DCAE R6 M1 Release Planning

Overview

Project Name	Enter the name of the project
Target Release Name	Frankfurt
Project Lifecycle State	Incubation. Refer to ONAP Charter, section 3.3 Project Lifecycle for further information
Participating Company	AT&T, Nokia, Ericsson, Wipro, IBM, TechM, Orange, ChinaMobile, Huawei

Scope

What is this release trying to address?

High Level Summary

- Addressing one of the long term goal to simplify the onboarding experience for MS in DCAE. Introducing new MicroService, Onboarding & Design (MOD) Platform in DCAE for Frankfurt, which will replace DCAE-DS currently under SDC
- Policy Integration : Enable update flow support via Dmaap
- Acumos-DCAE Adapter Integration (POC)
- Support ONAP usecases, functional requirement targeted for Frankfurt
- Addressing DCAE back logs (El-ALTO - Tracker) + security fixes

Following **new services** is targeted for R6 additions.

- PM-Subscription Handler
- TCA-gen2

SDK Enhancement

- Dmaap pub/sub
- Configbindingservice

Enhancement to existing DCAE components

- VES Collector (security)
- PRH (common sdk)
- SON-handler
- DFC (security)

Frankfurt Features with DCAE Impact

- Self-Serve Control Loops
- Policy Update Notifications
- 5G / OOF SON Enhancement
- 5G / Run-time Data Persistency
- Modeling: 5G / ORAN & 3GPP Standards Harmonization
- 5G / Bulk PM / PM Control
- 5G / Bulk PM / Secure Communication between xNFs and ONAP
- 5G / PM dictionary
- PNF / Plug and Play

Non-Functional Requirement

- VESCollector Enhancements
  - DCAEGEN2-1594 – VESCollector healthcheck support when authentication is enabled; Validation blocked by DCAEGEN2-1757 – spring version issue
  - DCAEGEN2-1483 – Event publish order issue
  - DCAEGEN2-1484 - Set dynamic partitionkey **(stretch goal)**
  - DCAEGEN2-1774 - Optimize VES schema load by retain in-memory than loading file each time (dint find corresponding jira, created new today)
  - DCAEGEN2-608 - Performance/benchmarking
  - DCAEGEN2-1776 - Remove certOnly and basicAuth from authentication methods
  - DCAEGEN2-1779 - Switch VES collector's K8s health checks to HTTPS
- TCA-gen2 delivery and replace TCA/cdap (DCAEGEN2-1907)
  - Mongodb support for tca-gen2
- Deployment optimization (Plugin load, reduce bootstrap, ~~Cloudify upgrade~~)
- ~~Python 3.x Plugin upgrade (5.0.5 - Cloudify mock available; 5.1 - full python 3.x)~~
- Python 3.x support (DCAEGEN2-1519)
  - DCAEGEN2-1548 - Python 3.x upgrade for Policy Lib
- DCAE Dashboard Fixes and security updates
- Automated test improvement (csit/robot)
- DCAE Helm chart org (OOM-1574)
- Multi-site registry alignment (DCAEGEN2-1879) - **(stretch goal)**
- DCAE TLS init container improvement
  - DCAEGEN2-917 - Dynamic cert generation through AAF
  - REQ-136 - CMP-v2 cert generation support
- OTI Phase1 (contribute new platform component) (DCAEGEN2-1908)
  - OTI Integration impacts following components (k8splugin, stateful set support, OTI-handler, OTI-EventProc, CBS*, kube2pyconsul, PG*, Nginxproxy, bp-gen). For Frankfurt, **OTI-Handler** and **OTI-Event proc** component seed code will be delivered and integrated with ONAP CI process. The full platform integration will be deferred to Guilin release.
- DL Handlers integration DCAEGEN2-1849
- MOD Integration DCAEGEN2-1852
- Sonar coverage improvement (60% target for Frankfurt) **(stretch goal)**
  - dcaegen2-analytics-tca-gen2 – 56% (DCAEGEN2-1900)
  - dcaegen2-collectors-snmptrap – 56% (DCAEGEN2-1903)
  - dcaegen2-platform-inventory-api – 58% (DCAEGEN2-1906)
  - dcaegen2-platform-plugins – 56% (DCAEGEN2-1904)
  - dcaegen2-services-heartbeat – 57% (DCAEGEN2-1902)
  - dcaegen2-services-son-handler – 55% (DCAEGEN2-1905)
  - ccsdk-dashboard – 42.5% (DCAEGEN2-1901)
- Outstanding OJSI Jira (OJSI Tickets Status)
- Java 11 Upgrade (DCAEGEN2-1918) **(stretch goal)**
- Following additional TSC MUST have requirement will be handled in this release.
  - Document current upgrade component strategy
  - SECCOM Perform Software Composition Analysis - Vulnerability tables
  - SECCOM Password removal from OOM HELM charts
    - No DCAE impacts identified; will handle new charts contribution for MOD to align with Security needs.
  - SECCOM HTTPS communication vs. HTTP

