CIA Dublin Release Planning

Overview

Project Name	Enter the name of the project
Target Release Name	Dublin
Project Lifecycle State	Incubation
Participating Company	ARM, Orange, Amdocs, Huawei

Scope

What is this release trying to address?

During the Dublin Release, CIA will put in practice the best practices and principles identified and validated during Casablanca.

By applying such best practices the project aims at alleviating two ONAP pain points

1. High resource consumption due to large large container images

2. Long build and deploy times due to large container images

3. The inability to run ONAP on more than one hardware platform (cpu architecture) and cloud infrastructure

Use Cases

This release is targeting ONAP's Minimal Environment and, as a stretch goal, the vFW use case.

Minimum Viable Product

The MVP for this release will be delivered in an incremental and iterative approach.

The work will be approached in phases:

Phase 1: Minimize the footprint of container images used on ONAP Minimal Environment

Phase 2: Build platform-agnostic container images (i.e. multi-cpu architecture support) for ONAP minimal environment

Phase 3: Minimize the footprint of container images used on the vFW use case.

Phase 4: Build platform-agnostic container images (i.e. multi-cpu architecture support) for vFW use case.

Phase 5: Review Dockerfiles for the vFW use case, identify patterns and propose re-usable Dockerfile templates.

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.

Stories

Project	Container image	Multi-Platform Support	Image Footprint Minimization	Used by Minimal Environment	Used by vFw Use Case
A&AI	INT-1023 - Getting issue details... STATUS				
	onap/aai-cacher	INT-770 - Getting issue details... STATUS	INT-759 - Getting issue details... STATUS	☐	
	onap/aai-graphadmin	INT-771 - Getting issue details... STATUS	INT-760 - Getting issue details... STATUS	☑	
	onap/aai-resources	INT-772 - Getting issue details... STATUS	INT-761 - Getting issue details... STATUS	☑	
	aai-traversal	INT-773 - Getting issue details... STATUS	INT-762 - Getting issue details... STATUS	☑	
	aai-model-loader	INT-799 - Getting issue details... STATUS	INT-798 - Getting issue details... STATUS	☑	
	aai-babel	INT-800 - Getting issue details... STATUS	INT-801 - Getting issue details... STATUS	☑	
	aai-schema-service	INT-802 - Getting issue details... STATUS	INT-803 - Getting issue details... STATUS	☑	
	aai-haproxy	INT-804 - Getting issue details... STATUS	INT-805 - Getting issue details... STATUS	☑	
	aai-common	INT-1024 - Getting issue details... STATUS	INT-1025 - Getting issue details... STATUS	☑	
	gizmo	INT-1141 - Getting issue details... STATUS	INT-1143 - Getting issue details... STATUS		
	spike	INT-1142 - Getting issue details... STATUS	INT-1144 - Getting issue details... STATUS		

	data-router	INT-1149 - Getting issue details... STATUS	INT-1145 - Getting issue details... STATUS		
	sparky-be	INT-1150 - Getting issue details... STATUS	INT-1146 - Getting issue details... STATUS		
	champ	INT-1151 - Getting issue details... STATUS	INT-1147 - Getting issue details... STATUS		
	search-data	INT-1152 - Getting issue details... STATUS	INT-1148 - Getting issue details... STATUS		
DMAAP*	onap/dmaap/buscontroller	INT-928 - Getting issue details... STATUS	INT-886 - Getting issue details... STATUS	☑	
	onap/dmaap/datarouter-node	INT-929 - Getting issue details... STATUS	INT-907 - Getting issue details... STATUS	☑	
	onap/dmaap/datarouter-prov	INT-930 - Getting issue details... STATUS	INT-908 - Getting issue details... STATUS	☑	
	onap/dmaap/datarouter-subscriber	INT-931 - Getting issue details... STATUS	INT-909 - Getting issue details... STATUS	☑	
	onap/dmaap/dmaap-mr	INT-932 - Getting issue details... STATUS	INT-910 - Getting issue details... STATUS	☑	
	onap/dmaap/kafka01101	INT-933 - Getting issue details... STATUS	INT-912 - Getting issue details... STATUS	☑	
	onap/dmaap/zookeeper	INT-934 - Getting issue details... STATUS	INT-911 - Getting issue details... STATUS		
Portal*	onap/portal-app	INT-936 - Getting issue details... STATUS	INT-922 - Getting issue details... STATUS	☑	
	onap/portal-apps	INT-937 - Getting issue details... STATUS	INT-923 - Getting issue details... STATUS	☑	
	onap/portal-db	INT-938 - Getting issue details... STATUS	INT-924 - Getting issue details... STATUS	☑	
	v2/onap/portal-sdk	INT-939 - Getting issue details... STATUS	INT-925 - Getting issue details... STATUS	☑	
	v2/onap/portal-wms	INT-940 - Getting issue details... STATUS	INT-926 - Getting issue details... STATUS	☑	
Robot		INT-873 - Getting issue details... STATUS	INT-873 - Getting issue details... STATUS	☑	
SDC*	onap/sdc/sdc-workflow-designer	INT-553 - Getting issue details... STATUS	INT-726 - Getting issue details... STATUS	☑	
	onap/sdc-api-tests	INT-553 - Getting issue details... STATUS	INT-728 - Getting issue details... STATUS	☑	

