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International Telecommunication Union

# Overview of NGNMFG and MTNMFG

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# Agenda

- NGN Management Focus Group (NGNMFG)
- Multi-Technology Network Management Focus Group (MTNMFG)
- Backup charts

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# 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

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# 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, and Y.NGN-FRA
- To collaborate with world's major SDOs, forums, and consortia
  - Emphasizing reuse of their management specifications where relevant

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# 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 – 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

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- 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)
  - Q.838.1 (EPON management and analysis)
  - Q.840.1 (requirements and analysis for EOT and metro ethernet networks)
  - X.alarm-neutral (Protocol-neutral alarm reporting model)

# NGN Management Specification Roadmap- 2

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- ITU-T SG 15
  - G.7718, G.7718.1 (ASON control plane management)
- ETSI TISPAN WG8
  - TS 188 004 (Vision for NGN OSS)
  - TS 188 003 (NGN OSS Requirements)
  - 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)

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# NGN Management Specification Roadmap- 3

- 3GPP SA5
  - 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)
- Metro Ethernet Forum
  - MEF 7 (EMS-NMS information model for metro ethernet networks))

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# 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

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- 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; tentative)
  - Web-based enterprise management (WBEM)

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

# NGNMFG 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 proposed application guidelines
- Ethernet management: SG4, MEF, TMF
- Information Models (many SDOs/forums)
  - 2 fold focus: generic, NGN functions
- XML-based framework and models (many SDOs/forums)

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# 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 to SG 4: May 2006
- Working methods
  - Decision-making via consensus
  - Virtual meetings, but f2 f meetings allowed
  - Any specifications produced are candidates to be SG 4 Recommendations

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# Multi-Technology Network Management Focus Group (MTNMFG)

- Established by SG4 in Feb. 2005 in response to the TMF submission of its MTNM specifications
- General goal: To provide the necessary foundation by which the MTNM specifications can be aligned with and/or adapted to the SG 4 management architecture and framework

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# MTNMFG – Objectives - 1

To recommend how MTNM can be conformant to M.3010 CORBA-based framework using the following service-oriented extensions to capture the needs of the coarser grained modelling of both façades as used by SG 4 and managed objects employed by the MTNM.

- Q.816.2: CORBA-based TMN services: Extensions to support service-oriented interfaces
- X.780.2: TMN guidelines for defining service-oriented CORBA managed objects and façade objects

# MTNMFG – Objectives – 2

Based on the above results, to prepare for SG 4 approval all or a subset of the following draft MTNM Recommendations:

- M.3mtnm.0: MTNM - Introduction and Supporting Documentation
- M.3mtnm.1: MTNM - Business Agreement (TMF513)
- M.3mtnm.2: MTNM - Information Agreement (TMF608)
- M.3mtnm.3: MTNM - CORBA IDL Solution Set (TMF814) with Implementation Statement Templates and Guidelines (TMF814A)

# Multi-Technology Network Management Focus Group - Summary

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- Leadership
  - Chair: Knut Johannessen (Telenor)
  - Vice Chair: Felix Flemisch (Siemens)
- Participation
  - Open to individuals from ITU-T and TMF
  - Registration required: see

  http://www.itu.int/ITU-T/studygroups/com04/tmc/mtnm/index.html
- Time schedule
  - Interim report submitted to SG 4: September 2005
  - Proposed Recommendations to SG 4: May 2006
- Working methods
  - Decision-making via consensus
  - Virtual meetings, but f2 f meetings allowed