config-binding-service	30415
dashboard	30418

Platform Maturity

Platform Maturity (i.e., S3P items) Frankfurt Release Platform Maturity

Green color Target level (details see Platform Maturity below)

- Performance: **Level 1**
- Stability: **Level 2**
- Resiliency: **Level 2**
- Security: **Level 1+**
- Scalability: **Level 1**
- Manageability: **Level 1+**
- Usability: **Level 1+**

Minimum Viable Product

The MVP of DCAE will include the necessary subcomponents supporting the primary objectives: meeting platform maturity goals and supporting the use cases.

- Cloudify Manager
- Consul (deployed/managed by OOM)
- DeploymentHander
- Policy-Handler
- ServiceChangeHandler
- Inventory-API
- Postgres
- ConfigBinding Service
- Dashboard
- DCAE-MOD
  - genprocessor
  - webui
  - distributorapi
  - runtimeapi
  - onboardingapi
  - blueprint-generator

DCAE Service specific components

- VESCollector
- TCA (Analytics application)/TCA-gen2
- PRH
- HV_VES

Functionalities

List the functionalities that this release is committing to deliver by providing a link to JIRA Epics and Stories. In the JIRA Priority field, specify the priority (either High, Medium, Low). The priority will be used in case de-scoping is required. Don't assign High priority to all functionalities.

Epics

Key	Summary	T	Created	Updated	Due	Assignee	Reporter	P	Status	Resolution

No issues found

Stories

Key	Summary	T	Created	Updated	Due	Assignee	Reporter	P	Status	Resolution
DCAEGEN2-2199	Helm chart deployment of Acumos Adaptor		Apr 09, 2020	Apr 27, 2020		Jack Lucas	Jack Lucas	=	CLOSED	Done
DCAEGEN2-2178	Update DMaaP msgrtr version in docker-compose file		Mar 31, 2020	Apr 28, 2020		Unassigned	None	=	CLOSED	Done
DCAEGEN2-2102	Provide separate environment variable for db password for dcaemod-onboarding-api		Feb 27, 2020	Mar 11, 2020		Jack Lucas	Jack Lucas	=	CLOSED	Not Done

