DCAE R8 M2 Architecture Review

1. Project 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.

DCAE components are classified between **platform** and **service** components. **DCAE Platform** refers to the set of **controller components** which manages **deployment and LCM** of **DCAE service components**. 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 also offers support for multisite collection and analytics operations which are essential for large ONAP deployments.

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

DCAE Focus for R8 is on following

- ONAP R8 Usecase & Feature requirement
- TSC/SECCOM Global requirements
- DCAE Transformation to support Helm deployment for services
- General platform optimization (Cloudify upgrade for python 3.6)
- Reducing DCAE backlogs + security fixes

Refer DCAE R8 M2 Release Planning#Scope for more details

Following new services will be delivered in R8

- KPI Computation MS (<u>REQ-440</u>)
 - Repository : https://git.onap.org/dcaegen2/services/tree/components/kpi-computation-ms (introduced as new subproject under existing repo)
- VES-OpenAPI-Manager (<u>REQ-433</u>)
 - Repository : https://gerrit.onap.org/r/admin/repos/dcaegen2/platform/ves-openapi-manager (New repo)
- DCAE-service-policy-Sync (<u>REQ-479</u>)
 - Repository : https://git.onap.org/dcaegen2/deployments/tree/dcae-services-policy-sync (introduced a new subproject/module under existing repo)

In Honolulu, POC for new MOD Front-End and Back-end components will continue - DCAEGEN2-2313 (this would eventually replace NiFI based Ul/processor in subsequent ONAP release)

MOD Redesign (POC)



3. New or modified interfaces

Architecture diagram - DCAE R8 M2 Release Planning#Highlevelarchitecturediagram

New External interfaces

None for H release

Modified interfaces

VES Collector (7.2.1 VES support)

If they are modified, are the backwards compatible?

• VESCollector - Yes

4. Interface naming

https://wiki.onap.org/display/DW/DCAE+R4+M1+Release+Planning#DCAER4M1ReleasePlanning-APIIncomingDependencies

5. Reference to the interfaces

Existing platform API's - https://docs.onap.org/projects/onap-dcaegen2/en/latest/sections/offeredapis.html

DCAE Platform

- Config Binding Service
- Deployment-Handler
- Inventory API
- Onboarding HTTP API (MOD)
- DCAE Dashboard https://git.onap.org/ccsdk/dashboard/tree/ccsdk-app-os/src/main/resources/swagger.json

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 https://git.onap.org/dcaegen2/collectors/restconf/tree/swagger_restconfcollector.yaml
- des-swagger.json

DCAE R8 M2 Release Planning#APIOutgoingDependencies

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 R8 M2 Release Planning#HonoluluUsecaseswithDCAEimpact
- Features DCAE R8 M2 Release Planning#HonoluluFeatureswithDCAEImpact

8. Platform Maturity Targets

DCAE R8 M2 Release Planning#PlatformMaturity.1

Global Requirement and Best Practices

DCAE R8 M2 Release Planning#BestPracticeCandidates

DCAE R8 M2 Release Planning#GlobalRequirements

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

VES Mode updates tracked under REQ-433 - ONAP/3GPP & O-RAN Alignment-Standards Defined Notifications over VES (Honolulu)