



ONAP R1 – ONAP Operations Manager (OOM) Proposed Scope

July 2017

ONAP Operations Manager (OOM) for ONAP R1

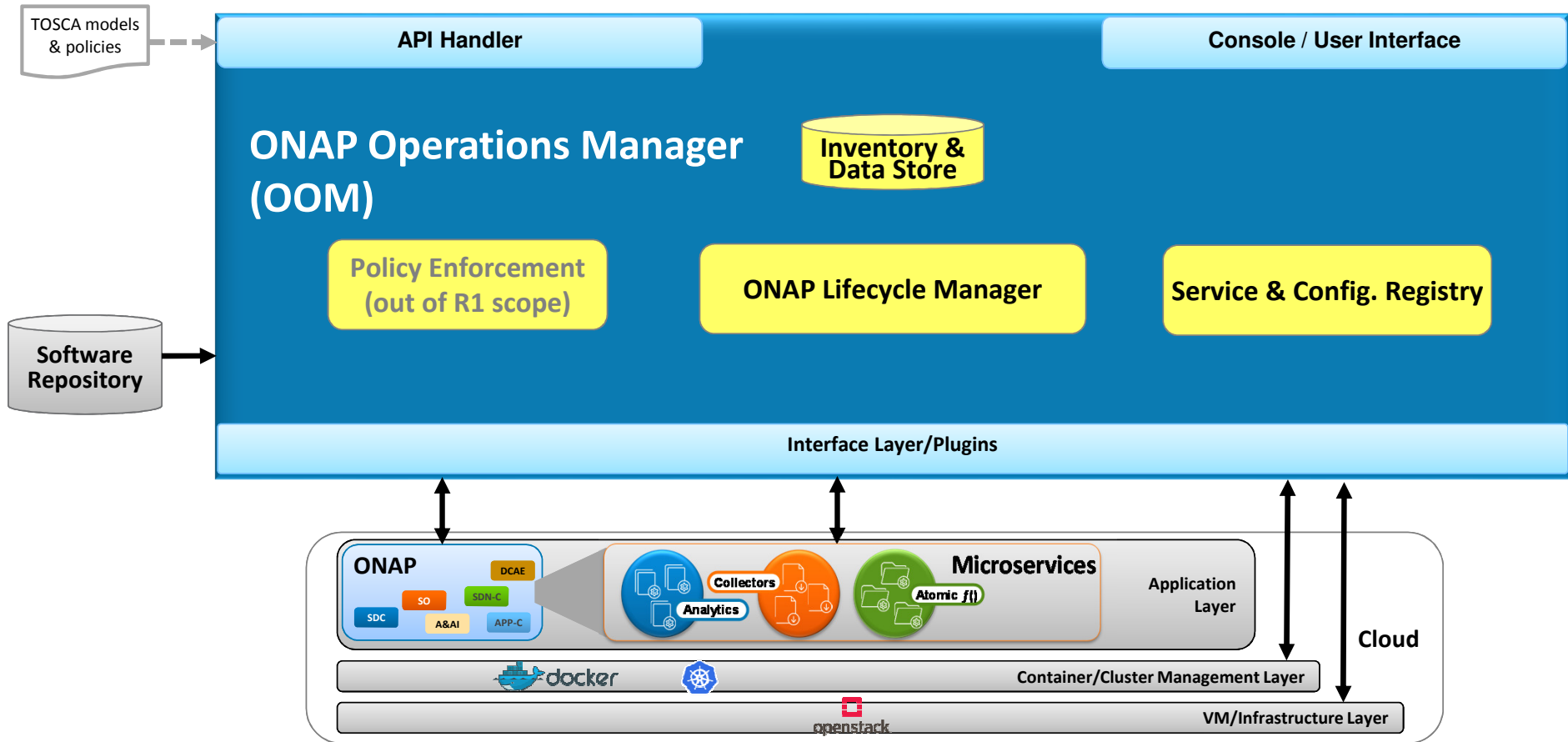
- The OOM Project has been approved by the ONAP TSC for ONAP R1.
- As activities are starting on the approved projects, AT&T proposes to focus OOM development activities on the 2 use cases below.

