Orchestration, Automation and Virtualisation: Architectures

Sonja Filiposka (UKIM/MARnet)
Susanne Naegele-Jackson (FAU/DFN)

GÉANT Infoshare – Orchestration, Automation and Virtualisation in the NRENs. Ready, Steady, Go!

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Towards Digital Platforms

- Self-service
- Agility
- Flexibility
- Interoperability
- Collaborative digital services
Focus Group: Architecture – Dear Santa

- Modular design
- Common Information Model
- Full automation support
- Multi-vendor support
- Flexible E-W integration
- Standardized abstraction and functionality exposure
Focus Group: Architecture – Dear Santa, do not forget...

- Open APIs
- Scalability
- Global services
- Research suitable
- Flexible components
- Security
- Resource type flexibility
- Service discovery
- Composite services
- Orchestration
- Technology and service agnostic
- Interoperability
- Compatibility
- Multi-tenancy
Orchestration, Automation and Virtualisation: Architectures

- **TM Forum Frameworx**
  - TMF Open APIs

- **MEF LSO**
  - Multi-domain NaaS

- **ETSI ZSM**
  - E2E service management

- **ETSI NFV aligned MANO**
  - ETSI OSM – widely used
  - Open Baton – reference implementation

- **ONAP**
  - Design time + run time + management

- **GVM**
  - Scalability, resource flexibility

- **SENSE**
  - E2e multi-domain orchestrators

- **EOSC**
  - Interoperable e-infras

- **ETSI GANA**
  - Autonomic network management
Reference Architecture

• High-level view
• Common principles and guidelines
  • Modular architecture approach
  • Discrete set of reusable components
  • Open APIs
  • Vegas rule
ODA Reference Architecture

• TMForum Open Digital Architecture (ODA)
  • (https://www.tmforum.org/oda/)
  • industry-agreed
  • technology agnostic
  • functional blocks
  • blueprint for modular, cloud-based, open digital platforms that can be orchestrated using AI
TM Forum ODA Functional Architecture
Moving Forward Together

Multi-domain and federated services via standardised patterns and interfaces

Automate and orchestrate

Identify components and APIs

Proceed iteratively

Employ model-driven approaches

Map your architecture to ODA

Where you are?
Where do you want to be?
Thank you

Any questions?

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