DCAEGEN2-2098	Switch DL handler components to Cloudify /tosca blueprint		Feb 26, 2020	Mar 24, 2020	Unassigned	None		CLOSED	Done
DCAEGEN2-2085	deployment-handler to expect policyVersion as semver to support for DMaaP MR update notification from PDP		Feb 18, 2020	Apr 27, 2020	Unassigned	None		CLOSED	Done
DCAEGEN2-2082	Switch NiFI registry to use embedded DB		Feb 17, 2020	May 15, 2020	Unassigned	None		CLOSED	Done
DCAEGEN2-2067	VES API/swagger documentation update		Feb 06, 2020	Apr 28, 2020	Unassigned	None		CLOSED	Done
DCAEGEN2-2049	Load all blueprints into inventoryAPI		Jan 30, 2020	Mar 09, 2020	Jack Lucas	None		CLOSED	Done
DCAEGEN2-2047	BBS event-processor upgrade to use DCAE SDK 1.3.4		Jan 30, 2020	Apr 29, 2020	Unassigned	None		CLOSED	Done
DCAEGEN2-2041	Blueprint management in DCAE for deployment		Jan 24, 2020	Apr 28, 2020	Unassigned	None		CLOSED	Done
DCAEGEN2-2037	Remove snmptrap deployment from DCAE bootstrap		Jan 22, 2020	Feb 24, 2020	Jack Lucas	Jack Lucas		CLOSED	Done
DCAEGEN2-2025	Stop deploying snnptrap collector during DCAE bootstrap		Jan 16, 2020	Jan 24, 2020	Jack Lucas	Jack Lucas		CLOSED	Duplicate
DCAEGEN2-2023	Implement adaptive SON functionality		Jan 15, 2020	Apr 29, 2020	Unassigned	None		CLOSED	Done
DCAEGEN2-2007	periodic CBS fetch feature for tca-gen2		Dec 20, 2019	Feb 13, 2020	Unassigned	None		CLOSED	Done
DCAEGEN2-1987	Remove cdap and docker plugins		Dec 09, 2019	Apr 28, 2020	Unassigned	None		CLOSED	Done
DCAEGEN2-1976	Policy-Handler updates for sourcing password		Dec 05, 2019	Apr 27, 2020	Unassigned	None		CLOSED	Done
DCAEGEN2-1938	Provide JKS and PKCS12 stores with CA certs for TLS client components		Nov 20, 2019	Mar 09, 2020	Jack Lucas	Jack Lucas		CLOSED	Done
DCAEGEN2-1922	OTI Handler - code coverage		Nov 14, 2019	Mar 05, 2020	Unassigned	None		CLOSED	Done
DCAEGEN2-1921	Portal SDK migration and integration		Nov 14, 2019	Mar 12, 2020	Unassigned	None		CLOSED	Done
DCAEGEN2-1920	Enhance Policy plugin for error conditions		Nov 14, 2019	Apr 28, 2020	Unassigned	None		CLOSED	Done

Showing 20 out of 84 issues

Longer term roadmap

DCAE is the collection and analytics platform serving ONAP. Improving upon the DCAE MS catalog to add new services for data collection, analytics and the number of open/close control loops.

Other long term goal includes below

- PNDA integration and facilitating application deployment via Helm.

Release Deliverables

Indicate the outcome (Executable, Source Code, Library, API description, Tool, Documentation, Release Note...) of this release.

Deliverable Name	Deliverable Description
Component spec	All ms added into DCAE should provide meta data representation of the component itself; will be used to generate design flow under MOD and enable blueprint generation
blueprints	Executable/SourceCode
plugins	SourceCode
cli	SourceCode/Tool/Documentation
deployment-handler	SourceCode/Docker image
servicechange-handler	SourceCode/Docker image
inventory-api	SourceCode/Docker image
policy-handler	SourceCode/Docker image
configbinding	SourceCode/Docker image
ves	SourceCode/Docker image
snmptrap	SourceCode/Docker image
tca	SourceCode/jar/Docker image
hv-ves-collector	SourceCode/jar/Docker image
data-file-collector	SourceCode/jar/Docker image
prh	SourceCode/jar/Docker image
dcae-mod	SourceCode/jar/Docker image/Documentation
pmsh	SourceCode/jar/Docker image
tca-gen2	SourceCode/jar/Docker image

Sub-Components

List all sub-components part of this release. Activities related to sub-components must be in sync with the overall release.

Sub-components are repositories and are consolidated in a single centralized place. Edit the Resouce and Repositories in the centralized page.

In addition to existing platform/service component, following new components are targeted for Frankfurt.

Deliverable	Repository	Maven Group ID	Components Description
pmsh	dcaegen2/services	org.onap.dcaegen2.services.pmsh	PM Subscription Handler
tca-gen2	dcaegen2/analytics/tca-gen2	org.onap.dcaegen2.analytics.tca-gen2	Standalone TCA

ONAP Dependencies

List the other ONAP projects you depend on.

