International Telecommunication Union

ITU-T Overview of NGN Management

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ITU-T Workshop on NGN (jointly organized with IETF)
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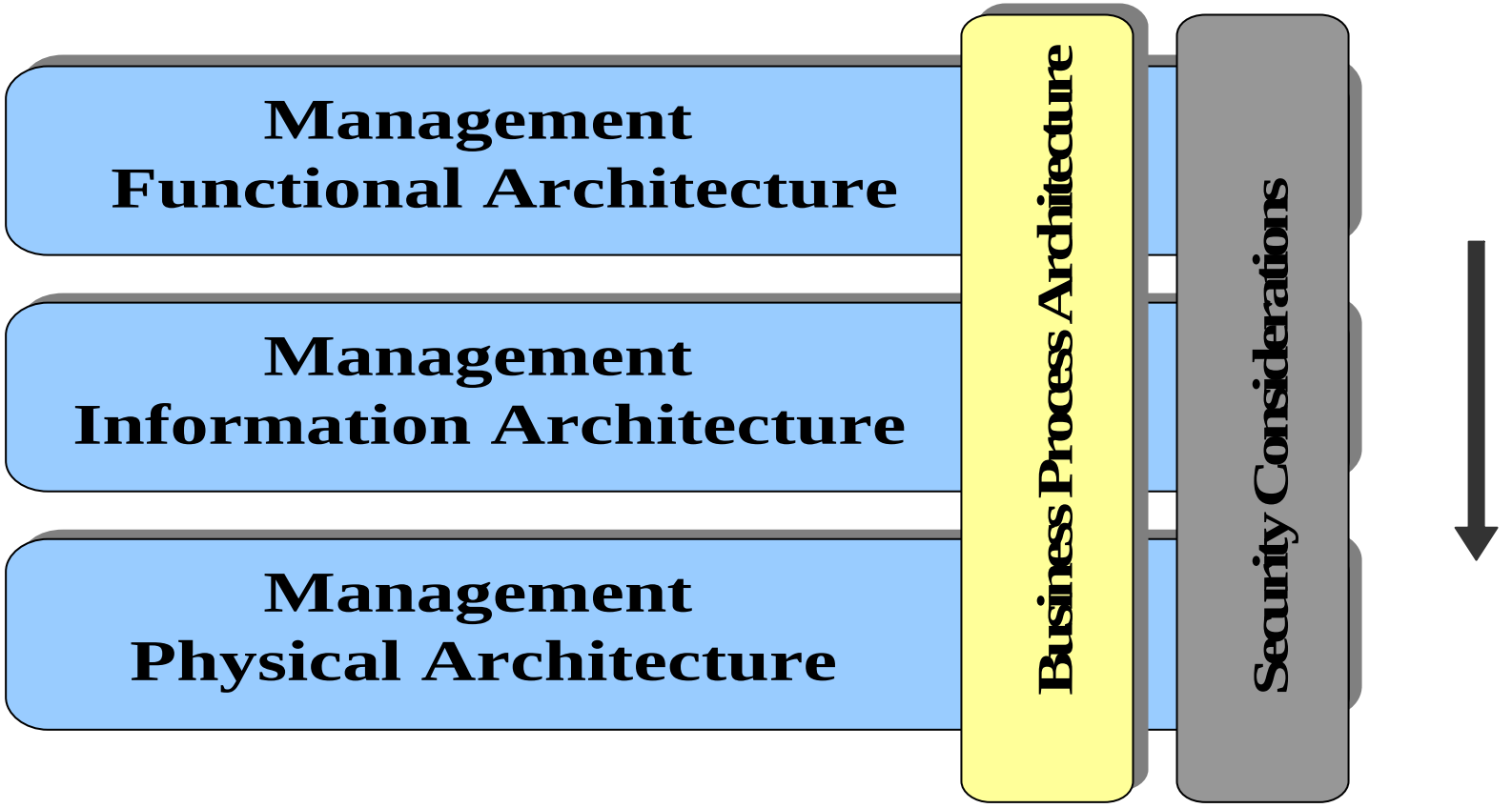
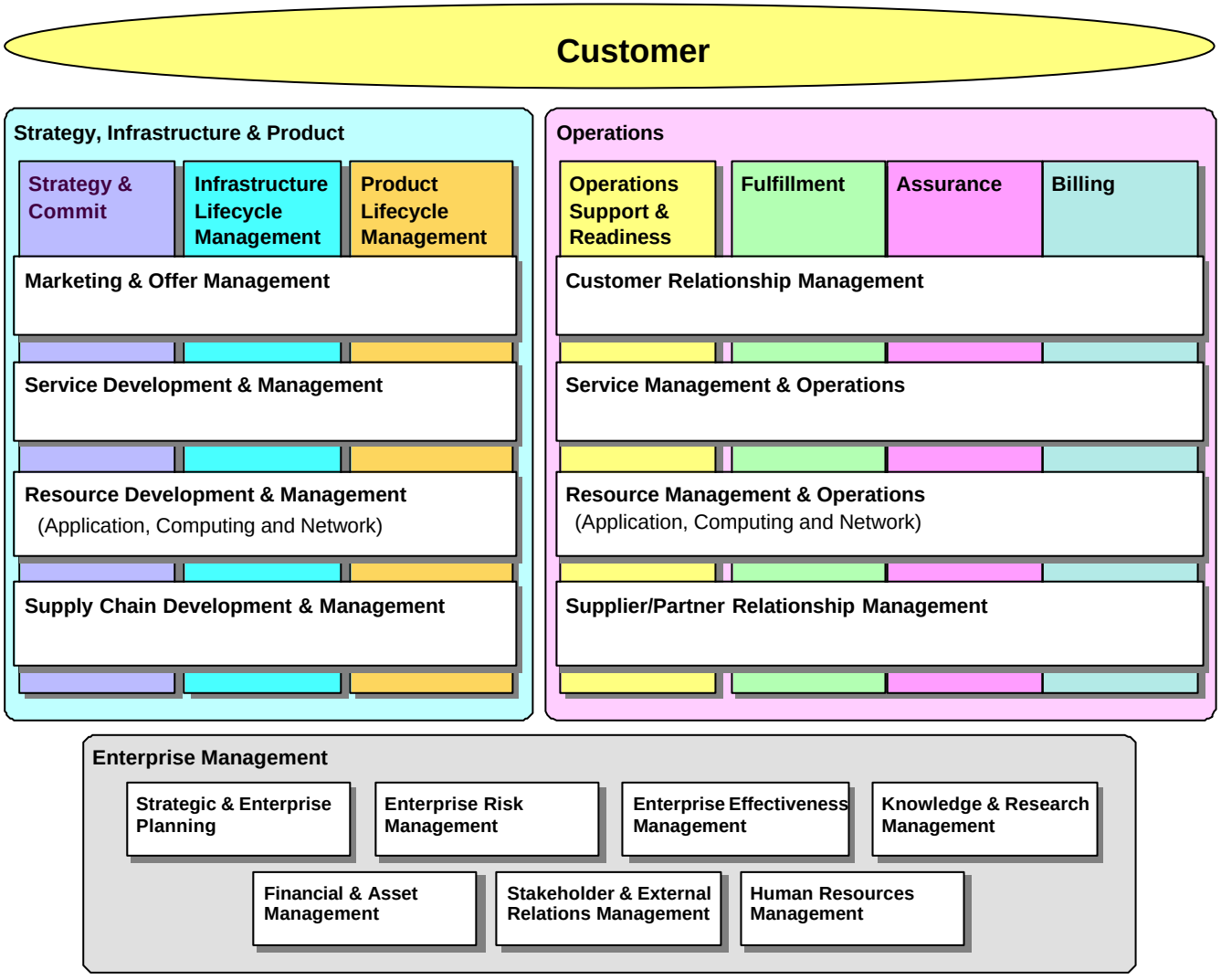
Agenda

