



ONAP presentation

@ Autonomous Networks - SDO Information Exchange meeting series

January 9, 2023

Agenda

- Short introduction to ONAP - Magnus Buhrgard (ONAP technical community coordinator for NW Mgmt)
- TOSCA Defined Control Loop Lifecycle Management Demo – Liam Fallon, Zu Qiang (Ericsson)

ONAP (Open Network Automation Platform) - Introduction

- ONAP is an open-source, orchestration and automation framework. It is hosted by The Linux Foundation
- Since the first release in November 2017, ONAP provides a comprehensive platform for real-time, policy-driven service orchestration and automation
- ONAP enables service providers and developers to rapidly automate the instantiation and configuration of physical, virtual and cloud-native network functions and to support complete life cycle management activities
- Functional Overview
 - Service design - using the TOSCA approach
 - Service orchestration and deployment
 - Service operations
- Non-functional topics: Code quality, Security, Documentation, Tests & Integration, etc

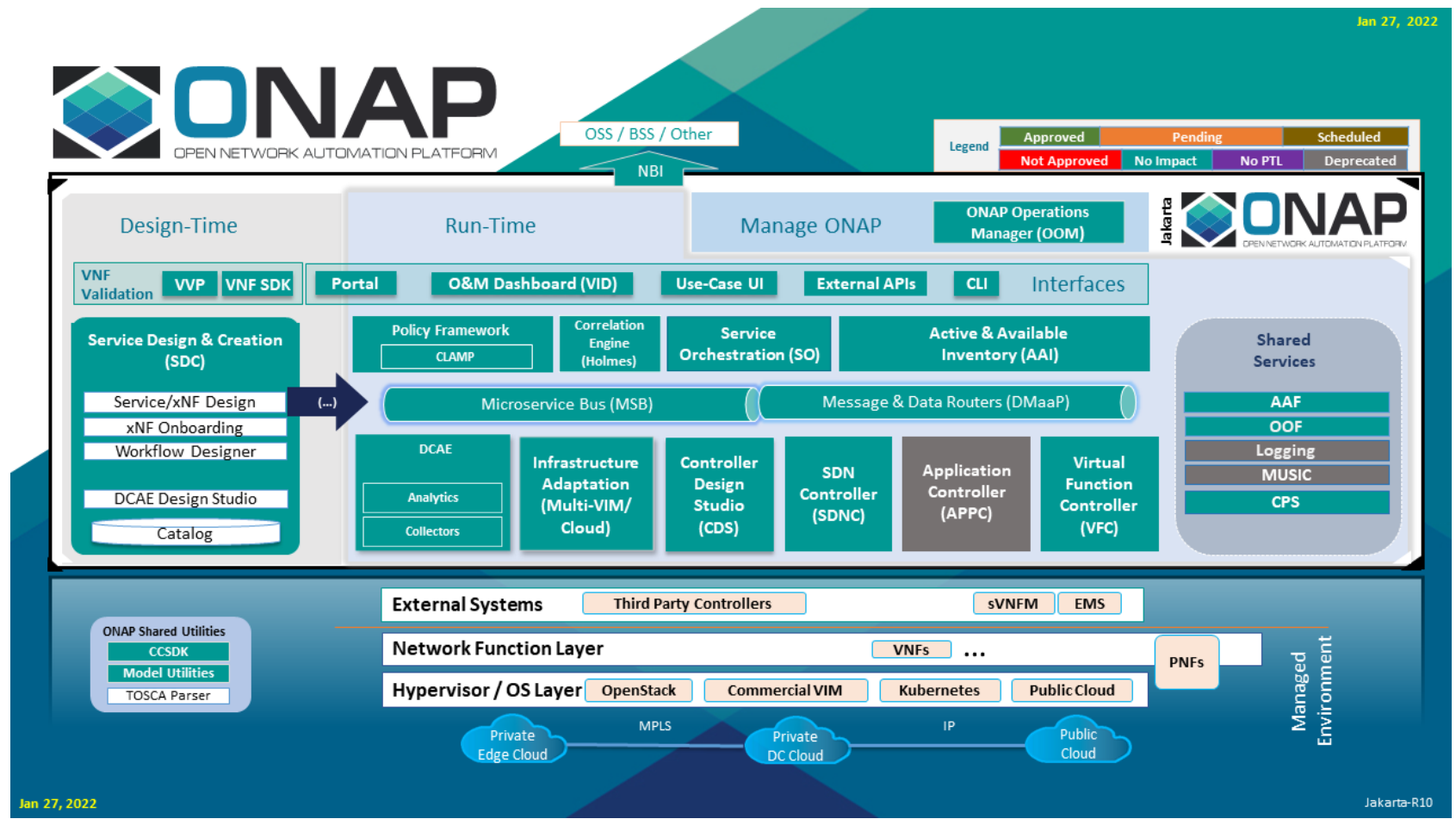
ONAP influence from a Multi-SDO perspective

Functional Architecture

Overall Automation Platform architecture

Expectations of functional and non-functional scope

Can be viewed as requirements



Technology Source/Realization

Open-source code implementation

Component & Interface Definition

Defines the components in terms of interfaces and capabilities (capabilities often expressed in code).

Component implementation may or may not use the opensource technology

Jakarta Release (#10) by the Numbers: Nov 2021 – Jun 2022



- 4.50M Lines of Code Changed
- 3.80K Changesets
- 3.37K Commits
- 4.65K Jira Tickets
- 174.81K Builds
- 213 Code Contributors
- 35 Contributing Organizations

With contributions coming from a wide variety of Network Operators, Equipment Vendors, and System Integrators, ONAP continues to be the leading collaboration platform for innovation in network management and orchestration.



The ONAP community chose to name the "K" release in honor of the late CNCF Executive Director, visionary, entrepreneur, and open-source advocate and pioneer, Dan Kohn

- **Extended O-RAN alignment and integration**
 - Continued maturing of A1-Policy controller functions
 - Support for the updated RESTCONF spec in the A1 Adapter
 - Improved alignment with O-RAN in the 5G SON use case
- **Cloud-Native Network Functions (CNF) Orchestration Improvements**
 - CDS support for Application Service Descriptor (ASD)
 - Onboarding ASD CSARs
 - Model updates to support ASD TOSCA types, support in SDC TOSCA parser
- **Intent-driven Closed-loop Autonomous Networks**
- **Improved Security**
 - SBOMs (Software Bill of Material)
 - Normalized security event logging
 - Simplifying security by starting the transition to a Service Mesh architecture

➤ **Deutsche Telekom deploys ONAP in O-RAN Town**

- DT deployed in the city of Neubrandenburg a multi-vendor Open RAN trial network for 4G and 5G services with massive MIMO integrated into the live network — the first in Europe.
- To automate services on all network domains, DT introduced a vendor-independent Service Management and Orchestration (SMO) component based on ONAP open source. SMO is a key component in the O-RAN Alliance architecture.

➤ **Orange deploys automation framework powered by ONAP**

- Orange has deployed and trialed an automation framework powered by ONAP
- The current use case, in production in Orange Egypt, includes automating network services, network connectivity and resource management inside IP/MPLS, and configuration changes such as provisioning virtual private networks.

➤ **Bell Canada automates a significant amount of manual configuration, recovery, and provision work by using ONAP in production across multiple use cases**

- Since 2017, the use of ONAP at Bell Canada has expanded to automating numerous key network services across all business units.
- Moving forward, ONAP is playing a major role in 5G and multi-access edge computing (MEC) rollouts.

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