## **DCAE R12 London M2 Architecture Review**

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## 1. Overview

DCAE project provides intelligence for ONAP to support automation (via open-loop and CL) by performing network data collections, analytics & correlation and trigger actionable rootcause events.

Since Jakarta release, DCAE Platform component centered around Cloudify has been deprecated; all Microservice orchestration and lifecycle management are handled through Helm/Kubernetes.

The **DCAE** services components includes all the microservices - collectors, analytics and event processor which supports active data-flows and processing as required by ONAP usecases. The architecture of DCAE targets flexible, micros-service oriented, model based component design and deployment. DCAE offers support for multi-site collection and analytics operations which are essential for large ONAP deployments.

## 2. New component capabilities for London, i.e. the functional enhancements

Following are the planned scope for London release (more info on the commitment and supporting companies documented under DCAE R12 London M2 Release Planning)

- Support TSC approved ONAP Usecases and Features\*
  - REQ-1379 Improve DCAE PRH to handle Early PNF Registrations (DT)
- Alignment with TSC/SECCOM Global requirements & TSC/SECCOM Best Practice
- Archival of DCAE MOD repositories and components

\* Pending committment (dependent on community contribution/support)

#### **Services Introduction**

Following new service is targetted for London (Supported by Wipro)

- ML MS (REQ-1074)
  - Repository : https://git.onap.org/dcaegen2/services/tree/components/ml-prediction-ms (introduced as new subproject under existing repo)

Refer DCAE R12 London M2 Release Planning#Scope for more details



# **ONAP DCAE Architecture (LONDON)**

## **Deprecation Notice:**

DCAEMOD will be deprecated from DCAE in London release.

Background : DCAE MOD was introduced in Frankfurt release to address following requirements:

- a. Simplified and streamlined onboarding for DCAE components/microservice and distribute the deployment artifact with DCAE-Core Platform (Cloudify)
- b. Provide Common Catalog for reusable DCAE microservices for Designer to leverage
- c. Enable automated onboarding for ML microservices from Acumos.

Acumos project has been archived under LF (end of 2021). And with DCAE platform transformation feature, requirement #a and #b are less critical as the onboarding/deployment are easily managed through Helm-Charts and catalog supported through Chartmuseum (or any other registry). As some MOD components are on java8 due to upstream dependency with Apache/Nifi project on java8 and have SECCOM exception currently, team had decided to retire MOD.

(TSC Notification : https://lists.onap.org/g/onap-tsc/topic/dcae\_mod\_eol\_with\_london/92490689)

### Deployment

# ONAP DCAE London Deployment



## 3. New or modified interfaces

#### **New External interfaces**

None

#### **Modified interfaces**

With REQ-1379 (Improve DCAE PRH to handle Early PNF Registrations) - PRH publish interface will be switched to use Kafka API directly (replacing DMAAP). No change/impact to SO.

#### **Deprecated interfaces**

• With deprecation of Acumos Adapter, interface with Acumos project will no longer be supported

## 4. Interface naming

DCAE R12 London M2 Release Planning#APIOutgoingDependencies

DCAE R12 London M2 Release Planning#APIIncomingDependencies

## 5. Reference to the interfaces

DCAE R12 London M2 Release Planning#APIOutgoingDependencies

Existing platform API's - https://docs.onap.org/projects/onap-deaegen2/en/latest/sections/offcredapis.html

DCAE Service Components

• VES-Collector

- HV-VES (High Volume VES)
- PRH (PNF Registration Handler)
- DFC (DataFile Collector)
- 3GPP PM Mapper
- PM Subscription Handler

- DCAE SDK
- RESTConf • DES
- PMSH
- Slice-Analysis MS

## 6. What are the system limits

Relies on k8s for loadbalancing and scaling. DCAE platform handles the control flow and do not carry the data/event; DCAE service components can be scaled and support state management through external DB and/or K8S state management.

As DCAE collectors are extensively used in all ONAP usecase, performace testing has been done on below collectors

VES Collector Performance Test

PM-Mapper performance baseline

Datafile Collector (DFC) performance baseline results

HV-VES Performance Test

## 7. Involved use cases, architectural capabilities or functional requirements

- Usecases DCAE R12 London M2 Release Planning#JakartaUsecaseswithDCAEimpact
  Features DCAE R12 London M2 Release Planning#JakartaFeatureswithDCAEImpact

## 8. Platform Maturity Targets

London Release Platform Maturity

Global Requirement and Best Practices - DCAE R12 London M2 Release Planning#BestPractices/GLOBALRequirements

## 9. Listing of new or impacted models used by the project (for information only)

No model changes planned for London release