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ITU-T overview of NGN Management

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Outline

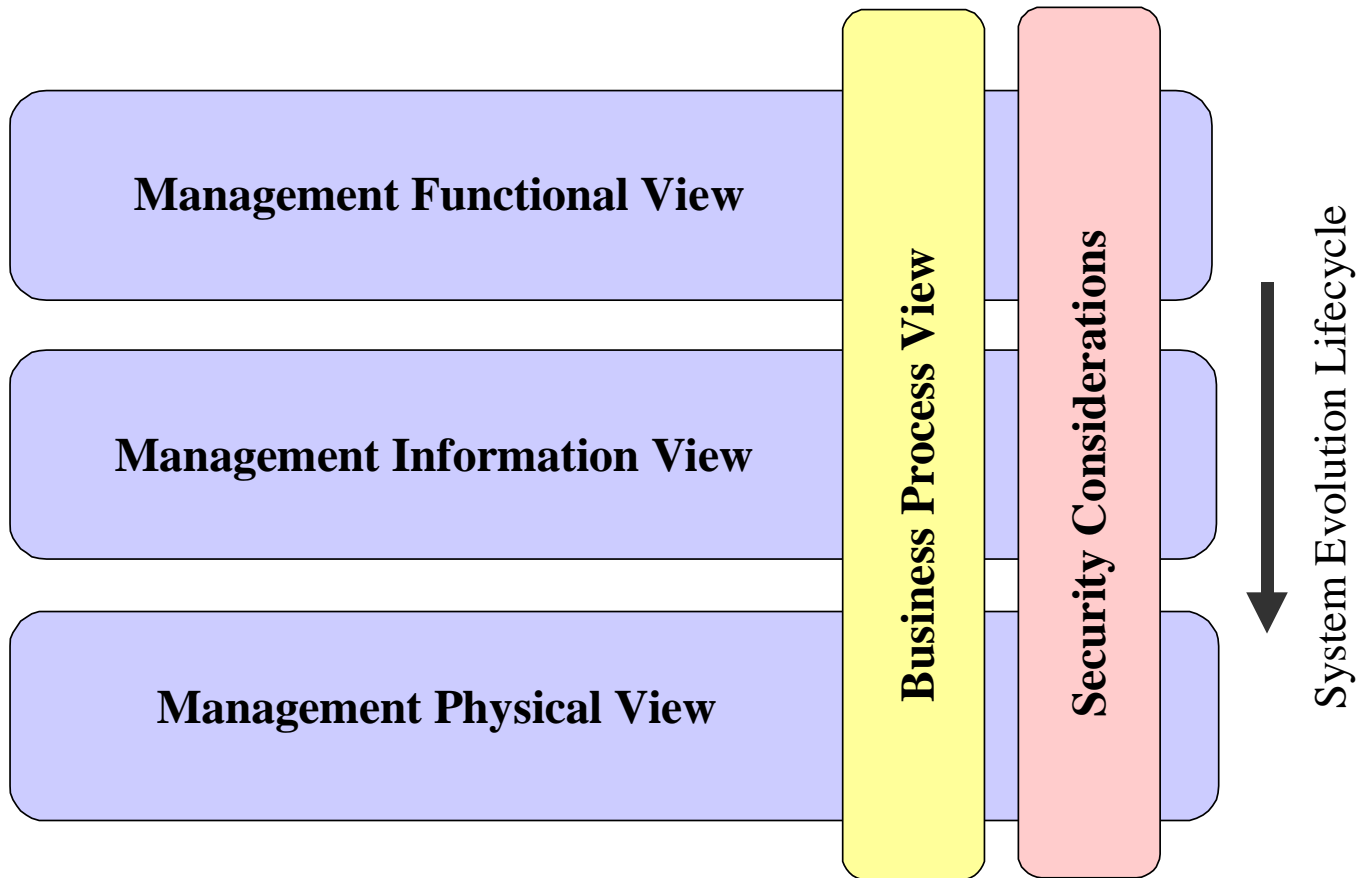
- o ITU-T SG 4
- o NGN Management Focus Group (NGNMFG)
- o NGN Management Specification Roadmap