	onap/sdc-backend	INT-553 - Getting issue details... STATUS	INT-729 - Getting issue details... STATUS	☑	
	onap/sdc-backend-init	INT-553 - Getting issue details... STATUS	INT-730 - Getting issue details... STATUS	☑	
	onap/sdc-cassandra	INT-553 - Getting issue details... STATUS	INT-731 - Getting issue details... STATUS	☑	
	onap/sdc-cassandra-init	INT-553 - Getting issue details... STATUS	INT-732 - Getting issue details... STATUS	☑	
	onap/sdc-elasticsearch	INT-553 - Getting issue details... STATUS	INT-733 - Getting issue details... STATUS	☑	
	onap/sdc-frontend	INT-553 - Getting issue details... STATUS	INT-734 - Getting issue details... STATUS	☑	
	onap/sdc-init-elasticsearch	INT-553 - Getting issue details... STATUS	INT-735 - Getting issue details... STATUS	☑	
	onap/sdc-kibana	INT-553 - Getting issue details... STATUS	INT-736 - Getting issue details... STATUS	☑	
	onap/sdc-onboard-backend	INT-553 - Getting issue details... STATUS	INT-737 - Getting issue details... STATUS	☑	
	onap/sdc-onboard-cassandra-init	INT-553 - Getting issue details... STATUS	INT-738 - Getting issue details... STATUS	☑	
	onap/sdc-simulator	INT-553 - Getting issue details... STATUS	INT-739 - Getting issue details... STATUS	☑	
	onap/sdc-ui-tests	INT-553 - Getting issue details... STATUS	INT-740 - Getting issue details... STATUS	☑	
SDNC	onap/sdnc-ansible-server-image	INT-811 - Getting issue details... STATUS	INT-816 - Getting issue details... STATUS	☑	
	onap/sdnc-dmaap-listener-image	INT-812 - Getting issue details... STATUS	INT-817 - Getting issue details... STATUS	☑	
	onap/sdnc-image	INT-813 - Getting issue details... STATUS	INT-818 - Getting issue details... STATUS	☑	
	onap/sdnc-ueb-listener-image	INT-814 - Getting issue details... STATUS	INT-819 - Getting issue details... STATUS	☑	
VID	onap/vid	INT-768 - Getting issue details... STATUS	INT-763 - Getting issue details... STATUS	☑	
AAF		INT-865 - Getting issue details... STATUS	INT-865 - Getting issue details... STATUS		
SO*	onap/so/api-handler-infra	INT-548 - Getting issue details... STATUS	INT-913 - Getting issue details... STATUS	☑	

