Orange

WAN Automation vision leveraged by ONAP

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Scope

WAN Infrastructures Automation

Many automation topics are focused on next generations: 5G, edge computing, ...

But what about current network infrastructures automation?

Focus on fixed and transport networks automation.

Source: TMForum
Drivers to automate network infrastructures

On demand services
Enable customer self services.
Instant commissioning / decommissioning of services.
Support pay as you grow / calendaring models

Improve time to market and promote innovations
Invest more time to focus on the development of new services that add more value to our business.
Increases innovation and focus on expertise.

Renovate IS and unlock IS/network adherences
Get agility respect to legacy IS roadmap.
Get flexibility for network sourcing (vs IS integration cost and delay).

Better security & Compliance
Automation will make sure policies are actually deployed accurately & consistently.
Increased traceability
Rules are automatically enforced.

QoS and Smart Operations
Data collection, analytics.
Self Healing.
Closed loop.

OPEX optimization
Fault handling, provisioning, reconfigurations all take time and expenditure.
Reduce field ops, customer call, time not worked operations, ....
We currently have automation in fixed networks.

These solutions are based on:
- “traditional” IT applications with strong adherences with network elements.
- Focused on mission critical processes.
- Per domain and vendor Network Management Systems
- Local scripting /dev in operational teams to help daily operations (or to provide some agility)

→ A change in the network have important impacts in the automation system.
→ Processes, networks domains, and even vendors in the same domain are automated in silos.
Automation perimeter is huge
A monolithic and universal solution will never match all the requirements

Operational Processes
- Network design, Capacity Planning
- Asset Management (Inventories)
- Network Commissioning
- Service Provisioning
- Maintenance (preventive, fault management, service performance, …)
- Self repairing, healing, scaling, …

Existing IS integration with many legacy systems.

Priorities may be different
- New on-demand business
- Automate manual processes
- Renovate existing automation systems
ONAP
Framework of a disaggregated automation platform

Common Automation Framework
- Subset of ONAP to be industrialized
- Installation in a secured Data Center
- Orchestration, Inventory, SDN-C, logging, security, northbound API, ...

Integration
Concept validated with PoC based on real operational use cases.

Open source project
First Topic
Added value component
Cisco
NSO
Our vision for automation

Openness & Operability and “Automation by design”
- Multi-vendors, Multi-networks, Multi-business units
- Cross-domains and multi-layers
→ To enable full end to end automation for “on-demand services” and operations.

Avoid future vendor lock-in
- The long term value is the automated processes (and not the automation engines).
- If automation is too dependent of a specific implementation, a new lock-in is introduced.

Specific Challenges & opportunities per network domain
- Fixed Access: Huge volume. A small optimization per customer can generate big savings.
- Microwave and optical: Physical layer management is “analogical-like” and requires proprietary implementations.
- IP: An automation program focused on configuration changes management has started.

This is a long term target.
- Implementation will start step by step keeping in mind the long term target.
One ambition
Three pillars

Our target is to have a common automation framework for all WAN segments based on ONAP ready for production to integrate automation components.

**Orange Countries**
Use cases driven
- Operational and automation requirements
- Field trials + POC

**Vendors**
Move the ecosystem
- Strategical partnership
- Evaluations
- RFP

**Open source and standardization**
Use and contribute
- Upstream code and Data Models
- POC and demos
Thank you