ITU-T Overview of NGN Management

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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)

- Management Functional Architecture
- Management Information Architecture
- Management Physical Architecture
- Business Process Architecture
- Security Considerations
Business Process Architecture
(M.3050 series = TMF eTOM)

ITU-T Workshop on NGN (jointly organized with IETF)
Geneva, 1-2 May 2005
NGN Management
Logical Layered Architecture (M.3060)

Enterprise Management OSFs

NGN Service Customer (Wholesale and Retail)

Market, Product & Customer (Customer Facing) OSFs

OSF Human User

NGN Service Management (Resource Facing) OSFs

NGN Service Customer Stratum

NGN Service Resource Management OSFs

Supplier Partner Management OSFs

NGN Service Element Management OSFs

Service Element Function

NGN Transport Customer Stratum

NGN Transport Resource Management OSFs

Transport Element Function

Imported Resources

NGN Transport Element Management OSFs

LLA Layers

Business Management Layer

Service Management Layer

Network Management Layer

Element Management Layer

Network Element Layer

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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)

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NGN Management FG – Objectives

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

- 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 architecture 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)
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

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

0 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 f2f meetings allowed
  - Any specifications produced are candidates to be SG 4 Recommendations
## Template for Specification Candidates

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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

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