ARC Multi-Cloud Component Description - Kohn-R11

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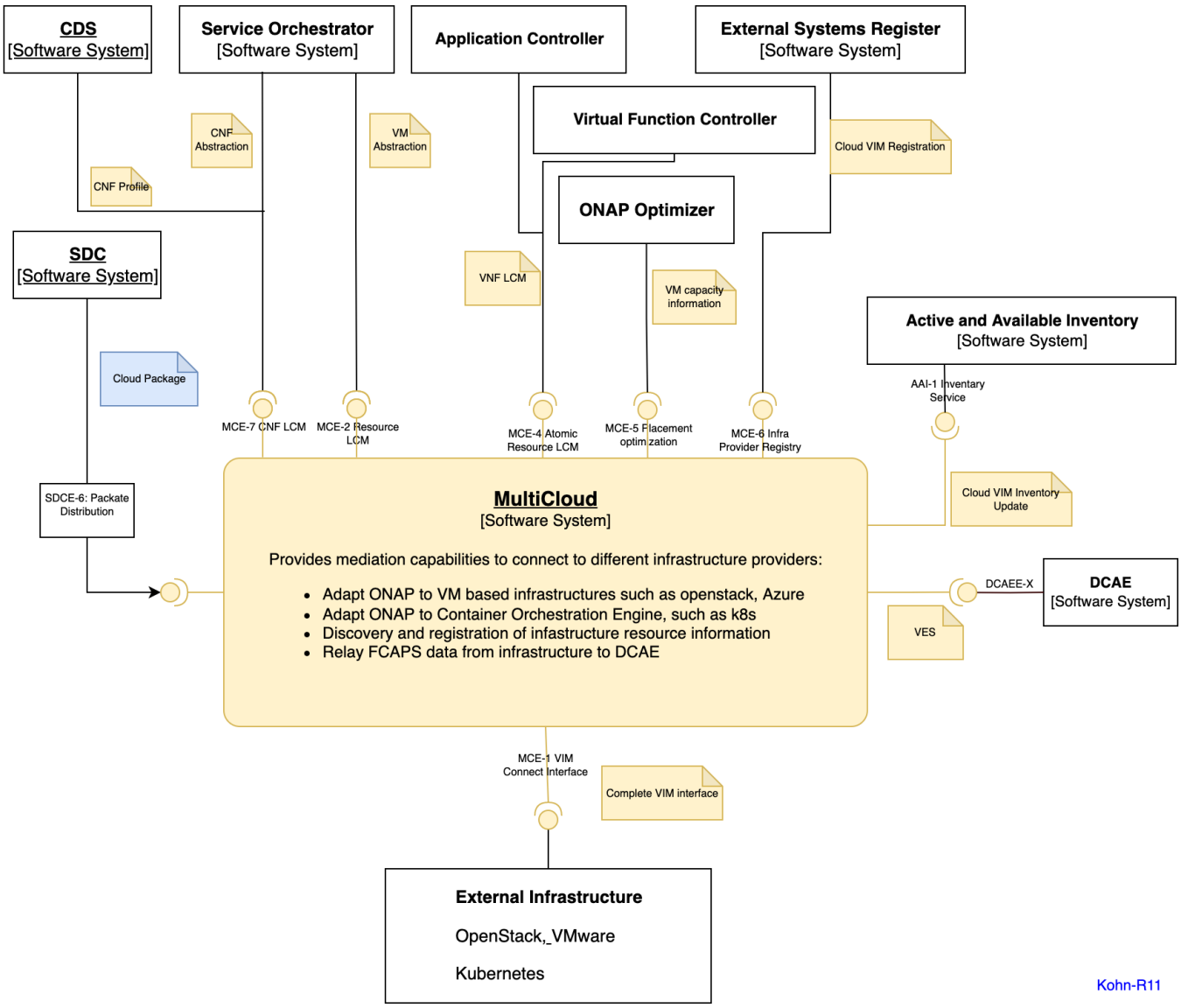
Component Status: Pending PTL updates and ArchCom Review

Last Reviewed on:

Certified by:

MC Multi-Cloud:

High Level Component Definition and Architectural Relationships



The multi-cloud function provides mediation capabilities to connect to different infrastructure providers.