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



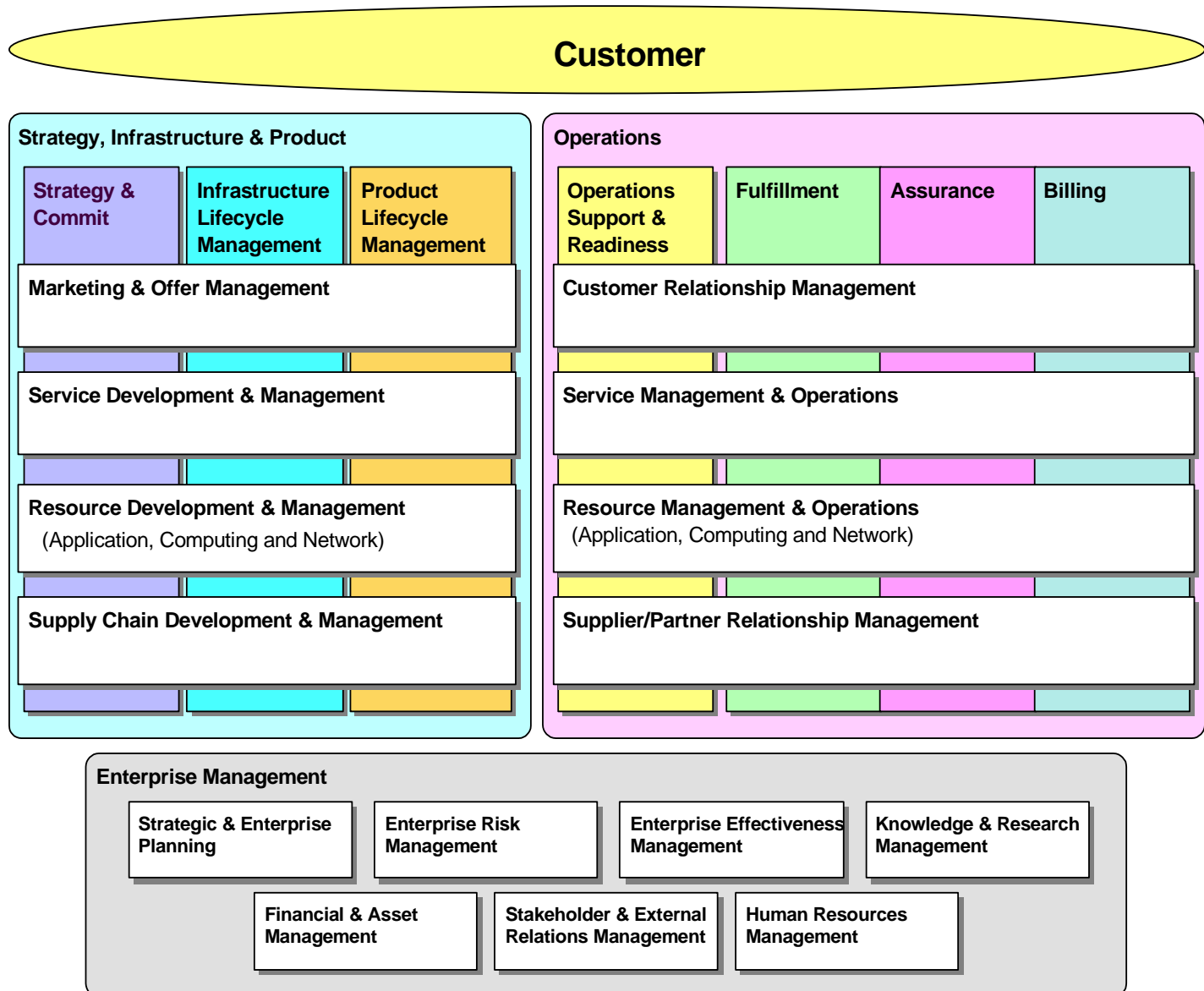
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NGN Management Architecture (M.3060)





