ONAP presentations

@ Autonomous Networks - SDO Information Exchange meeting series

November 7 , 2022

Agenda

➢ Short introduction to ONAP - Magnus Buhrgard (ONAP technical community coordinator for NW Mgmt)

Two ONAP areas: 1) Intent Based Networks   2) Modelling and packaging of Network Functions for K8s

1. A General Implementation with Intent-based network in ONAP – Keguang He (China Mobile), Chuanyu Chen (Huawei)

2. Application Service Descriptor (ASD) for K8s NFs – Marian Darula, Byung-Woo Jun, 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
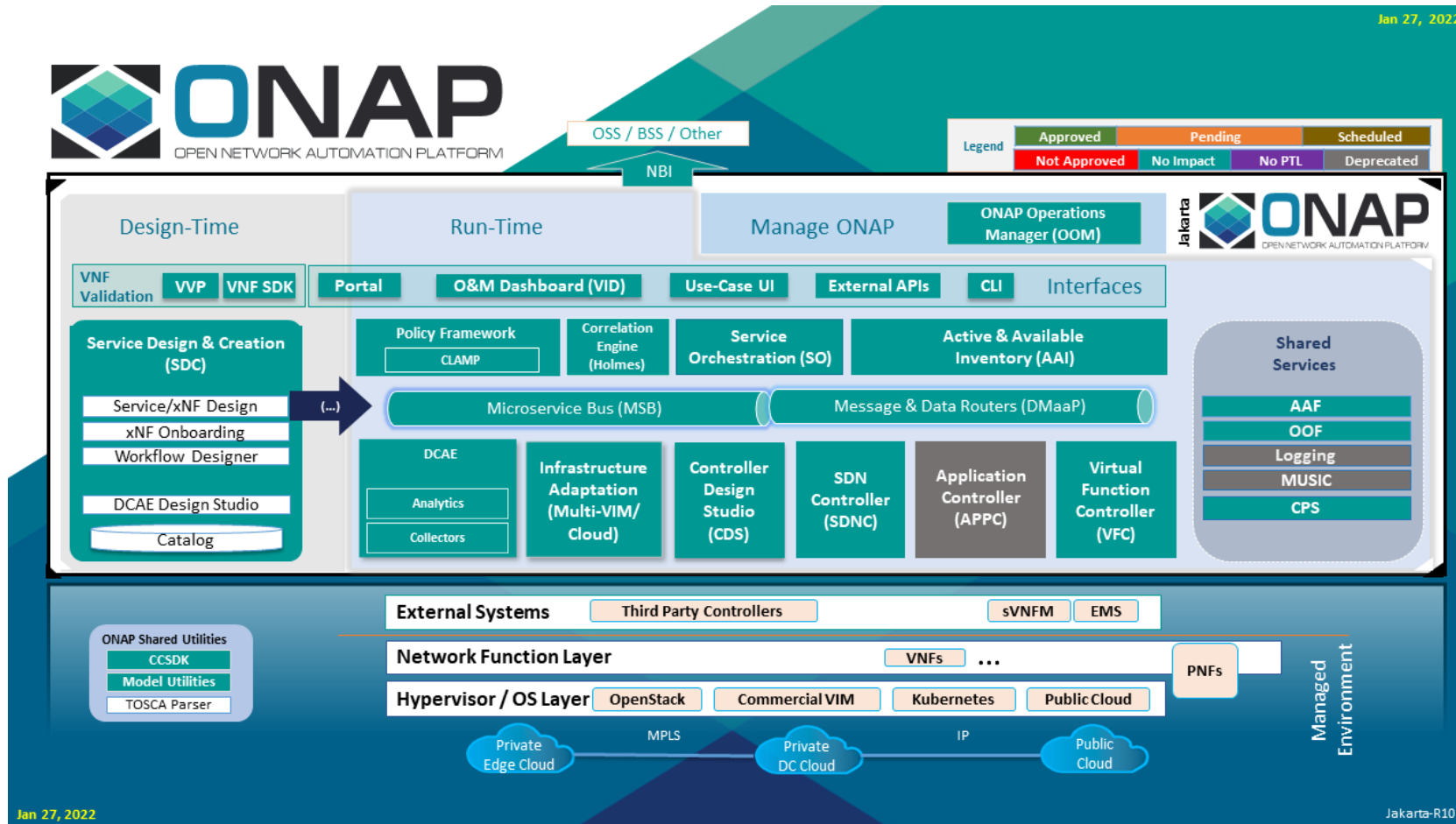
ONAP influence from a Multi-SDO perspective

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

ONAP deployment examples

- **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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OPEN NETWORK AUTOMATION PLATFORM

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