

DCAE R4 M1 Release Planning

- 1 [Overview](#)
- 2 [Scope](#)
 - 2.1 [What is this release trying to address?](#)
 - 2.2 [Use Cases](#)
 - 2.3 [Functional Requirement](#)
 - 2.4 [Non-Functional Requirement](#)
 - 2.4.1 [Platform Maturity](#)
 - 2.5 [Minimum Viable Product](#)
 - 2.6 [Functionalities](#)
 - 2.6.1 [Epics](#)
 - 2.6.2 [Stories](#)
 - 2.7 [Longer term roadmap](#)
- 3 [Release Deliverables](#)
- 4 [Sub-Components](#)
- 5 [ONAP Dependencies](#)
- 6 [Architecture](#)
 - 6.1 [High level architecture diagram](#)
 - 6.2 [Platform Maturity](#)
 - 6.3 [API Incoming Dependencies](#)
 - 6.4 [API Outgoing Dependencies](#)
 - 6.5 [Third Party Products Dependencies](#)
- 7 [Testing and Integration Plans](#)
- 8 [Gaps](#)
- 9 [Known Defects and Issues](#)
- 10 [Risks](#)
- 11 [Resources](#)
- 12 [Release Milestone](#)
- 13 [Team Internal Milestone](#)
- 14 [Documentation, Training](#)
- 15 [Other Information](#)
 - 15.1 [Vendor Neutral](#)
 - 15.2 [Free and Open Source Software](#)

Overview

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

Scope

What is this release trying to address?

DCAE Dublin release has following primary objectives:

Adding new mS suite of collectors /event processors/analytics for supporting use cases identified by ONAP and integration.

Following **new services** are targeted for R4 additions.

Collectors

- RESTConf collector

Event Processors

- VES/Universal Mapper
- PM-Mapper

Analytics/RCA

- SON-Handler (former PCI-Handler)
- Heartbeat ([STRETCH GOAL](#))
- TCA-Gen2 ([STRETCH GOAL](#))

Common SDK design for DCAE services

- Dmaap pub/sub
- Configbindingservice
- A&AI client ([STRETCH GOAL](#))
- Cert-based TLS ([STRETCH GOAL](#))

Enhancement to existing DCAE components

- VES Collector (security)
- HV_VES (logging)
- PRH (common sdk + BBS)
- DataFileCollector (security enhancement + resiliency support)

DCAE Platform Enhancement

- Support helm chart deployment in DCAE-C using custom helm plugin
- Transitioning Cloudify blueprint to Helm for DCAE platform component (InventoryAPI, DeploymentHandler, PolicyHandler, ServicechangeHandler, CBS)
- DCAE Healthcheck enhancement

In addition the following features will be worked as [STRETCH GOAL](#)

- PNDA Platform integration with DCAE for application deployment support via helm
- Integration with DMAAP BusController for Topic provisioning
- Support for Multi-site K8S cluster deployment via K8s plugin (dependency on AAI, MultiCloud)
- Contribution of blueprint generator tool in ONAP/DCAE

Note: Work on STRETCH GOAL will progress through R4 however they cannot be committed yet for delivery (due to resource constraint /external dependencies /unclear requirement). These will be evaluated around M3 and will be either committed or deferred.

(Added - 02/18/19) - Datalake as POC was approved by TSC. DCAE support for DL project is being tracked under this link - [DataLake POC](#)

Use Cases

DCAE will provide support for the following use cases,

- [vFW](#) (Test only)
- [vDNS](#) (Test only)
- [vVoLTE](#) (Test only)
- [Residential Broadband vCPE](#) (Test only)
- [5G Use Case \(Dublin\)](#)
 - [5G - Bulk PM \(Casablanca carry-over items\)](#)
 - [5G - OOF and PCI \(Casablanca carry-over items\)](#)
- [BBS Broadband Service Use Case \(Dublin\)](#)
- [CCVPN](#) (Test only)

