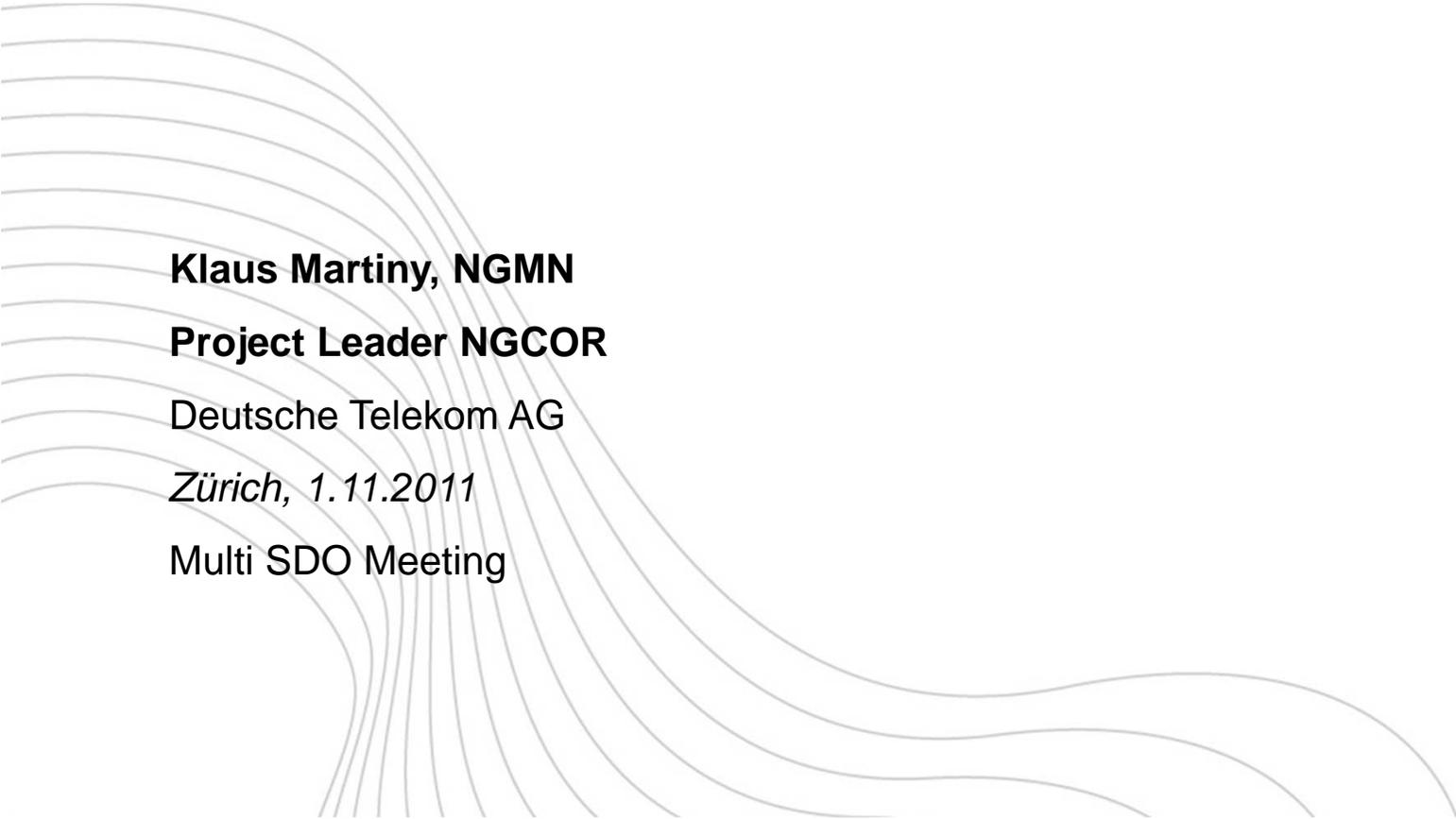

Project NGCOR – Next Generation OSS Architecture / Model



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Project Leader NGCOR

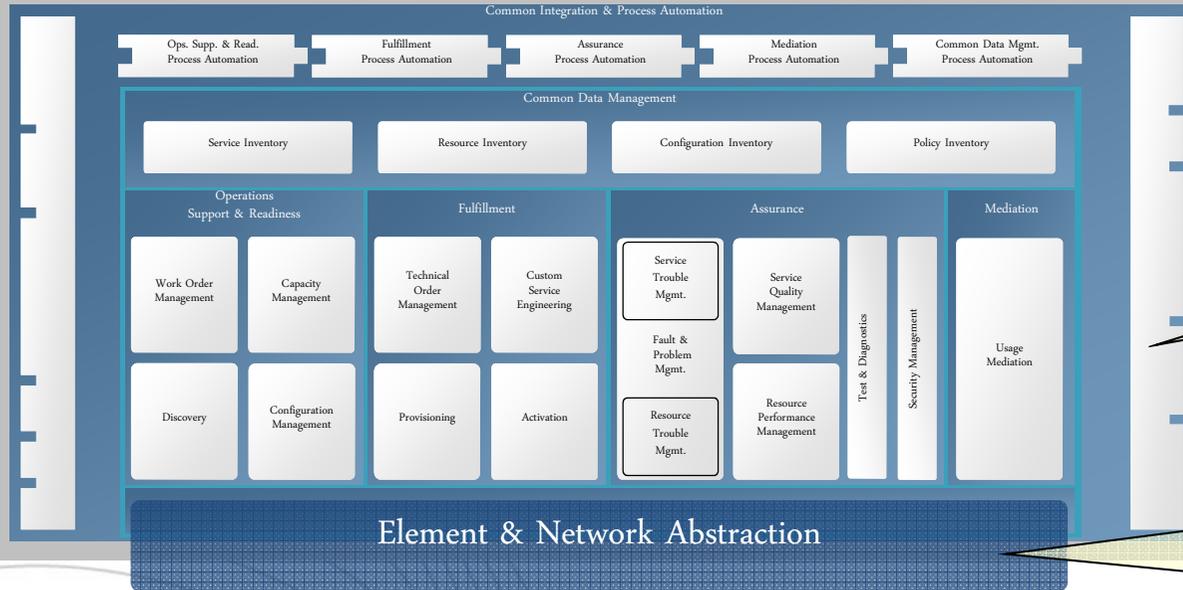
Deutsche Telekom AG

Zürich, 1.11.2011

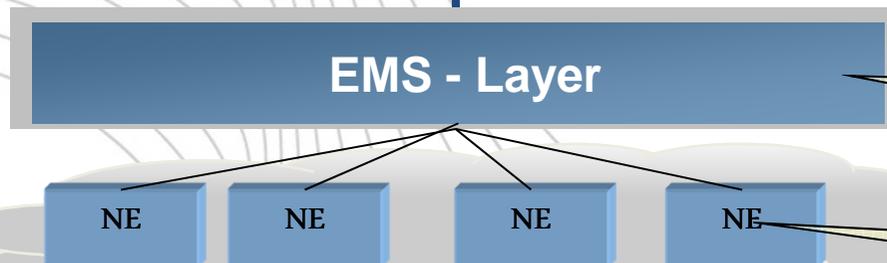
Multi SDO Meeting

OSS Architecture and Model

Management Plane e.g. NGSSM – DT functional architecture



Federated Model



OSS / NMS

- delivers the multi-vendor/multi-technology network management capabilities
- Based on TMF Framework – 80% common / 20% customized acc. Service Provider needs

Element & Network Abstraction

- adaption between OSS management information and vendor specific implementation
- ideally not needed