DCAE depends on the the following components as part of the general ONAP architecture:

- **AAI**: DCAE MS retrieves and updates VNF data from/to AAI
- **DMaaP**: Message bus for communication with other components in the solution
- **Policy** - For managing application configuration policy
- **CLAMP** - For CL flow related MS instantiation and configuration
- **OOF** - For SON handler support

Architecture

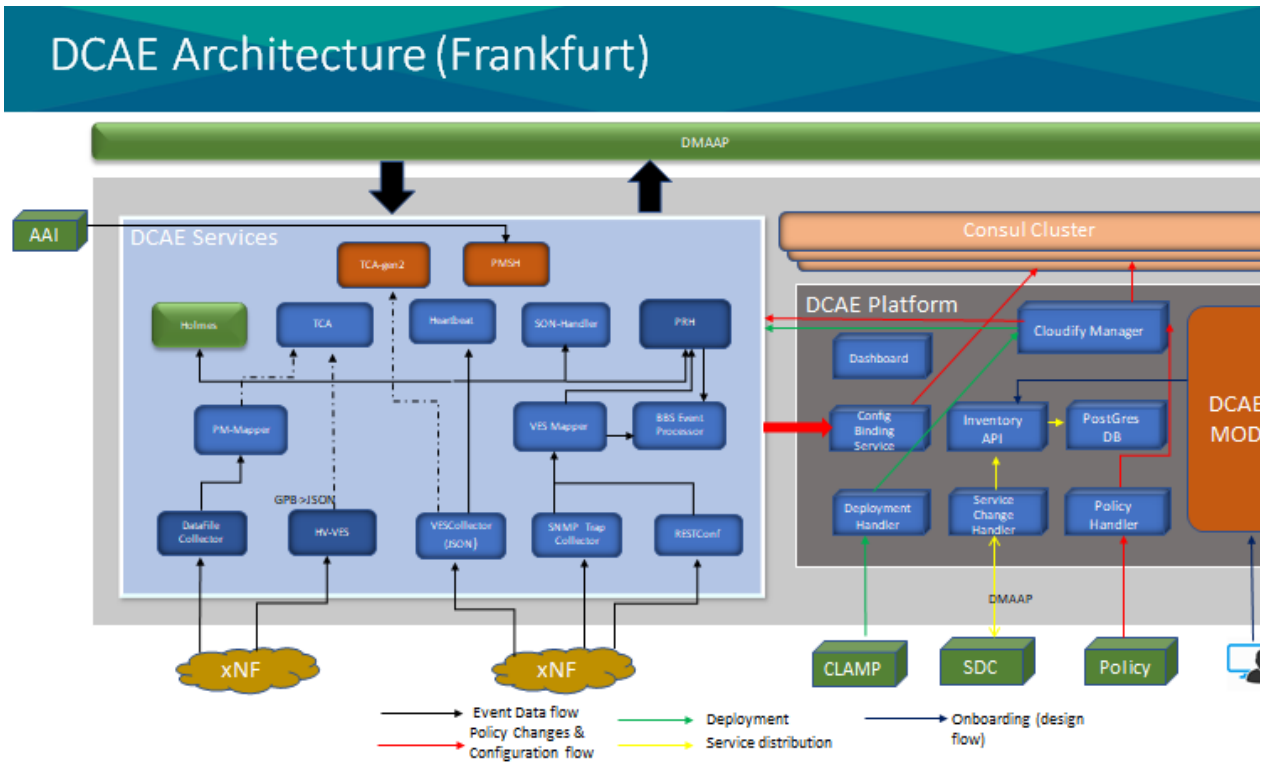
High level architecture diagram

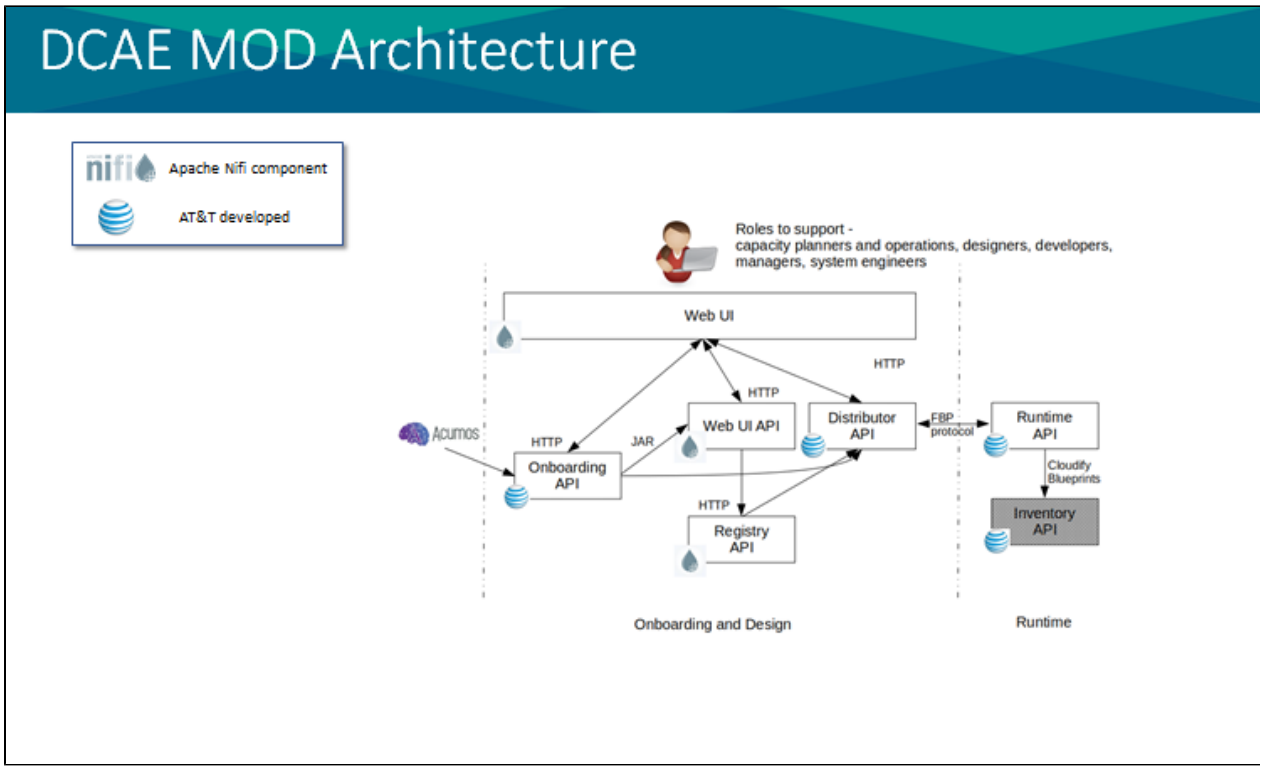
At that stage within the Release, the team is expected to provide more Architecture details describing how the functional modules are interacting.

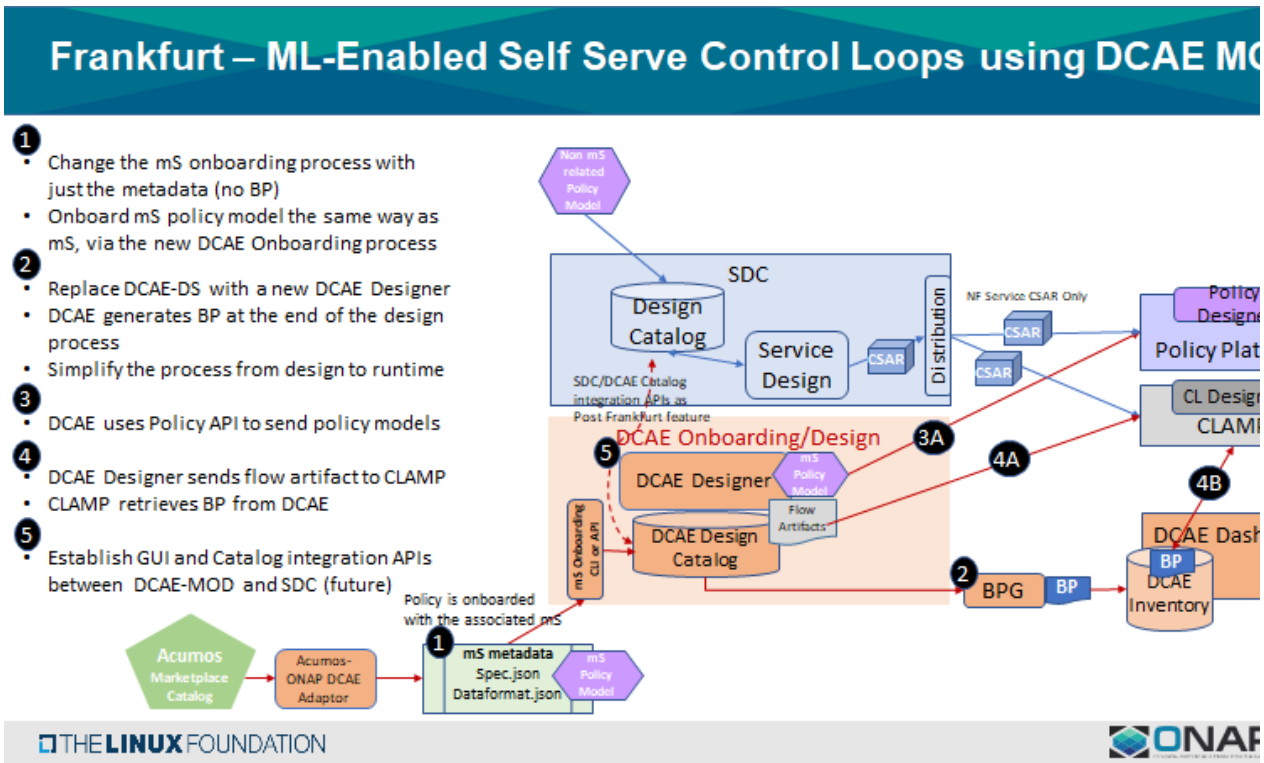
Indicate where your project fit within the ONAP Archiecture diagram.