Functional Requirement

- [Model driven Control Loop Design](#)
 - New Policy API support (Policy handler, Plugin, DeploymentHandler*) - ([STRETCH GOAL](#))
 - ~~ToscaLab (python) support SDC team for ONAP contribution~~ (DESCOPED)
 - Blueprint generator
 - K8s Plugin
 - Dmaap plugin
 - Dashboard
 - Deployment Handler

Non-Functional Requirement

- PNF/xNF Authentication (Committed based on Nokia's contribution)

Platform Maturity

Platform Maturity (i.e., S3P items) <https://wiki.onap.org/display/DW/Dublin+Release+Platform+Maturity>

Green color Target level (details see [Platform Maturity](#) below)

- Performance: **Level 1**
- Stability: **Level 2 (stretch with new ~52% coverage requirement for Dublin)**
- Resiliency: **Level 2**
- Security: **Level 1+**
- Scalability: **Level 1**
- Manageability: **Level 1+**
- Usability: **Level 2**

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)
- DeploymentHandler
- Policy-Handler
- ServiceChangeHandler
- Inventory-API
- Postgres
- ConfigBinding Service

DCAE Service specific components











- VESCollector
- TCA (Analytics application)

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
DCAEG EN2-1183	Dublin Release compliance		Feb 06, 2019	May 20, 2019		Unassigned	None	=	CLOSED	Done
DCAEG EN2-1144	DCAE platform compliance		Feb 01, 2019	Sep 29, 2020		Unassigned	None	=	CLOSED	Done
DCAEG EN2-1124	Control Loop Model Driven Feature		Jan 28, 2019	Jul 10, 2019		Unassigned	None	^	CLOSED	Done
DCAEG EN2-1108	DCAE support for OOF-PCI SON solution		Jan 22, 2019	Jun 20, 2019		Unassigned	None	=	CLOSED	Done
DCAEG EN2-1088	Transitioning Cloudify blueprint to Helm for DCAE platform component		Jan 16, 2019	Apr 11, 2019		Unassigned	None	=	CLOSED	Done
DCAEG EN2-1057	BBS: DCAE support in Dublin		Jan 05, 2019	Jul 10, 2019	Feb 28, 2019	Unassigned	None	^	CLOSED	Done

DCAEG EN2-1039	DFC robustness updates in support of Bulk PM		Dec 14, 2018	Apr 30, 2019	Unassigned	None		CLOSED	Done
DCAEG EN2-1038	Introduce "3GPP PM Mapper" service in support of 5G Bulk PM use cases		Dec 14, 2018	Feb 06, 2020	Unassigned	None		CLOSED	Done
DCAEG EN2-884	Externalize PRH re-usable components to dcaegen2 /services/sdk		Oct 22, 2018	Apr 11, 2019	Unassigned	None		CLOSED	Done
DCAEG EN2-844	Real-time store DMaaP data in MongoDB, for data query and analysis		Sep 26, 2018	Feb 06, 2019	Unassigned	None		CLOSED	Duplicate
DCAEG EN2-598	Add Multi-site deployment support in DCAE		Jul 06, 2018	Jun 20, 2019	Unassigned	None		CLOSED	Done
DCAEG EN2-582	Support Closed Loop in CCVPN Use Case.		Jul 06, 2018	Jul 10, 2019	Unassigned	None		CLOSED	Done
DCAEG EN2-567	PM-Mapper Collector Service		Jun 28, 2018	Aug 12, 2023	Unassigned	None		CLOSED	Done
DCAEG EN2-564	VES 7.0 upgrade		Jun 28, 2018	Aug 12, 2023	Unassigned	None		CLOSED	Done
DCAEG EN2-390	PNF PnP - PNF Registration Handler		Mar 12, 2018	Jul 10, 2019	Unassigned	None		CLOSED	Done
DCAEG EN2-267	Heartbeat Microservice Support		Jan 18, 2018	Sep 20, 2022	Unassigned	None		CLOSED	Done
DCAEG EN2-241	R2 DCAE Supporting Platform Maturity Performance Requirements		Jan 08, 2018	Feb 06, 2019	Unassigned	None		CLOSED	Done
DCAEG EN2-240	Universal VES Adaptor		Jan 08, 2018	May 01, 2019	Unassigned	None		CLOSED	Done
DCAEG EN2-238	DCAE Analytics Flink Support		Jan 08, 2018	Feb 06, 2019	Unassigned	None		CLOSED	Won't Do