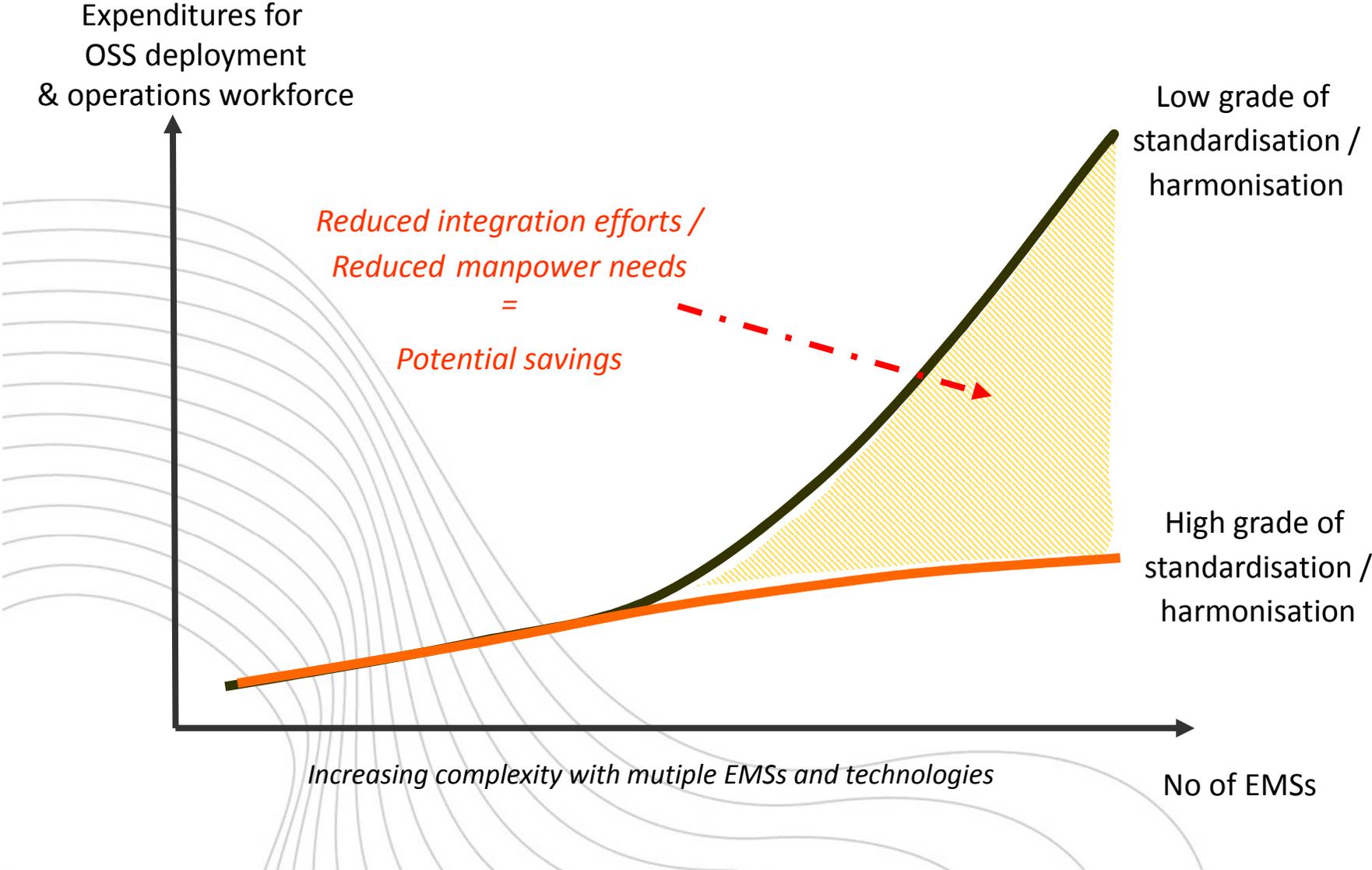
EMS = Element Mgmt System

- Ideally: adaption of vendor specific implementation to standardized / federated Model

NE = Network element

- mainly vendor spec. functionality

Business benefits from harmonisation and standardisation



Backup



NGSSM ABB - Service Inventory.

Provides service related information as shared data to NGSSM ABBs.



Reference Architecture

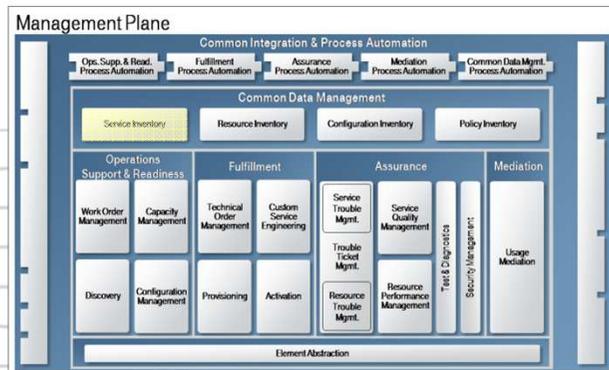


ABB Description

- Service Inventory stores the read only Service Catalog, service instances and the production plan.
- The Service Catalog captures the engineering view of the service offering and consists of collections of service specifications and related engineering processes for provisioning and monitoring.
- Service specifications are deployed by SI&P, the Service Catalog is initially populated by OS&R.
- Service instances (CFS and RFS including their relationships) and the production plan are created by Fulfillment processes.

Contract Examples

- Provide create, read, update and delete functionality (CRUD) for service specifications and instances

ABB Specific Topics

- Regular consistency checks are performed to maintain the integrity of Service Inventory.
- To enable collaboration between factories Service Inventories need to be harmonized. An agreement on a common service model (service specifications) for all involved factories is essential.

NGSSM ABB - Resource Inventory.

Provides resource related information to NGSSM ABBs.



Reference Architecture

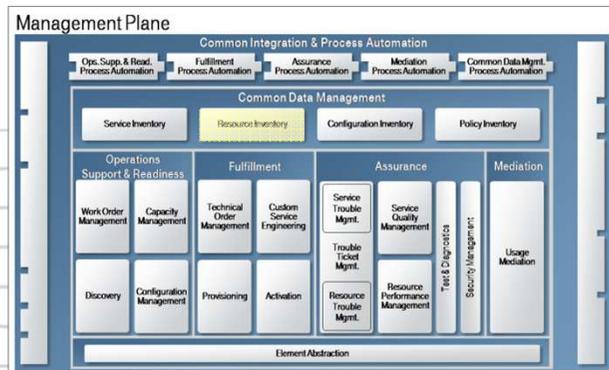


ABB Description

- The Resource Inventory contains physical, logical and network related information about resources, specifications and associations between these resources.
- It is populated by resource planning. All resources which are deployed in the Production Infrastructure are maintained here.
- Support of resource lifecycle management by export of network and topology information for network planning
- Reconciliation happens with resources discovered by the Discovery ABB
- Resource Inventory provides data to other NGSSM building blocks for e.g. root cause and impact analysis as well as resource activation.