Block and sequence diagrams showing relation within the project as well as relation with external components are expected.

Anyone reading this section should have a good understanding of all the interacting modules.







Platform Maturity

Refering to CII Badging Security Program and Platform Maturity Requirements, fill out the table below by indicating the actual level , the targeted level for the current release and the evidences on how you plan to achieve the targeted level.

Area	Actual Level	Targeted Level for current Release	How, Evidences	Comments
Performance	1	1		○ **Level 0:** no performance testing done ○ **Level 1:** baseline performance criteria identified and measured (such as response time, transaction/message rate, latency, footprint, etc. to be defined on per component) ○ **Level 2:** performance improvement plan created ○ **Level 3:** performance improvement plan implemented for 1 release (improvement measured for equivalent functionality & equivalent hardware)
Stability	2	2		○ **Level 0:** none beyond release requirements ○ **Level 1:** 72 hour *component*-level soak test (random test transactions with 80% code coverage; steady load) ○ **Level 2:** 72 hour *platform*-level soak test (random test transactions with 80% code coverage; steady load) ○ **Level 3:** track record over 6 months of reduced defect rate
Resiliency	2	2		○ 0 – none ○ 1 – manual failure and recovery (< 30 minutes) ○ 2 – automated detection and recovery (single site) ○ 3 – automated detection and recovery (geo redundancy)
Security	1	1+ (Most DCAE components are complaint; will address remaining in Frankfurt based on resource availability)		○ Level 0: None ○ Level 1: CII Passing badge ▪ Including no critical and high known vulnerabilities > 60 days old ○ Level 2: CII Silver badge, plus: ▪ All internal/external system communications shall be able to be encrypted. ▪ All internal/external service calls shall have common role-based access control and authorization using CADI framework. ○ Level 3: CII Gold badge
Scalability	1	1		○ **Level 0:** no ability to scale ○ **Level 1:** supports single site horizontal scale out and scale in, independent of other components ○ **Level 2:** supports geographic scaling, independent of other components ○ **Level 3:** support scaling (interoperability) across multiple ONAP instances
Manageability	1	1+ (Except logging, all other requirements are met)		○ **Level 1:** ○ All ONAP components will use a single logging system. ○ Instantiation of a simple ONAP system should be accomplished in <1 hour with a minimal footprint ○ **Level 2:** ▪ A component can be independently upgraded without impacting operation interacting components ▪ Component configuration to be externalized in a common fashion across ONAP projects ▪ All application logging to adhere to ONAP Application Logging Specification v1.2 ▪ Implement guidelines for a minimal container footprint ○ **Level 3** ▪ Transaction tracing across components