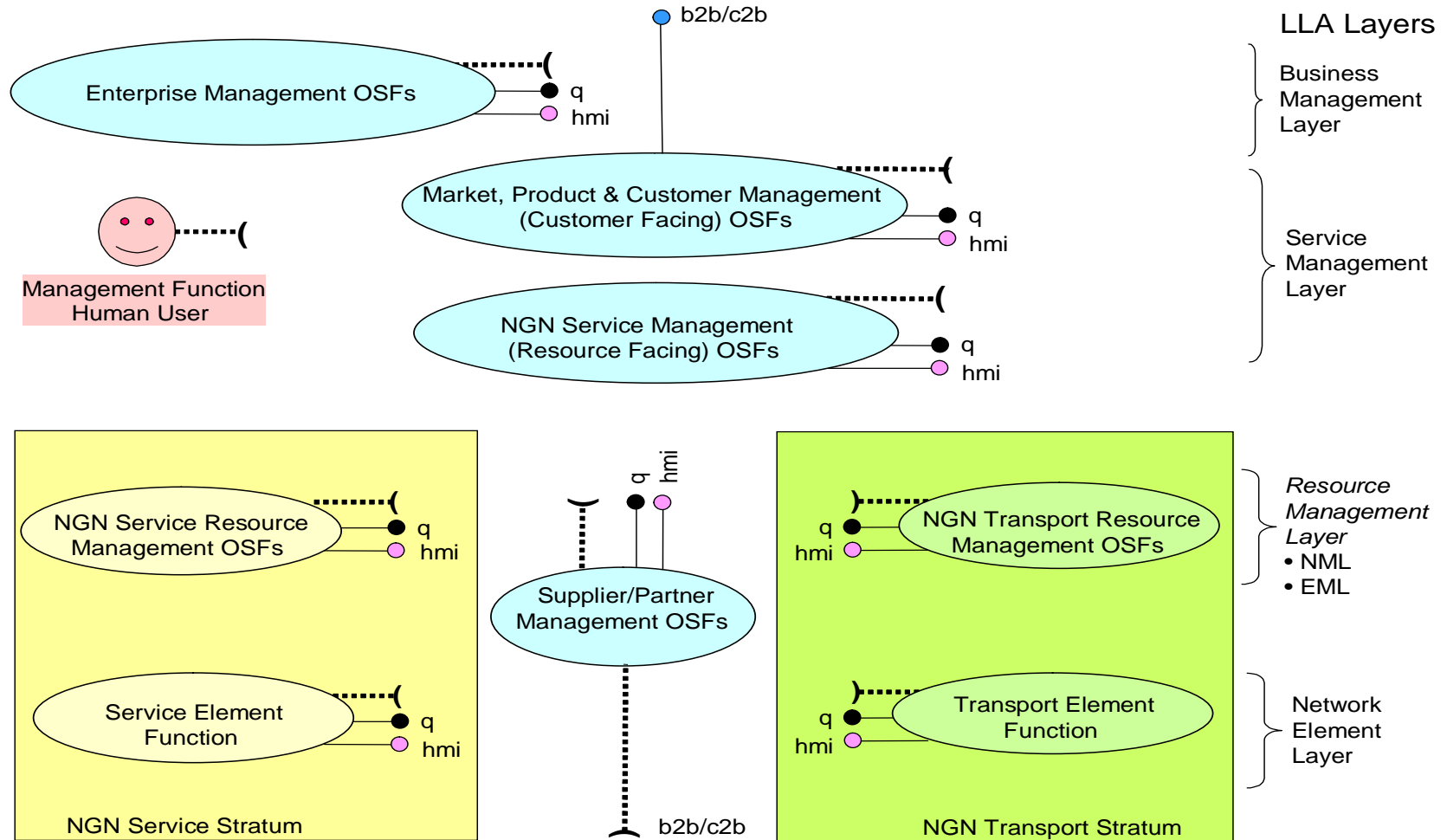
Business Process View (M.3050 series = TMF eTOM)





NGN Management Logical Layered Architecture (M.3060)

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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)

