Principles for the Management of NGN

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NGN

- Next Generation Networks are essentially about delivering new services that are available at any place, any time, and on any device, through any customer-chosen access mechanism.
- Network transformation
- Deployment of NGN will require new management principles and change in operator’s network management procedure.
TRANSFORMING BUSINESS PROCESSES, SYSTEMS AND ORGANIZATION

- It is clear that any network transformation should be matched with a corresponding telecom-management transformation.

- **What should be removed?:**
  - “stovepipe” solutions – dedicated to network technologies such as wireline, wireless and data/IP

- **What should be required?**
  - Implementation of business-driven framework that links business functions with a set of common work processes and systems transforming current business processes, systems and organization

- Many operators find themselves far from achieving these goals

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**TRANSFORMATION**

- Diagram showing the transformation of telecom management from a separate organization, processes, systems, services, to a more integrated model.
The key challenge of telecom management is to support network transformation, specifically to the new set of services that Next-Generation Networks will permit.

Deciding what to transform will depend largely on where the operator is in the value chain and what is its own specific business model.

ITU-T RECOMMENDATIONS

ITU-T Recommendation M.3060/Y.2401
The ITU-T Recommendation M.3060/Y.2401

- Recommendation presents the management requirements, general principles and architectural requirements for managing Next Generation Networks (NGN) to support business processes to plan, provision, install, maintain, operate and administer NGN resources and services.
- On the basis of TMN concept, this Rec defines concepts of the Next Generation Networks Management (NGNM) architecture, i.e., its business process view, functional view, information view, and physical view.

The objectives of management

- To provide a set of principles and a framework for managing next generation networks.
- This requires agreement amongst suppliers and operators on the organization of processes amongst them that may be operated by people, Operation Systems (OSs) or other Information and Communications Technology (ICT) systems.
The management architecture

- The management architecture needs to address:
  - Administrative boundaries amongst operator domain
  - Processes amongst operators across these domain boundaries;
  - Processes between Operators and their suppliers’ equipments;
  - Provider and Consumer Reference points between the logical functions used to realize those processes;
  - Provider and Consumer Interfaces between the physical entities used to realize the provider and consumer reference points;
  - Information model concepts used to support logical functions.

- The ITU-T has categorized management into five broad management functional areas (ITU-T Rec. M.3400)
- The business processes in the ITU-T Rec. M.3050.x series

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Functional architecture for NGN

[Diagram showing the functional architecture for NGN]

Note: Charging and billing functions and management functions are applied to both Service and Transport elements.

Figure 3-M.3060/Y.2401 – NGN architecture overview.
NGN management architecture overview

- Four views:
  - Business Process View;
  - Management Functional View;
  - Management Information View;
  - Management Physical View

The workflow in the creation of management specifications

![Diagram of the workflow]

Figure 2/M.3060/Y.2401 – NGN management architecture
The model described by eTOM is used in this NGNM architecture. Business processes are organized in the form of a multi-level matrix, into process areas, horizontal (functional) process groupings, and vertical (flowthrough) process groupings. It also provides basic mappings between business processes and management function sets.

**Management functional view**

- MFV is structured from the following fundamental elements:
  - management function blocks;
  - support function blocks;
  - management functionality;
  - provider reference points and consumer reference points;
  - logical management function layers.
A specialization of OSFs based upon different layers of abstraction is the following:

- **Enterprise Management**
- **Market, Product and Customer Management (Customer-Facing Service Management)**
- **NGN Service Management (Resource-Facing Service Management)**
- **Supplier and Partner Relationship Management**
MARKET, PRODUCT AND CUSTOMER LAYER

Management information view

- Specifies the exposed information exchanged between function blocks defined in the functional view
- Is based on standardized, open management paradigms that support the standardized modeling of the information to be communicated.
Management physical view

Structured from the fundamental elements: physical blocks and interfaces.

Support physical blocks: Transformation, Adaptation, Mediation

Relationships between management views
CONCLUSION

- MANAGEMENT TRANSFORMATION WILL REQUIRE TO:
  - Identify strategic transformation areas
  - Create projects that implement the transformation
  - Define target architecture
    - Processes
    - Systems
    - Organization
  - Create an effective integrated Telecom Management system
THANK YOU FOR YOUR ATTENTION!

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