



LFN Developer & Testing Forum

# ONAP / OpenDaylight

**Projects similarities**

@Pantheon\_Tech

# Agenda

- A very brief overview of ONAP and OpenDaylight projects
- Discuss similarities between ODL and ONAP (sub)projects

# ONAP – overview



OSS / BSS / Other

NBI

Legend

Design

Orchestration & Management

Operations

Deprecated

Design-Time

Run-Time

Manage ONAP

ONAP Operations Manager (OOM)

Guilin



ONAP  
OPEN NETWORK AUTOMATION PLATFORM

VNF Validation

VVP

VNF SDK

Portal

O&M Dashboard (VID)

Use-Case UI

External APIs

CLI

Interfaces

Service Design & Creation (SDC)

- Service/xNF Design
- xNF Onboarding
- Workflow Designer
- Controller Design Studio
- DCAE Design Studio

Catalog

(...)

Control Loop Automation (CLAMP)

Policy Framework

Service Orchestration (SO)

Active & Available Inventory (AAI)

External System Register (ESR)

Microservice Bus (MSB) / Message & Data Routers (DMaaP)

DCAE

Correlation Engine (Holmes)

Collectors

Infrastructure Adaptation (Multi-VIM/ Cloud)

SDN Controller (SDNC)

Application Controller (APPC)

Virtual Function Controller (VFC)

Shared Services

- AuthN/AuthZ (AAF)
- Optimization (OOF)
- Logging
- Audit (POMBA)
- Multi-Site State (MUSIC)
- & Others ...

ONAP Shared Utilities

- CCSDK
- Model Utilities
- TOSCA Parser

External Systems

Third Party Controllers

sVNFM

EMS

Network Function Layer

VNFs

...

PNFs

Hypervisor / OS Layer

OpenStack

Commercial VIM

Kubernetes

Public Cloud

Private Edge Cloud

MPLS

Private DC Cloud

IP

Public Cloud

Managed Environment

# ONAP – core projects (Guilin)

## Common

- [DMAAP - Data Management as a Platform](#)
- [MSB - Microservices Bus](#)

## Service delivery

- [AAI - Active and Available Inventory](#)
- [SDNC - Software Defined Network Controller](#)
- [CCSDK - Common Controller Software Development Kit](#)
- [CDS - Controller Design Studio](#)
- [SDC - Service Design & Creation](#)

## Service assurance

- [DCAE - Data Collection, Analysis and Events](#)

## Ops

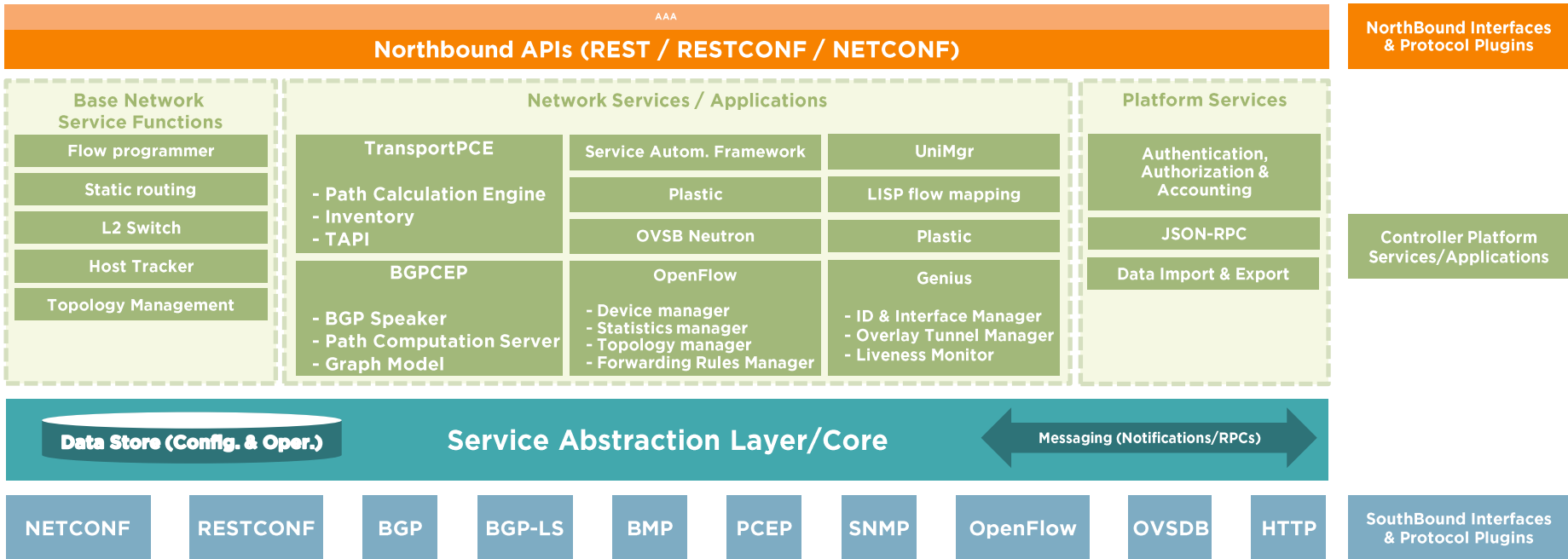
- [OOM - ONAP Operations Manager](#)

