management plane)
  - M.3050 series (Enhanced Telecom Operations Map)
  - M.3060 (NGN Management principles and architecture)
  - M.3341 (QoS/SLA management service requirements)
  - M.3350 (Emergency telecommunication service management requirements)
  - X.733.1 (Protocol-neutral alarm reporting model)
- ITU-T SG 15
  - G.7718, G.7718.1 (ASON control plane management)

# NGN Management Specification Roadmap- 2

- ETSI TISPAN WG8
  - TS 188 004 (Vision for NGN OSS)
  - TS 188 001 (NGN OSS architecture for R1)

- TeleManagement Forum
  - Enhanced Telecom Operations Map (eTOM; =M.3050)
  - Multi-technology Network Management (MTNM)
  - Technology-Neutral Architecture (TNA)
  - Shared Information and Data Model (SID)

# NGN Management Specification Roadmap- 3

- 3GPP SA
  - 32.111 series (alarm IRP)
  - 32.200 series (subset for IMS offline and online charging and billing)
  - 32.300 common management series (notification and generic IRPs)
  - 32.600 series (interface IRPs for basic CM and kernel CM; NRM IRPs for generic and core; data definition IRPs for state management)

# NGN Management Specification Roadmap- 4

- OASIS
  - WSDM-MUWS (Web services distributed management)

- IETF
  - RFC 3444 (On the difference between information models and data models)
  - RFC 3535 (Overview of the 2002 IAB network management workshop)
  - STDs 58 and 62 (Simple Network Management Protocol and associated SMI)
  - Netconf (NETCONF configuration protocol)

# NGN Management Specification Roadmap- 5

- ATIS TMOC

  Usage data for packet-based services

  - 0300075 (Service –neutral architecture and protocol requirements)
  - 0300075.1 (Service-neutral protocol specifications for billing applications)

- DMTF
  - Common Information model (CIM)
  - Web-based enterprise management (WBEM)

*NOTE: Some of the above specifications are in draft form*

# Harmonization Activity

- Management architecture: SG4, TISPAN, TMF
- Alarm reporting: TMF, 3GPP, SG4, DMTF
- State management: TMF, 3GPP
- Accounting, charging, and billing
  - At request of NGNMFG/SG4, ATIS TMOC and 3GPP SA5 produced application guidelines
  - Q2/SG13 progressing NGN related requirements (Y.ngn-account)
  - First virtual meeting associating Q2/13 with NGNMFG/SG4, ATIS TMOC, 3GPP SA5 and ETSI TISPAN held on Sept 8 2006
- Information Models (many SDOs/forums)
  - 2 fold focus: generic, NGN functions
- XML-based framework and models (many SDOs/forums)

An intense activity during the last period !

# Template for Specification Candidates

Short Name

- Title:
- Status: approved, draft (due date)
- Organization (group):
- Organization leader (group leader):
- Type: architecture (functional, physical), functional requirements, information model (protocol-neutral, protocol-specific), protocol, conformance
- Role: generic, technology-specific, NGN-specific
- Release 1 application:
- Traceability:
- Location of text: either URL or NGNMFG ID number
- Remarks:

# NGN Management Focus Group - Summary

- Leadership
  - Chair: Dave Sidor (Nortel Networks)
  - Vice Chair: Leen Mak (Lucent Technologies)
- Participation
  - Open; individuals from founding organizations encouraged
  - Registration required: see

  *http://www.itu.int/ITU-T/studygroups/com04/ngn-mfg/index.html*
- Time schedule
  - Roadmap Version 1 submitted to SG 4: September 2005
  - Roadmap Version 2 submitted to SG 4: May 2006
  - Roadmap version 3 to SG 4: February 2007
- Working methods
  - Decision-making via consensus
  - Virtual meetings, but f2 f meetings allowed
  - Any specifications produced are candidates to be SG 4 Recommendations

# Thank you for your attention

# Backup information

# Acronyms

- ASON – Automatic switching optical network
- BML – Business management layer
- CM – Configuration management
- EML – Element management layer
- eTOM – Enhanced Telecom Operations Map (RM)
- FCAPS – Fault, configuration, accounting, performance, and security management (combination of FM, CM, AM, PM, and SM)
- FRA – Functional requirements and architecture
- GERAN – GSM edge radio access network
- IMS – IP multimedia subsystem
- IRP – Integration reference point
- LLA – Logical layered architecture
- MTNM – Multi-technology network management
- NE(L) – Network element (layer)
- NRM – Network resource model
- OS(F) – Operation system (function)
- OSS – Operations support system (specialization of an OS)
- SLA – Service level agreement
- SMI – Structure of managed information
- SML – Service management layer
- UTRAN – UMTS radio access network
- WS - Workstation