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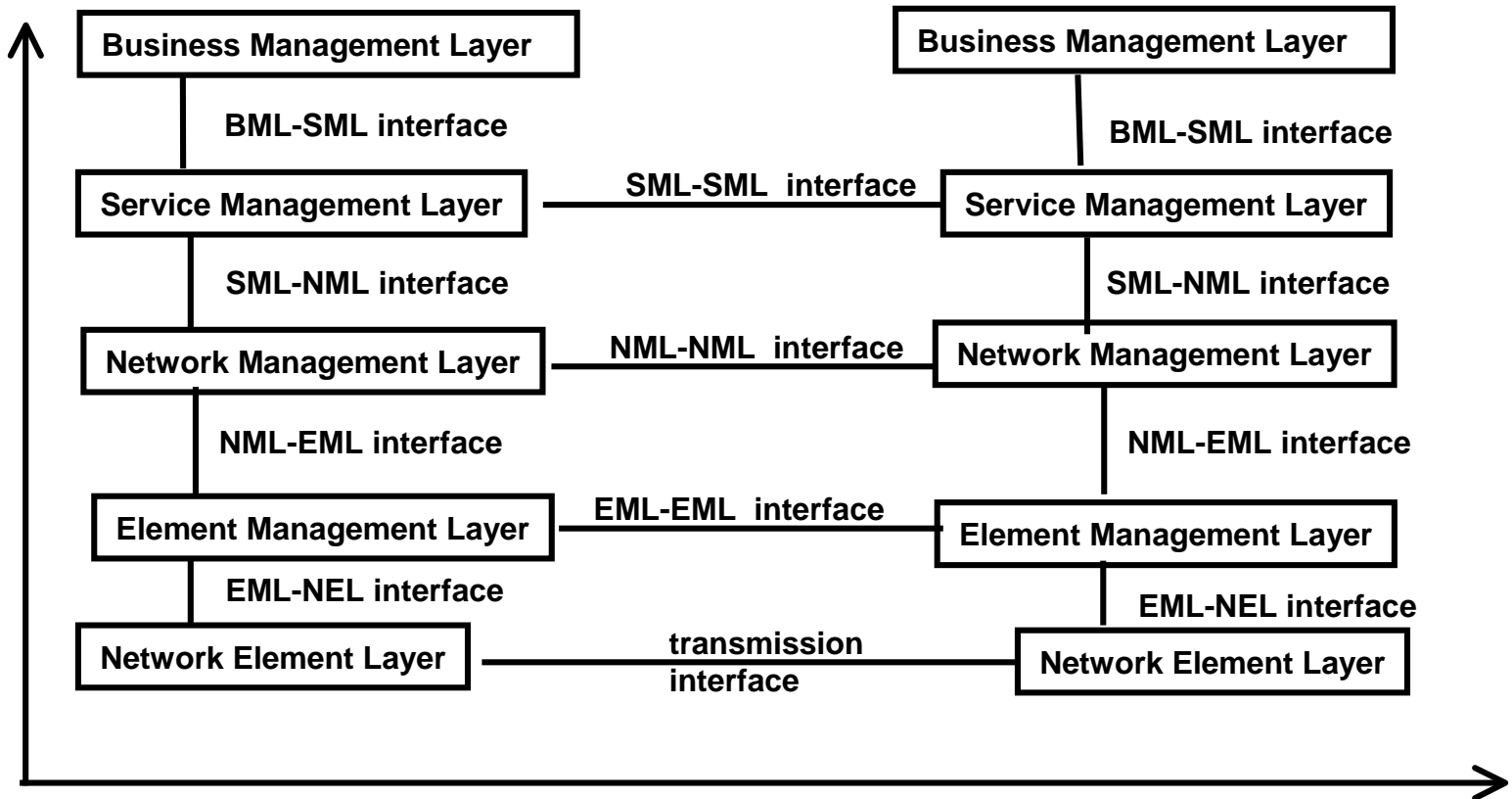
- o Established by ITU-T SG 4 in Sept 2004 at FGNGN request to support NGN Release 1
- o Based on a proposal from leaders of major SDOs, forums, and consortia
- o Focused on the following (FCAPS) management interfaces:
 - Network Element - Management System
 - Management System - Management System

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



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NGNMFG Scope: FCAPS Management Interfaces



- Excludes transmission interfaces



Organizations with most active participants

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



NGN Management FG – Objectives - 1

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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



NGN Management FG – Objectives – 2

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- 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)
 - 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

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- 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

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- 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)



NGN Management Specification Roadmap- 4

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o OASIS

- WSDM-MUWS (Web services distributed management)

o 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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o ATIS TMOC

Usage data for packet-based services

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

o DMTF

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

NOTE: Some of the above specifications are in draft form



Harmonization Activity

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- 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
- Information Models (many SDOs/forums)
 - f2f meeting happened on March 28-29 2006
 - 2 fold focus: generic, NGN functions
- XML-based framework and models (many SDOs/forums)

An intense activity during the last period !



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Template for Specification Candidates

Short Name

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



NGN Management Focus Group - Summary

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- 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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Thank you for your attention



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Backup information



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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