19 issues

Stories

Key	Summary	T	Created	Updated	Due	Assignee	Reporter	P	Status	Resolution
DCAEGE N2-1516	Cloudify Manager support for HTTPS		May 21, 2019	May 21, 2019		Jack Lucas	None		CLOSED	Duplicate
DCAEGE N2-1505	R4 Documentation updates		May 15, 2019	Jun 20, 2019		Unassigned	None		CLOSED	Done
DCAEGE N2-1402	PM Mapper performance testing		Apr 08, 2019	Apr 10, 2019		Unassigned	None		CLOSED	Done
DCAEGE N2-1376	Update Cloudify Manager to latest stable version		Apr 01, 2019	Apr 11, 2019		Jack Lucas	Jack Lucas		CLOSED	Done
DCAEGE N2-1367	Housekeeping		Mar 26, 2019	Apr 11, 2019		Unassigned	None		CLOSED	Done
DCAEGE N2-1357	Reconfigure Filtering		Mar 20, 2019	Apr 08, 2019		Unassigned	None		CLOSED	Done
DCAEGE N2-1327	Handle Non-XML files in PM Mapper		Mar 11, 2019	Apr 08, 2019		Unassigned	None		CLOSED	Done
DCAEGE N2-1313	CSIT of DFC		Mar 06, 2019	Apr 11, 2019		Unassigned	None		CLOSED	Done

DCAEGE N2-1312	Enhance the PNF_Ready event with AdditionalFields contents		Mar 05, 2019	Apr 02, 2019	Unassigned	None	=	CLOSED	Done
DCAEGE N2-1307	Update expiring DCAE TLS certificate		Mar 01, 2019	Apr 11, 2019	Jack Lucas	Jack Lucas	=	CLOSED	Done
DCAEGE N2-1305	DFC logging according to ONAP specification		Mar 01, 2019	Mar 13, 2019	Unassigned	None	=	CLOSED	Done
DCAEGE N2-1296	Security requirements (platform maturity level)		Feb 27, 2019	Apr 05, 2019	Unassigned	None	=	CLOSED	Done
DCAEGE N2-1289	Utilise newly introduced DR transformation service		Feb 26, 2019	Apr 05, 2019	Unassigned	None	=	CLOSED	Done
DCAEGE N2-1288	Filter the PM data object		Feb 26, 2019	Mar 15, 2019	Unassigned	None	=	CLOSED	Done
DCAEGE N2-1286	Filter event metadata		Feb 26, 2019	Mar 13, 2019	Unassigned	None	=	CLOSED	Done
DCAEGE N2-1282	Send dataConsumed indicator to DMaaP Data Router		Feb 26, 2019	Apr 13, 2019	Unassigned	None	=	CLOSED	Done
DCAEGE N2-1281	Unmarshall type-C XML to multiple PM data objects		Feb 26, 2019	Oct 15, 2019	Unassigned	None	=	CLOSED	Done
DCAEGE N2-1280	Identify 3GPP file type (A or C)		Feb 26, 2019	Mar 26, 2019	Unassigned	None	=	CLOSED	Done
DCAEGE N2-1273	Publish VES event to DMaaP Message Router		Feb 22, 2019	Apr 08, 2019	Unassigned	None	=	CLOSED	Done
DCAEGE N2-1272	[PM Mapper] Add field to subscriber body to enable privileged subscriber		Feb 22, 2019	Mar 13, 2019	Unassigned	None	=	CLOSED	Done

Showing 20 out of 104 issues

Longer term roadmap

DCAE is the collection and analytics platform serving ONAP. The value of DCAE lies in the number of types of data being collected, the number of analytics algorithms, the number of open/close control loops, and how well/easy they are supported for ONAP uses.