- ITU-T SG 4
- NGN Management Focus Group (NGNMFG)
- NGNMFG candidate management specifications
- Key issue
- Backup charts

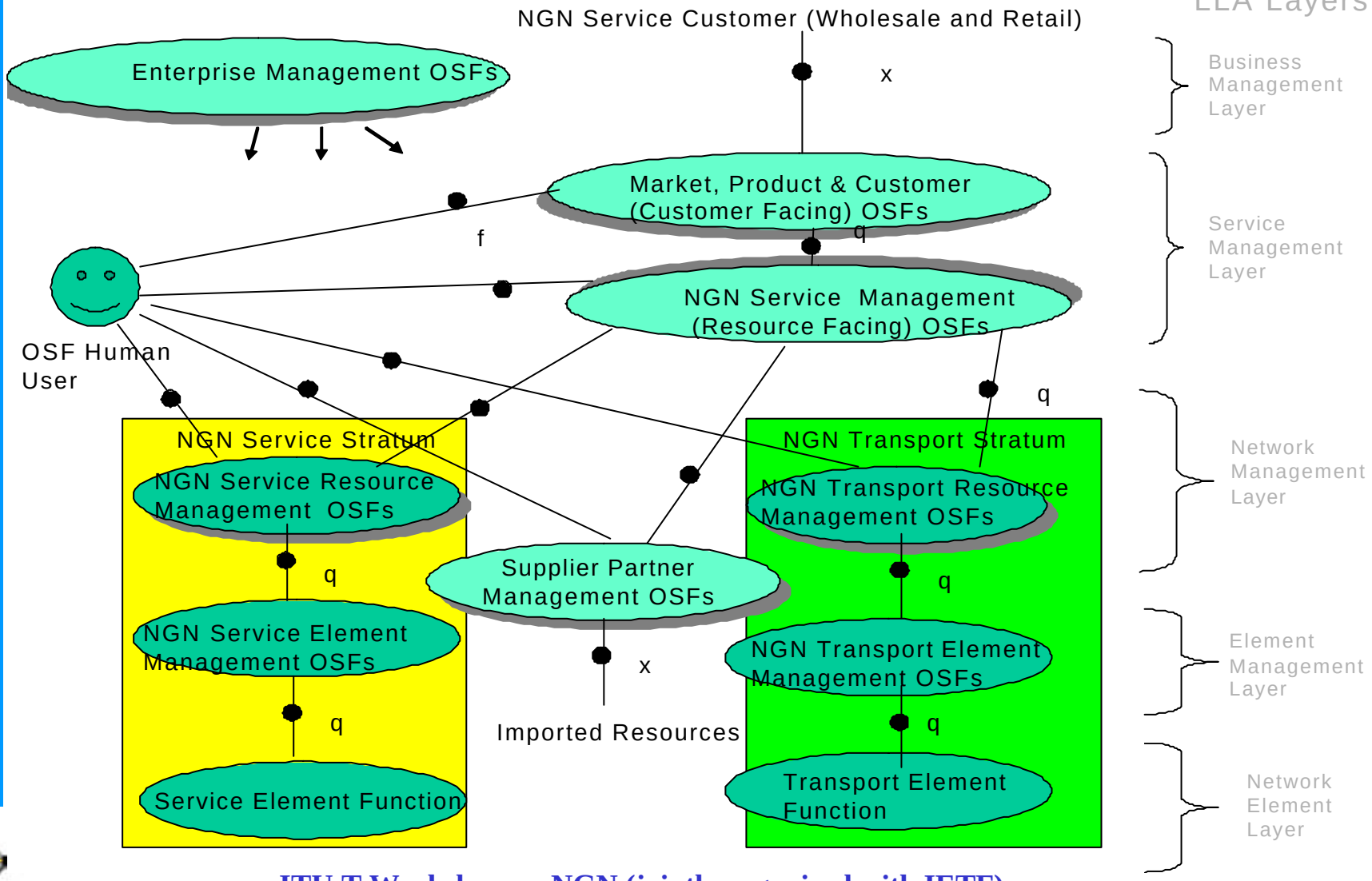
NGN Management Architecture (M.3060)