Usability	1	1+		○ **Level 1:** ▪ User guide created ▪ Deployment documentation ▪ API documentation ▪ Adherence to coding guidelines ○ **Level 2:** API Documentation • All new API's must adhere to the ONAP API Common Versioning Strategy and Documentation Guidelines • All existing APIs must be documented in Swagger 2.0 ○ **Level 3** ▪ Consistent UI across ONAP projects ▪ Usability testing conducted API Documentation • All *new* API's, all *external* APIs, and all existing API's that are *modified* must adhere to the ONAP API Common Versioning Strategy and Documentation Guidelines ○ **Level 4** API Documentation • All API's for a given project must adhere to the ONAP API Common Versioning Strategy and Documentation Guidelines

- ## API Incoming Dependencies

List the API this project is expecting from other projects. Prior to Release Planning review, Team Leads must agreed on the date by which the API will be fully defined. The API Delivery date must not be later than the release API Freeze date.

Prior to the delivery date, it is a good practice to organize an API review with the API consumers.

API Name	API Description	API Definition Date	API Delivery date	API Definition link (i.e. swagger)
SDC model distribution API	API for retrieving TOSCA model of close loop	Currently Available	To fill out	Link toward the detailed API description
Policy Engine	API for retrieving configuration policy updates	Currently Available	Currently Available	NA
Policy (PDP)	API to push DCAE MS configuration/policy models	Currently Available	Currently Available	
A&AI	API invoked for information enhancements	Currently Available	Currently Available	
DMaaP Message Router	API for topic publish / subscribe	Currently Available	Currently Available	
DMaaP Bus Controller	DMaaP Bus Controller is a part of DMaaP that provides topic provisioning; this is the API for topic provisioning.	Currently Available	Currently Available	
OOF	PCI Optimization API http://{OOF-host}:{port}/api/oof/v1/pci http://{pcims-host}:{port}/callbackUrl Call back URL for SON-MS (to provide PCI optimization results)	Currently Available	Currently Available	
ConfigDB	http://{ConfigDB-host/IP}:{port}/SDNCConfigDBAPI/getNbrList/{cellId}/{ts} (Get neighbor list for a cell Id) http://{ConfigDB-host/IP}:{port}/SDNCConfigDBAPI/getPnfName/{cellId}/{ts} (Get the PNF name for a cell Id)	Currently Available	Currently Available	

- ## API Outgoing Dependencies

API this project is delivering to other projects.

API Name	API Description	API Definition Date	API Delivery date	API Definition link (i.e. swagger)
VES Collector	API for VNFs to send VES data	Currently Available	R3	
DCAE Deployment Handler	NB API for invoking the deployment of DCAE subcomponents	Currently Available	R3	
DCAE Inventory	API for Add/Delete DCAE copy's TOSCA models	Currently Available	R3	

Healthcheck	API for querying DCAE component healthcheck	Currently Available	R4	
DCAE Onboarding API	API for publishing DCAE spec into MOD	Will be available around M3	R6	
DCAE Inventory	API for CLAMP to retrieve flow information	Will be available around M3	R6	

- ## Third Party Products Dependencies

Third Party Products mean products that are mandatory to provide services for your components. Development of new functionality in third party product may or not be expected. List the Third Party Products (OpenStack, ODL, RabbitMQ, ElasticSearch,Crystal Reports, ...).

Name	Description	Version
NIFI	Apache NIFI	1.9.x
Cloudify Manager	cloudifyplatform/community	19.01.24
Consul		
CDAP	caskdata/cdap-standalone	4.1.2
PNDA		4.5

In case there are specific dependencies (Centos 7 vs Ubuntu 16. Etc.) list them as well.

- # Testing and Integration Plans
  - Unit Test addition will be enforced part of new code submission
  - CSIT tests will continue to be supported for existing components
  - Pairwise testing will be done in the WindRiver Dev lab similar to what was done in last release

- # Gaps

This section is used to document a limitation on a functionality or platform support. We are currently aware of this limitation and it will be delivered in a future Release. List identified release gaps (if any), and its impact.

Gaps identified	Impact
OTI Function delivery	OTI functionality is planned to be introduced in phase. For Frankfurt, seed code for OTI-Handler and EventPRoc will be delivered. The complete e2e functionality will be available in next release. There is no impact to Frankfurt usecase by this functionality.