# ONAP – projects cont. (Guilin)

## Verticals:

- [AAF - Application Authorization Framework](#) (deprecated)
- [APPC - Application Controller](#) (deprecated)
- [CLAMP - Control Loop Automation Management Platform](#)
- [CLI - Command Line Interface](#)
- [EXTAPI - External API Framework/NBI](#)
- [HOLMES - Holmes Alarm Correlation and Analysis](#)
- [LOGGING - Centralized Logging](#) (deprecated)
- [MULTICLOUD - MultiCloud Framework](#)
- [MUSIC - ONAP Multi-Site Integration](#) (deprecated)
- [OOF - Optimization Framework](#)
- [ORAN - Open-RAN Support in ONAP](#)
- [POLICY - Policy Framework](#)
- [PORTAL - Portal Platform](#)
- [SDNR - Software Defined Network Controller for Radio](#)
- [SO - Service Orchestration](#)
- [UUI - Use Case User Interface](#)
- [VFC - Virtual Function Controller](#)
- [VID - Virtual Infrastructure Deployment](#)
- [VNFSDK - VNF Software Development Kit](#)
- [VVP - VNF Validation Platform](#)

# OpenDaylight - overview



# OpenDaylight - projects

## Kernel projects

- [AAA](#)
- [Controller](#)
- [Infrautils](#)
- [YANGTOOLS](#)
- [MD-SAL](#)
- [NETCONF](#)
- [odlparent](#)

## Managed projects

- [BGPCEP](#)
- [DAEXIM](#)
- [JSON RPC](#)
- [LISP Flow Mapping](#)
- [OpenFlowPlugin](#)
- [OVSDB](#)

## Self-Managed Projects

- [TransportPCE](#)
- [Genius](#)
- [NetVirt](#)

## Incubation

- [odlguice](#)
- [odlmicro](#)
- [odlsaf](#)
- [plastic](#)

# Similarities 1. – ONAP uses ODL

OpenDaylight dependencies found in ONAP (projects)\*

- [onap/ccsdk-oran](#)
- [onap/ccsdk-parent](#)
- [onap/ccsdk-distribution](#)
- [onap/ccsdk-features](#)
- [onap/sdnc-northbound](#)
- [onap/demo](#)
- [onap/appc](#)
- [onap/cps](#)

Deps: YANG / NETCONF / MD-SAL / CONTROLLER / AAA



# Similarities 2. - SO / SAF

Features	ODL SAF	ONAP SO
Camunda engine	✓	✓
Helm deployment	✓	✓
Dependencies:	jsonRPC Infrautils	ONAP AAF
Adapters	Opentracing adapter  API to communicate northbound  Python NAPALM and ntc-rosetta for southbound	Catalog DB adapter CNF adapter NSSMF adapter OOF adapter OpenStack adapter SDNC adapter VFC adapter VNFM adapter

Git stats:

## ODL SAF

- contributors: **3**
- commits: **6 (last 12/20/2020)**
- lines of code: **approx. 18k**

## ONAP SO

- contributors: **59**
- commits: **6485 (last 02/02/2021)**
- lines of code: **approx. 121k**

# Similarities 3. - DCAE / Plastic

Features	ONAP DCAE	ODL Plastic
Data input	Handlers (northbound) Collectors (southbound)	Payload in XML or JSON format for translation calls
Data processing	Analytics Event Processor	Variables Schemas Morphers Classifiers

DCAE uses use case driven collectors and handlers with no data transformation features, while PLASTIC uses different approach taking input data mapping it into input schema binding variables, transforming it with a morpher and mapping to output schema.

Although DCAE is better maintained it does not provide a generic mapping layer which PLASTIC does, thus ONAP DCAE might benefit from adopting the PLASTIC service if it could be integrated with Kafka and/or REST.

Git stats:

Plastic

- contributors: 5
- commits: **29 (last 10/16/2020)**
- lines of code: **approx. 18k**

ONAP DCAE (parent repo)

- contributors: **29**
- commits: **355 (last 02/02/2021)**
- lines of code: **approx. 84k**

ONAP DCAE sub-repositories:

- count: **34**

# Similarities 4. - Not covered ?

- Inventory
- AAF vs. AAA
- Adapters & protocols
- ???

# Discussion / Thoughts

- What's the demarcation line between ONAP and ODL ?
- Project candidates for transfer from ODL to ONAP or vice-versa ?



A close-up, top-down view of a large quantity of dark brown, roasted coffee beans. The beans are densely packed and show various textures and shades of brown, from deep chocolate to almost black tones, with some lighter, golden-brown beans interspersed. The lighting creates highlights and shadows, emphasizing the individual shapes and creases of the beans.

**Thank you**





# OLF NETWORKING

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