Business Process Architecture (M.3050 series = TMF eTOM)



NGN Management
Logical Layered Architecture (M.3060)



Security of the Management Plane (M.3016 series)

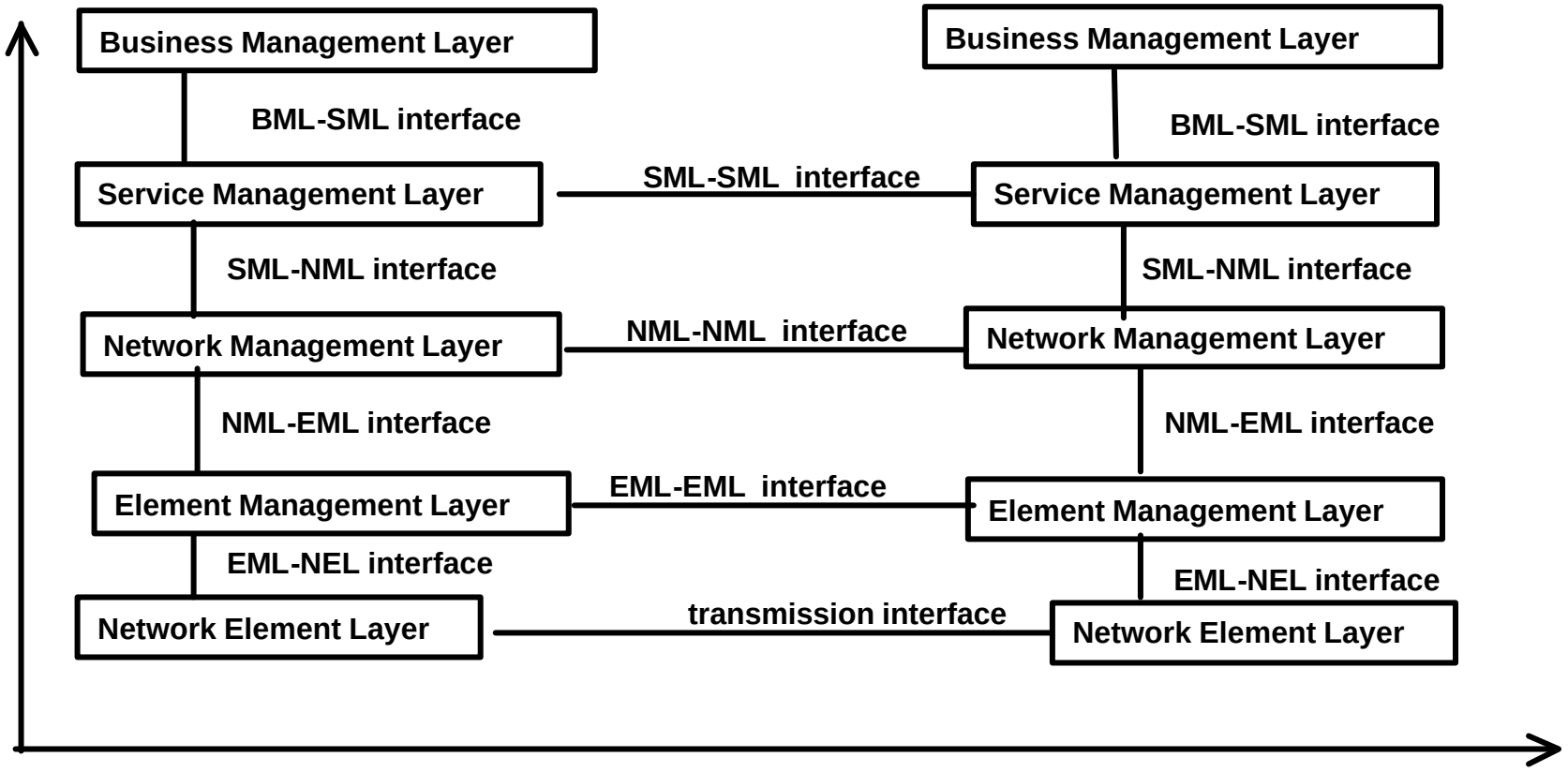
- M.3016.0: Overview
- M.3016.1: Requirements
- M.3016.2: Services
- M.3016.3: Mechanisms
- M.3016.4: Profile proforma