- Adapt ONAP to VM based infrastructure such as openstack,Azure
- Adapt ONAP to Container Orchestration Engine, such as K8S
- Discovery and registration of resource information.

- Relay FCAPS data from infrastructure to DCAE

2. MultiCloud API definitions

Multi-Cloud provides the following interfaces:

Interface Name	Interface Definition	Interface Capabilities	API Spec (Swagger)
MCE-2	Resource Lifecycle Management Interface Provides a course grain VNF level LCM interface in a template driven and cloud agnostic way	Provides: • Infrastuture workload LCM (instantiate, query, Delete Infrastructure workloads)	https://docs.onap.org/projects/onap-multicloud-framework/en/latest/MultiCloud-APIv1-Specification.html
MCE-3	N/A Place holder for SDN interconnect interface	Envisaged Future Capability	
MCE-4	Atomic Resource LCM Provides a fine graned resource LCM interface at the VM level. This is an atomic resource level workload LCM (specific to openstack resources)	Provides: • Image Management: (Create /Delete/Get Images) • Network Management (Create /Delete/Query connectivity) • Subnetwork Management ((Create/Delete/Query sub-networks) • Virtual Point Management (Create/Delete/Query Virtual endpoints) • Server Management (Create /Delete/Query Virtual Servers) • Heal Server • Flavour Management (Create /Delete/Query VM Flavors) • Volume Management (Create /Delete/Query Storage Volumes) • Tenant Management (Create /Delete/Query Infrastructure Tenants)	https://docs.onap.org/projects/onap-multicloud-framework/en/latest/MultiCloud-APIv1-Specification.html
MCE-5	Placement Optimization Interface Provides real time available capacity information	Provides: • Query for real-time available capacity information	https://docs.onap.org/projects/onap-multicloud-framework/en/latest/MultiCloud-APIv1-Specification.html
MCE-6	Cloud VIM Registration interface Expose Interface to trigger MultiCloud plugin to discover the infrastructure resource and register them to AAI	Provides: • VIM Management (Update VIM info, unregister VIM info)	https://docs.onap.org/projects/onap-multicloud-framework/en/latest/MultiCloud-APIv1-Specification.html

MCE-7	CNF Lifecycle Management Interface Provides a course grain CNF level LCM interface for k8s workloads based on helm resource templating format. The interface differs from MCE-2 because of the different modeling applied for CNFs in comparison to VNFs - RB (Resource Bundle) concept which represents helm package encapsulation.	Provides: • RB Definition Management (Create/Delete/Get RB Definition) • RB Definition Content Management (Update RB Definition Content) • RB Profile Management (Create /Delete/Get RB Profile) • RB Profile Content Management (Update RB Profile Content) • RB Instance Management (Create/Delete/Get RB Instance) • Connectivity Info Management (Create/Delete/Get k8s Connectivity Info) • RB Configuration Template Management (Create/Delete /Get RB Configuration Template) • RB Configuration Template Content Management (Update RB Configuration Template Content) • RB Configuration Instance Management (Update RB Configuration Instance) • Query API for cluster resources • Helm 3 support • Query API notifications (stretch)	MultiCloud K8s-Plugin-service API

Note: xxxI interface is a Component internal interface. xxxxE interface is a component external interface

The current API documents can be found at: https://onap.readthedocs.io/en/latest/submodules/multicloud/framework.git/docs/MultiCloud-APIv1-Specification.html

MultiCloud consumes the following Interfaces:

Interface Name	Purpose Reason For Use	API Spec (Swagger)
SDCE-6	To receive the cloud orchestration artifact from SDC	SDC API
MCE-1	Consume the services from the cloud provider. It is specific to each cloud type (by plugin approach)	https://docs.openstack.org/pike/api/
DCAEE-X	Supply Virtual Infrastructure FCAPS Events to DCAE	https://docs.onap.org/projects/onap-dcaegen2/en/latest/sections/apis/ves.html
AAIE-1	Consume the services from AAI to access infrastructure resource inventory	https://docs.onap.org/projects/onap-aai-aai-common/en/latest/platform/offeredapis.html

3. Component Description:

A more detailed figure and description of the component.