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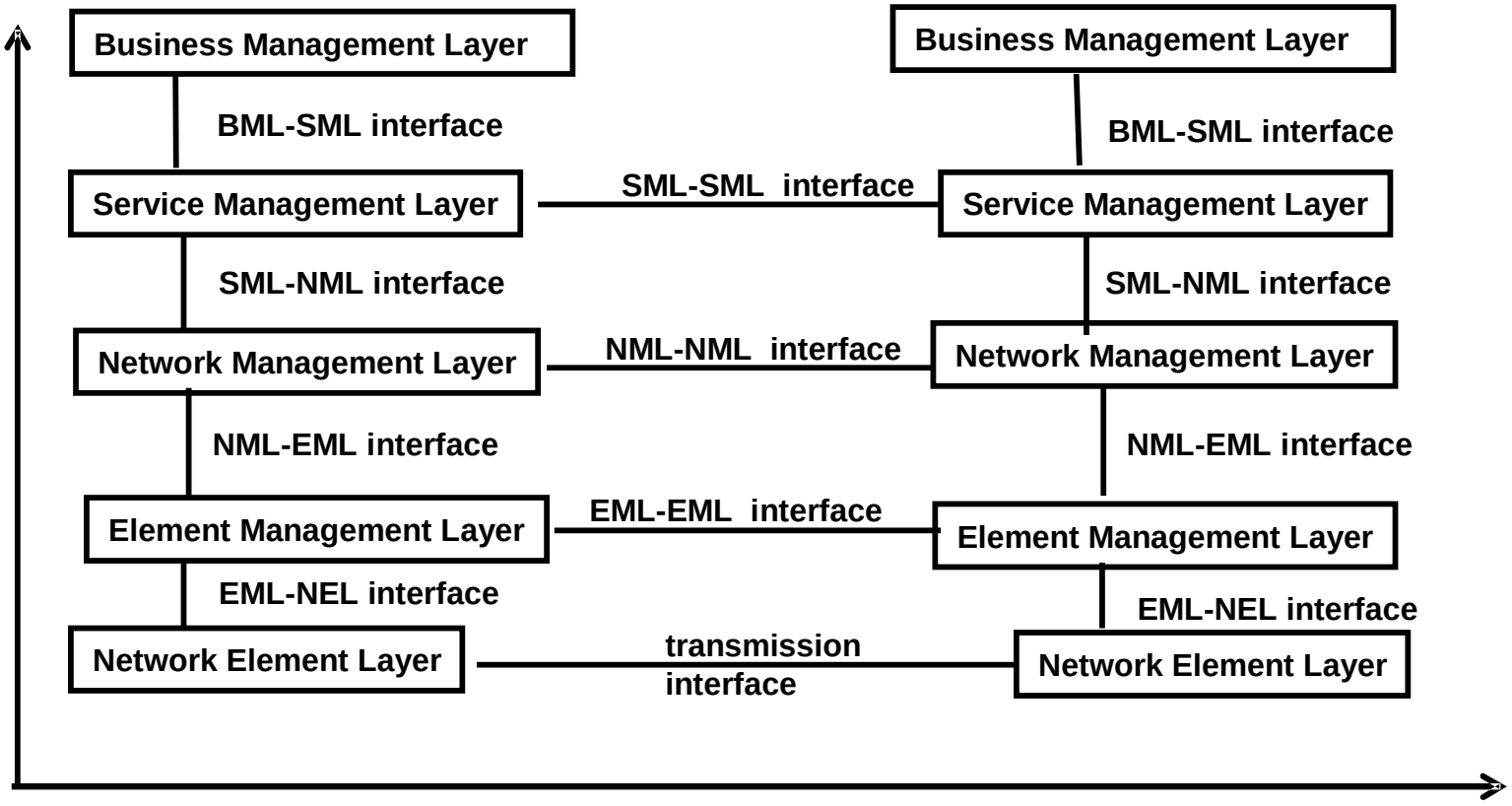
# Backup Charts

# NGNMFG Scope:
# FCAPS Management Interfaces




- **Excludes transmission interfaces**

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# NGNMFG 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:

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# Acronyms

- ASON - Automatic switching optical network
- BML - Business management layer
- EML - Element management layer
- eTOM - Enhanced Telecom Operations Map (tm)
- 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