- # Known Defects and Issues

Provide a link toward the list of all known project bugs.

Key	Summary	T	Created	Updated	Due	Assignee	Reporter	P	Status	Resolution

No issues found

- # Risks

List the risks identified for this release along with the plan to prevent the risk to occur (mitigation) and the plan of action in the case the risk would materialized (contingency).

Risk identified	Mitigation Plan	Contingency Plan
Cloudify support for Python 3.x not available during Frankfurt timeframe. This impacts migration of Cloudify and associated plugins in Frankfurt (DCAEGEN2-1546)	Continue El-Alto version of Cloudify and Plugins under python 2.7	None

- # Resources

Fill out the Resources Committed to the Release centralized page

Release Milestone

The milestones are defined at the Release Level and all the supporting project agreed to comply with these dates.

Team Internal Milestone

This section is optional and may be used to document internal milestones within a project team or multiple project teams. For instance, in the case the team has made agreement with other team to deliver some artifacts on a certain date that are not in the release milestone, it is erecommended to provide these agreements and dates in this section.

It is not expected to have a detailed project plan.

Date	Sprint	#No of days	Deliverable
11 Nov 2019 - 29 Nov 2019	DCAE Frankfurt Sprint 1	14	• Seed code for new components • jjb definition for verify/merge/sonar/clm
02 Dec 2019 - 20 Dec 2019	DCAE Frankfurt Sprint 2	15	• Atleast 75% of Functional delivery • Atleast 30% of release/compliance (coverage & security) • Successful container build (new components) • **SDK version for Frankfurt to be baselined and released**
06 Jan 2020 - 24 Jan 2020	DCAE Frankfurt Sprint 3	15	• 95% of Functional delivery • Atleast 70% of release/compliance (coverage & security) • API definition formalized • Integration test plan completed • CSIT/automated test delivery **M2/M3 checkpoint** - 1/21
27 Jan 2020 - 14 Feb 2020	DCAE Frankfurt Sprint 4	15	• API definition formalized and shared with impacted teams • 100% Functionality • Atleast 90% of release/complaince (coverage & security) • CSIT/automated test completed for new components • Documentation repo updates (API updates & new MS/component) - Frankfurt Documentation • Deployment artifacts (helm for platform component; spec file and/or blueprint for service component) & onap integration
17 Feb 2020 - 06 Mar 2020	DCAE Frankfurt Sprint 5	15	**M4 05 Mar 2020** • 100% of release/compliance (coverage & security) • Validate deployment/integration with ONAP/DCAE deploy • Documentation update for deployment/configuration/architecture/logging • Update wiki for new components deployment for usecase owners • Demo for new components introduced • Pair-wise testing
09 Mar 2020 - 27 Mar 2020	DCAE Frankfurt Sprint 6 (RC prep)	15	**RC0** • Fix Integration blockers • Automated robot test, CSIT & daily build jobs must pass • Release java artifacts • Release docker containers • Update OOM chart/blueprint/documentation to reflect correct version • Branching

Documentation, Training

- Highlight the team contributions to the specific document related to he project (Config guide, installation guide...).
- Highlight the team contributions to the overall Release Documentation and training asset
- High level list of documentation, training and tutorials necessary to understand the release capabilities, configuration and operation.
- Documentation includes items such as:

- Installation instructions
- Configuration instructions
- Developer guide
- End User guide
- Admin guide

Other Information

Vendor Neutral

If this project is coming from an existing proprietary codebase, ensure that all proprietary trademarks, logos, product names, etc. have been removed. All ONAP deliverables must comply with this rule and be agnostic of any proprietary symbols.

Free and Open Source Software

FOSS activities are critical to the delivery of the whole ONAP initiative. The information may not be fully available at Release Planning, however to avoid late refactoring, it is critical to accomplish this task as early as possible. List all third party Free and Open Source Software used within the release and provide License type (BSD, MIT, Apache, GNU GPL,...). In the case non Apache License are found inform immediately the TSC and the Release Manager and document your reasoning on why you believe we can use a non Apache version 2 license.

Each project must edit its project table available at Project FOSS.

Charter Compliance

The project team comply with the ONAP Charter.