	onap/so/asdc-controller	INT-548 - Getting issue details... STATUS	INT-914 - Getting issue details... STATUS	☑	
	onap/so/base-image	INT-548 - Getting issue details... STATUS	INT-915 - Getting issue details... STATUS	☑	
	onap/so/bpmn-infra	INT-548 - Getting issue details... STATUS	INT-916 - Getting issue details... STATUS	☑	
	onap/so/catalog-db-adapter	INT-548 - Getting issue details... STATUS	INT-917 - Getting issue details... STATUS	☑	
	onap/so/openstack-adapter	INT-548 - Getting issue details... STATUS	INT-918 - Getting issue details... STATUS	☑	
	onap/so/request-db-adapter	INT-548 - Getting issue details... STATUS	INT-919 - Getting issue details... STATUS	☑	
	onap/so/sdnc-adapter	INT-548 - Getting issue details... STATUS	INT-920 - Getting issue details... STATUS	☑	
	onap/so/vfc-adapter	INT-548 - Getting issue details... STATUS	INT-921 - Getting issue details... STATUS	☑	
APPC	appc/cdt	INT-964 - Getting issue details... STATUS	INT-968 - Getting issue details... STATUS		
	appc/deployment /installation/ appc	INT-965 - Getting issue details... STATUS	INT-969 - Getting issue details... STATUS		
	appc/deployment/cdt	INT-966 - Getting issue details... STATUS	INT-970 - Getting issue details... STATUS		
Policy		INT-995 - Getting issue details... STATUS			
	onap/policy-base-alpine		INT-996 - Getting issue details... STATUS		
	onap/policy-common-alpine		INT-996 - Getting issue details... STATUS		
	onap/policy-apex-pdb		INT-997 - Getting issue details... STATUS		
	onap/policy-api		INT-998 - Getting issue details... STATUS		
	onap/policy-distribution		INT-999 - Getting issue details... STATUS		
	onap/policy-drools		INT-1000 - Getting issue details... STATUS		
	onap/policy-pe		INT-1001 - Getting issue details... STATUS		

	onap/policy-pap		INT-1002 - Getting issue details... STATUS		
	onap/policy-xacml-pdb		INT-1003 - Getting issue details... STATUS		
MultiVIM/MultiCloud (Working in coordination with Project Team)	onap/multicloud/azure		INT-974 - Getting issue details... STATUS		
	onap/multicloud /framework		INT-975 - Getting issue details... STATUS		
	onap/multicloud/k8s		INT-976 - Getting issue details... STATUS		
	onap/multicloud /openstack-fcaps		INT-977 - Getting issue details... STATUS		
	onap/multicloud /openstack-lenovo		INT-978 - Getting issue details... STATUS		
	onap/multicloud /openstack-newton		INT-979 - Getting issue details... STATUS		
	onap/multicloud /openstack-ocata		INT-980 - Getting issue details... STATUS		
	onap/multicloud /openstack-pike		INT-981 - Getting issue details... STATUS		
	onap/multicloud /openstack-starlingx		INT-982 - Getting issue details... STATUS		
	onap/multicloud /openstack-thinkcloud		INT-983 - Getting issue details... STATUS		
	onap/multicloud /openstack-windriver		INT-984 - Getting issue details... STATUS		
	onap/multicloud /openstack/openstack-ocata		INT-985 - Getting issue details... STATUS		
	onap/multicloud/vio		INT-986 - Getting issue details... STATUS		
	onap/multicloud/vio-vesagent		INT-987 - Getting issue details... STATUS		
CLAMP	onap/clamp	INT-1007 - Getting issue details... STATUS	INT-1011 - Getting issue details... STATUS		
	onap/clamp-dashboard-kibana	INT-1008 - Getting issue details... STATUS	INT-1012 - Getting issue details... STATUS		
	onap/clamp-dashboard-logstash	INT-1009 - Getting issue details... STATUS	INT-1013 - Getting issue details... STATUS		

CCSDK		INT-1005 - Getting issue details... STATUS	INT-1005 - Getting issue details... STATUS		
DCAE (Working to coordinate work with project PTL. Deferred to El Alto.)					

Longer term roadmap

Working on the vFW use case will provide the foundation for the optimization of the entire onap container base.

The lessons learned during Casablanca will be put to use and refined during this release.

The next logical step is to expand, on futures releases, the containers and use cases that can benefit from producing efficient vendor-agnostic container images.