NGN Management Focus Group (NGNMFG)

- Established by ITU-T SG 4 in Sept 2004 at FGNGN request to support NGN Release 1
- Based on collaboration with SDOs, forums, and consortia (initially 8)
- Focused on the following (FCAPS) management interfaces:
  - NE-OS, OS-OS, and NE/OS-WS interfaces

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

NGNMFG Scope: FCAPS Management Interfaces



- Excludes transmission interfaces
- But also includes Human-Machine Interfaces (HMI)

NGN Management FG – Objectives - 1

General goal: To provide the management interface capabilities to support the FGNGN objectives for Release 1.

- To agree with the high level management requirements in Y.2001, Y.2011, and the FGNGN FRA.
- To determine from them, the functional and physical entities to be managed for Release 1.

NGN Management FG – Objectives – 2

- To produce a NGN Management Roadmap focused on Release 1 which identifies
  - Requirements
  - Framework, principles, and architecture
  - Interface specifications, both protocol-neutral and protocol-specific
- To emphasize reuse of partner organizations' specifications
- To identify gaps and best organization(s) to fill the gaps
- As a last resort, to produce specifications deemed to be necessary but unavailable from any source.

Candidate Specifications for NGN Management - 1

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

Candidate Specifications for NGN Management – 2

- ETSI TISPAN WG8
  - DTS 08004 (OSS interface requirements for NGN)
  - DTS 08006 (Vision for NGN OSS)
  - DTS 08007 (NGN OSS archtitecture for R1)
  - DTS 08008 (NGN OSS services for R1)
- TeleManagement Forum
  - Enhanced Telecom Operations Map (eTOM, =M.3050)
  - Multi-technology Network Management (MTNM)

Candidate Specifications for NGN Management – 3

- 3GPP SA5
  - 32.101/32.102 (principles and architecture)
  - 32.150 series (IRP methodology)
  - 32.111 series (alarm IRP)
  - 32.200 series (subset for IMS charging and billing)
  - 32.300 common management series (name convention, IRPs for notification, generic, test, notification log, file transfer)
  - 32.400 performance management series (requirements, PM IRP)

Candidate Specifications for NGN Management – 4

- 3GPP SA5 (cont.)
  - 32.600 series (requirements; interface IRPs for basic CM, bulk CM, kernel CM; NRM IRPs for generic, core, UTRAN, GERAN, network transport, signalling transport; data definition IRPs for state management)
- 3GPP2 TSG S WG5
  - Most of 3GPP specs above
  - S.S0028 series (NRM IRPs for generic, core, radio access)

Candidate Specifications for NGN Management – 5

- 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)

Note: Some of the above specifications are in draft form.

Issues Regarding Functional and Physical Entities to be Managed

- Identification of NEs still very abstract in FGNGN FRA
  - Essential for identifying relevant IETF standards which are focused on NE interfaces.
- Service Stratum
  - What 3GPP/2 OAM standards are essential for IMS?
  - What modifications are needed for NGN?
- Transport Stratum
  - Transport NEs most unclear

Backup Charts

NGN Management Focus Group

- 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
  - Initial results reported to SG 4: Feb. 2005
  - Final recommendations to SG 4: Sept. 2005
- Working methods
  - Decision-making via consensus
  - Electronic meetings, but f2 f meetings allowed
  - Any specifications produced are candidates to be SG 4 Recommendations

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:

Acronyms

- ASON – Automatic switching optical network
- BML – Business management layer
- 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
- HMI – Human machine interface
- 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
- SML – Service management layer
- UTRAN – UMTS radio access network
- WS - Workstation