<< For later inclusion >>

4. known system limitations

Runtime: to be filled in

5. Used Models

Multi-Cloud uses the following models:

- please fill in (and references if possible)
- << include model that you recieve from SDC >>
- << Include the model that you configure in the policy >>

-

6. System Deployment Architecture

Multicloud consists of X containers:

- Do you have a figure here that?

https://wiki.onap.org/pages/resumedraft.action?draftId=81402378&draftShareId=6aceb699-e2e4-4b3a-8be7-641e01a69f22&

https://app.diagrams.net/?lightbox=1&highlight=0000ff&edit=_blank&layers=1&nav=1&title=CLAMP%20runtime%20architectrue#R7Vpdb5swFP01eUyFIRDymKZZO62dIrXa2r1MHjjgxWBqTEP662eCCR%2BmbFPzgaI%2Bxb6%2BNva5x8f2VQbGLEivGYz8O%2BoiMtA1Nx0YVwNdB0DXxE9m2eQWe2LmBo9hVzqVhnv8iqRR9vMS7KK45sgpJRxHdaNDwxA5vGaDjNF13W1JSf2rEfTkF7XScO9AghS379jlvlyFPi7tNwh7fvFlYE3ylgAWznLg2IcuXVdMxnxgzBilPC8F6QyRDLwCl7zfpzdadxNjKOT%2F0uHBX4TjZ5L6ePT06Czmwxvtx1DPR3mBJJELlpPlmwIBRpPQRdkg2sC4XPuYo%2FsIOlnrWsRc2HweEFEDoqhOSs7zBTGO0opJTvIa0QBxthEusnVoTCRikjKmrK5L%2FI3C5lexL5CGMubebuwSFlGQyPwHSkBBKeaQERx6abZakng4zDnIIQ4RUzAUsY%2ByokODiIZbbC4hwV4obAQts2osMBUD3m5rV4a1JzB1YNbAtPULU4ETtMFpHQrNkYJmkIgN7RCauFvYKtBSV8FSrJzXSRdzRldoRgllwhIKgIVxiQlpmArEHYGnCJJxmeGIxV6fyoYAu272mVaW1%2FfBfmJTJ7quEh2AlsgcjOemEhkoAFpCoau69isDmfWU5sa4DmUPaA56qK22VofJUhmna23Sqh0MJUNBaXY7vVv8%2FPL5cvp12h%2BK2XpDSFs263H5ZXfraIRX6Nwl1DbrfDaOqKDpcGnZr%2Fxm%2BPjNenj246VG74ZgpICNXHGhlFXKuE89GkIyL60NWEqfW0ojGZ%2FfiPONvB3DhNN69FCK%2BWPW%2FWJsyupTpekqlUNvK5uiEooF5710s6g%2FVRvLftva5m9xi2nCHNSFTu4nDngP8Q4%2FCWKGXCcLGCKQ45f6VX3%2FMTU%2FYvr%2BmNr9imn%2Fzmazfr4M2949hzucW1FSbzDlCTMs7oO9OaC1Bn5th8GhTuh2klmnFA5QUQ2tb6phqKrRlZ%2FYn2psu04Zg5uKQ0RxyOPKyIvMUFJL1xp702qkWhr%2B4m6md3UQhXwKJbd2a3kH3ewPur2TbqCnfLO7%2Bda8Bjf8D0M39eFWORyWDAZoTdlKoeTZvD0mjRiBUUvG4aiPDzWxdrpLzSlyt62gqDktjjkMcRLsHsoyf9uXiwwYnzJl2wqi1bHXM11tInrOOQfQuGgeM2vbGpyxEpyWrG1fyK3XwesBt9U02ulUU7aOGmna06voRAFpZcc91E6zf9pZaMFb4imBPGfJNPsmmUDN%2F%2FRYM0fHFE1RLf%2BTkL8Vyn92GPM%2F

7. New Capabilities in this Release

This release, Multi-Cloud adds the following Capabilities:

- Enhance MultiCloud k8s to support CNF orchestration

8. References

1. Multicloud interface specification: https://onap.readthedocs.io/en/latest/submodules/multicloud/framework.git/docs/MultiCloud-APIv1-Specification.html
2. MultiCloud Architecture: https://docs.onap.org/en/casablanca/submodules/multicloud/framework.git/docs/MultiCloud-Architecture.html