Long term roadmap will include 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 models in SDC and 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

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 [Resource and Repositories](#) in the centralized page.

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

Deliverable	Repository	Maven Group ID	Components Description
restconf	dcaegen2/collectors/restconf	org.onap.dcaegen2.collectors.restconf	RESTConf Collector
son-handler	dcaegen2/services/son-handler	org.onap.dcaegen2.services.son-handler	SON-Handler MS
pm-mapper	dcaegen2/services/pm-mapper	org.onap.dcaegen2.services.pm-mapper	Mapper to process files from DR and transform to VES
tca-gen2	dcaegen2/analytics/tca-gen2	org.onap.dcaegen2.analytics.tca-gen2	Standalone(SA) TCA
mapper	dcaegen2/services/mapper	org.onap.dcaegen2.services.mapper	Mapper Micro Services for snmp traps/restconf input to VES
heartbeat	dcaegen2/services/heartbeat	org.onap.dcaegen2.services.heartbeat	Missing Heartbeat Micro Services

ONAP Dependencies

List the other ONAP projects you depend on.

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

- **SDC**: For blueprint generation and distribution into DCAE-C
- **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

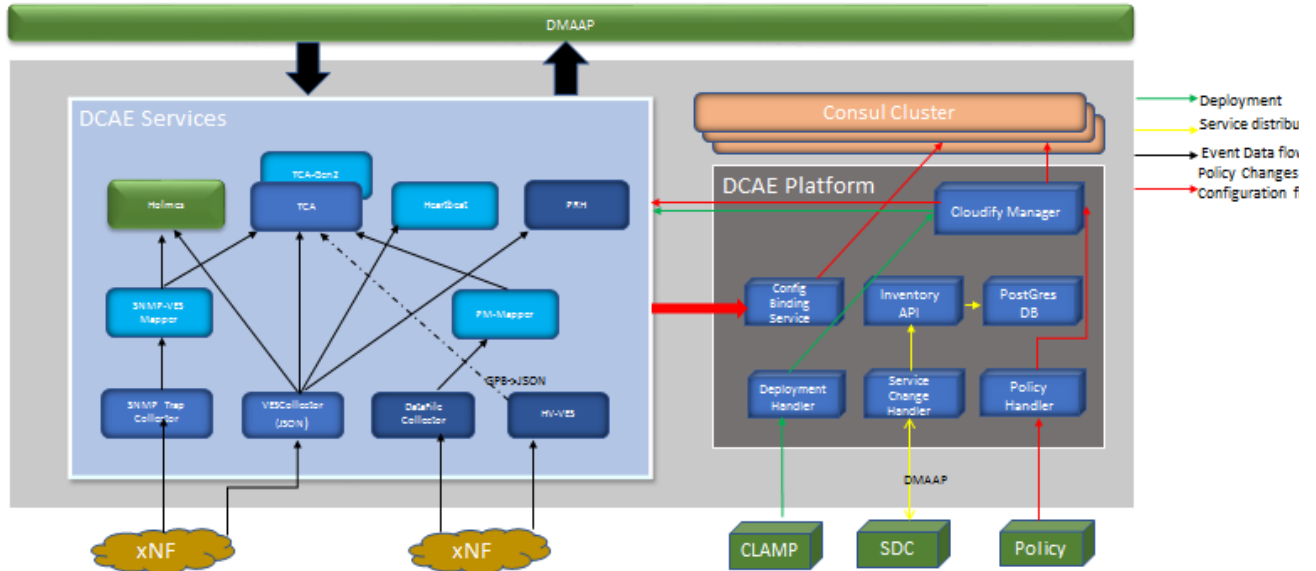
At that stage within the Release, the team is expected to provide more Architecture details describing how the functional modules are interacting.