Contract Examples

- Provide create, read, update and delete functionality (CRUD) for resource model and resource instance information
- Provide network topology information

ABB Specific Topics

- The linkage between Resource and Service Inventory is defined through the service/resource models.
- Resource related information like technical documents or floor plan is available via external systems.

NGSSM ABB - Configuration Inventory

Provides network element configuration related information to NGSSM ABBs.



Reference Architecture

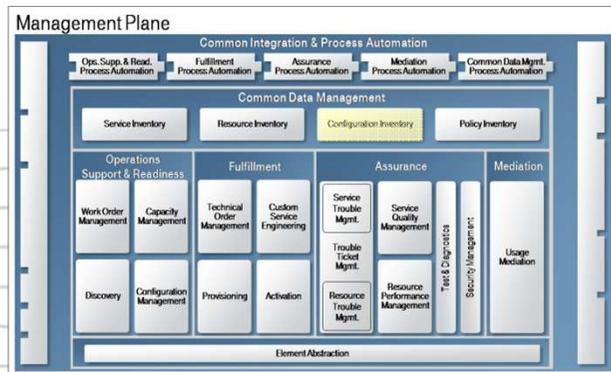


ABB Description

- The Configuration Inventory is the central data store for the Configuration Management ABB.
- It contains the configuration information and parameters for devices and applications of the Production Infrastructure and NGSSM itself.
- It is populated by Configuration Management which is triggered by e.g. resource life cycle, activation, assurance and discovery processes.
- Versions and validity ranges for configurations are stored. The topic is closely linked to resource life cycle management .

Contract Examples

- Provide create, read, update and delete functionality (CRUD) for network element configuration and parameters

ABB Specific Topics

- Only the ABB Configuration Management is allowed to update Configuration Inventory.
- Raw configuration data is stored and provided for restore.
- Consistency checks are done by the Configuration Inventory.

NGSSM Resource & Configuration Inventory.



Relationship and differences between Resource and Configuration Inventory.

Resource Inventory

- Lists all service production relevant resources, e.g. physical devices, device models, logical resources (numbers, ID, etc.), content, licenses
- Can link up to further data stores for resource attributes and detailed description like site information, access, geographical information, cabling, etc.
- Resources are “consumed” by provisioning processes when assigning them to a specific service instance.
- Examples: Ports of a DSLAM, cables, cable interconnections, etc.

Configuration Inventory

- Describes the necessary configuration information to setup a device
- Versions and validity ranges for configurations exist. The topic is closely linked to resource management life cycles.
- Typically when a new device “joins” the Production Infrastructure, it is configured first, and then (some) of the physical resources that it includes may be made available to the fulfillment procedures.
- Governed by a policy describing desired configuration states
- Examples: Router/server configuration, application image, etc.

NGSSM ABB - Policy Inventory.

Provides policy information to NGSSM ABBs via Policy Decision Points.



Reference Architecture

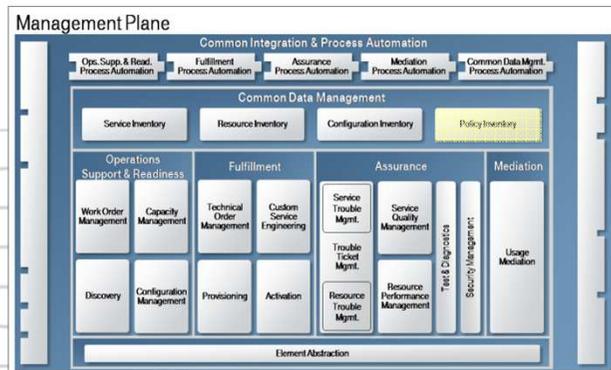


ABB Description

- Provides policies to Policy Decision Points (PDP) in order to evaluate rules and to Policy Enforcement Points (PEP) to enforce rules
- Policy Management Framework provides the capability to govern the observed behavior of objects within the NGSSM framework, e.g. defining access to information, resources, services and the frame of administrative procedures.
- The central PDP functionality is located within CIPA and will enable the interworking between PI and PEP. The PEP functionality is placed within the NGSSM building blocks.
- Policy Inventory is populated by a policy administrator.

Contract Examples

- Create, read, update and delete (CRUD) functionality for policy domains, jurisdictions, policy groups, policies, rule sets and rules

ABB Specific Topics

- Maintains relationship between policy domains, jurisdictions, policy groups, policies, rule sets and rules
- Provides consistency check functionality to identify static policy conflicts
- Provides means to manage the policy states timeframe, validity