Release Deliverables

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

Deliverable Name	Deliverable Description
Source code	Contributions in the form of: -modifications to the Dockerfile that generate container images. -modifications to Maven Docker plugin files -when appropriate, modifications to the build process

Architecture

High level architecture diagram

Changes introduced to the code base by this project, as described above, fit within the ONAP architecture diagram.

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
Manageability	Depends on each project and container image.	Level 2.	Container images show reduction in size.	• **Level 2:** ◦ Implement guidelines for a minimal container footprint

- ## API Incoming Dependencies

No API dependencies are expected.

- ## API Outgoing Dependencies

No API dependencies are expected and this project does not deliver APIs to other projects.

- Third Party Products Dependencies

Name	Description	Version
Docker	Docker engine	Linux/Intel version that supports docker manifest Linux/aarch64 version that supports docker manifest
Docker	Docker registry	Version that supports fat manifest. Current version of the ONAP registry has been reported to lack support for fat manifests.
Alpine	Alpine Linux	Latest version

Testing Strategies

Background

A container image is just another software packaging format (typically a bunch of compressed tar files). Base images offer just the foundation and they are immutable and sealed.
For those reasons, changing the base image doesn't change the logic of the service it delivers and doesn't require any special kind of tests.

Migrating containers to different base image does not affect functional testing

The same test method and tools in use today will work with the new container you run from a smaller base image.

Testing each service:

a) in isolation - running unit test and
b) running service tests (or API contract tests) and
c) using point-to-point integration tests (pairwise)

will continue to use the same test artifacts you use today.

Why? mainly because you are running containers in Linux now and you will continue to run containers in Linux after.

Roles and Responsibilities

Testing Phase	CIA Project Contributors	Project Team	Integration Team
Image structure check	Verify that: ◦ The image build properly and ◦ That all dependencies related to the new base image are resolved correctly.		
Container Sanity check	Verify that • The local build process completes successfully; with not container build errors. • The build changes result in a structurally sound container image. • Libraries and dependencies are resolved correctly. **Note**: for containers that can't run standalone without changes to the base image, there is no expectation that they will run after the migration to a new base image. The strategy in this case is to move this test to the CSIT testing phase.		

Unit/CSIT testing	Verify that • The container runs on their local development environment When available: • Execute test harnesses and unit tests provided by the project team. Teams that have CSIT jobs will run these tests automatically in the build environment. **This testing is independent of the base image used to build the container.**		
Integration testing			• Contributed changes will be subject to the integration tests designed and executed by the Integration team or the project team. • In the Integration lab env, ONAP containers are deployed and ran inside VMs and those VMs use ubuntu-1604-cloud-amd64 image, however, the host OS is transparent to containers. • The integration team uses OOM to deploy whatever ONAP container images are pulled from the registry. **The Integration team is not concerned with whether an image is based on Alpine, Ubuntu or something else.** **This testing is independent of the base image used to build the container.**
Contract (Pairwise) testing		Pairwise testing will proceed according to current best practices under the guidance of the project teams or the Integration team. **This testing is independent of the base image used to build the container.** **Note:** CIA contributors would help resolve issues that are demonstrably caused by the new base image.	

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
ONAP Docker registry does not support manifest lists.	Multi-cpu architecture images can't be pushed to the ONAP registry.
LF arm-based build process/servers is work in progress.	Multi-cpu architecture images can't be built and delivered.

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
ONAP Docker registry does not support manifest lists.	Request an upgrade to the registry server to the LF team.	Use an alternative Docker registry server that supports manifest lists.

Contributors are not committers and can't control modifications to the code base.	Meet project teams, make them aware of: -the S3P requirements -the contributions CIA is expected to bring -discuss testing options and artifacts -seek their buy in and collaboration	TBD

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.

Documentation, Training

- The team maintains documentation and guidelines on the their wiki page.

Other Information

- Vendor Neutral

The project contributions are predicated on the need to make ONAP vendor-neutral.

- Free and Open Source Software

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

Charter Compliance

The project team comply with the ONAP Charter.l