Indicate where your project fit within the [ONAP Architecture 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.

ONAP DCAE ARCHITECTURE



Platform Maturity

Referring 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+ (Dublin recommendation 2 - cannot be committed due to Resource constraint)		<ul style="list-style-type: none"> 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	Level 2 (Stretch with new ~52% coverage requirement for Dublin) Level 2 - Dependent on integration team support		<ul style="list-style-type: none"> Level 0: none beyond release requirements Level 1: 72 hour <i>component</i>-level soak test (random test transactions with 80% code coverage; steady load) Level 2: 72 hour <i>platform</i>-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		<ul style="list-style-type: none"> 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+ (Dublin recommendation 2 - cannot be committed for following reason) <ul style="list-style-type: none"> Resource constraint CADI library not available for Python Process of AAF certificate distribution in K8S between ONAP components and external (xNF) to be defined DCAE team will integrate with Buscontroller integration for dynamic topic provisioning and AAF based role setting as STRETCH GOAL		<ul style="list-style-type: none"> Level 0: None Level 1: CII Passing badge <ul style="list-style-type: none"> Including no critical and high known vulnerabilities > 60 days old Level 2: CII Silver badge, plus: <ul style="list-style-type: none"> 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		<ul style="list-style-type: none"> ◦ 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+ (Dublin recommendation 2 - cannot be committed for following reason) <ul style="list-style-type: none"> • Resource constraint to support #2 and #4 under Level2 (Level 2 - #1 and #3 will be targeted for Dublin) 		<ul style="list-style-type: none"> ◦ 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: <ul style="list-style-type: none"> ■ 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 <ul style="list-style-type: none"> ■ Transaction tracing across components
Usability	1	2 (STRETCH GOAL- based on resource availability)		<ul style="list-style-type: none"> ◦ Level 1: <ul style="list-style-type: none"> ■ User guide created ■ Deployment documentation ■ API documentation ■ Adherence to coding guidelines ◦ Level 2: <ul style="list-style-type: none"> API Documentation <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> ■ Consistent UI across ONAP projects ■ Usability testing conducted API Documentation <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> API Documentation <ul style="list-style-type: none"> • 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	TBD	TBD	NA
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	TBD	TBD	
ConfigDB (SDNC)	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)	TBD	TBD	

◦ 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 Ingestion	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	TBD	R4	
SON-Handler	http://{pcims-host}:{port}/callbackUrl Call back URL for SON-MS (to provide PCI optimization results)	M3	R4	

◦ 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
OpenStack		
Cloudify Manager		
Consul		
GDAP		
PNDA		

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

◦ Testing and Integration Plans

Provide a description of the testing activities (unit test, functional test, automation,...) that will be performed by the team within the scope of this release.

Describe the plan to integrate and test the release deliverables within the overall ONAP system. Confirm that resources have been allocated to perform such activities.

- Unit Test addition will be enforced part of new code submission
- CSIT tests added as part of R2/R3 will continue to be supported in R4
- Pairwise testing will be done in the WindRiver Dev lab similar to what was done in R4

◦ 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
To fill out	To fill out

◦ Known Defects and Issues

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

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
	To fill out	To fill out

◦ 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 recommended to provide these agreements and dates in this section.

It is not expected to have a detailed project plan.

Date	Project	Deliverable
To fill out	To fill out	To fill out

◦ Documentation, Training

- Highlight the team contributions to the specific document related to the 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
- ...



Note

The Documentation project will provide the Documentation Tool Chain to edit, configure, store and publish all Documentation asset.

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](#).