OOM Use Cases for ONAP R1

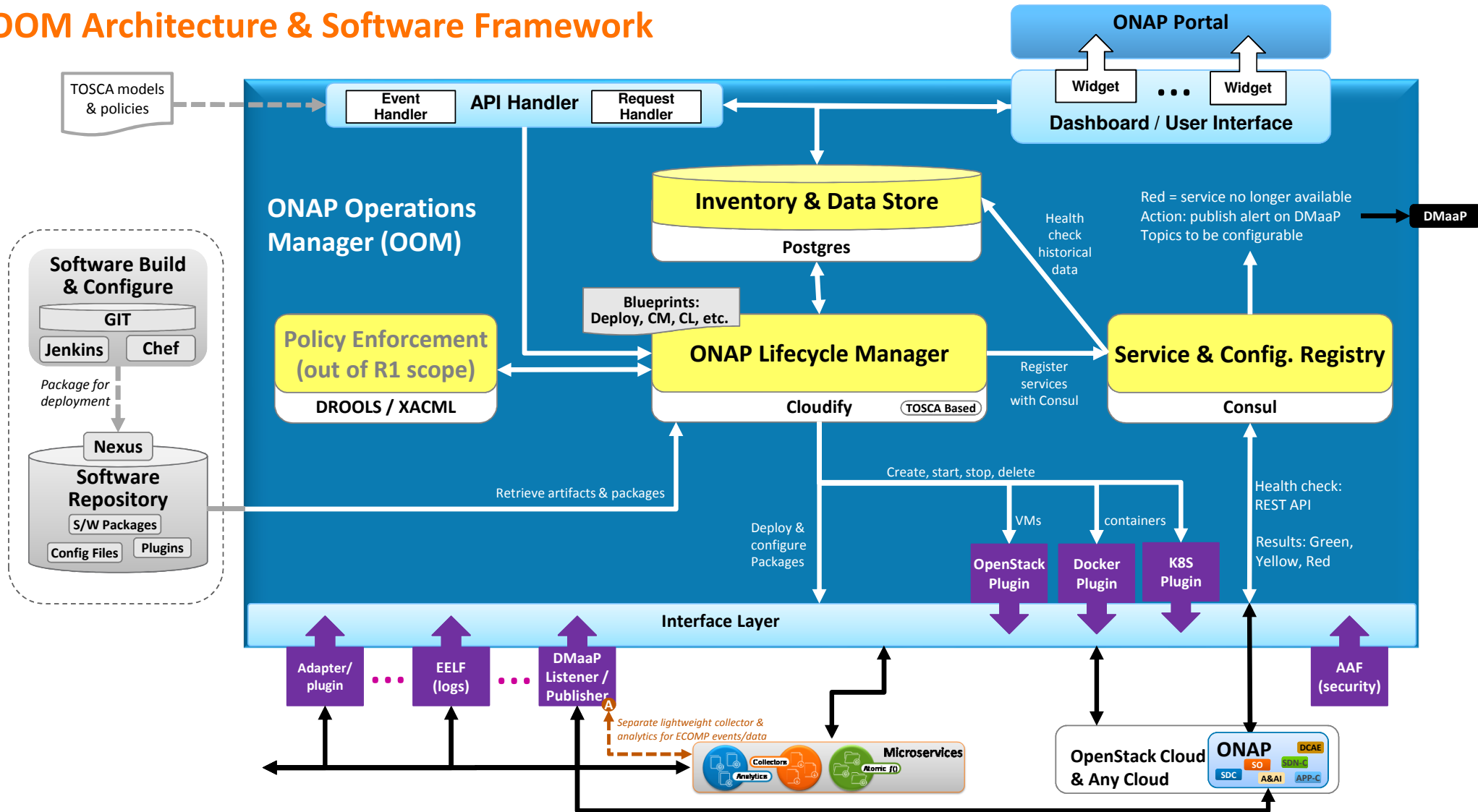
- 1 Automated Model Driven Deployment of ONAP Components – TOSCA.
 - Support Hybrid environment – incl. containers (docker/kubernetes) and non-containers (openstack)
 - Support of test/production environments (synergy with Integration Project)
- 2 Monitor the State of ONAP – via health-checks, KPIs, etc.

OOM Functional View

- Simple S/W framework to avoid complexity requiring more management
- TOSCA model driven topology deployment and life cycle management actions
- Coordinated management of VM, container, and clusters (via plugins)
- Kubernetes orchestration for containers
- Service registration to track every module and its health
- Comprehensive UI view of ONAP inventory
- Policy based control (out of scope for R1)



OOM Architecture & Software Framework

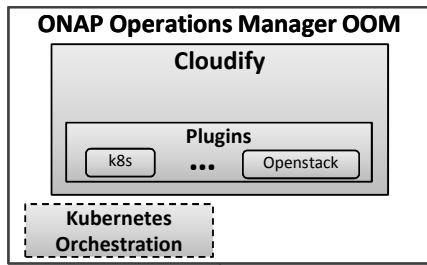


Hybrid Deployment Options

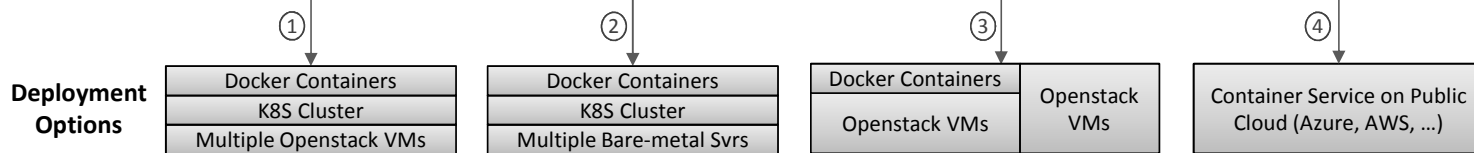
- Service Providers need coordinated orchestration and life cycle management across containers, non-containers and underlying virtual infrastructure
- Service Providers need multiple deployment options to manage their ONAP roll out (including infrastructure/cloud migration)
- Not all components are optimized to run on containers – hybrid deployments will exist/persist
- Future proofing container technology and container orchestration is needed

Deployment Options:

1. K8S on Openstack VMs
2. K8S on bare-metal servers
3. Openstack VMs or Docker on Openstack
4. Public Cloud Services
5. Future container orchestration??

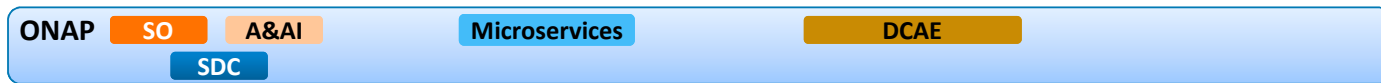


- Supports a hybrid deployment thru plugin* technology (openstack, k8s, docker, azure, ...)
- Model-Driven, TOSCA blueprints**
- Interfaces with multiple container orchestration technologies (initial: kubernetes)

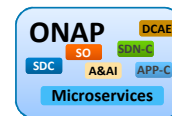
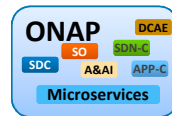
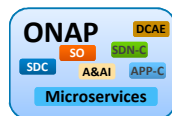
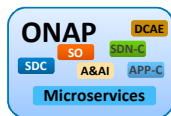


* Might need synergy with multi-VIM Project
 ** SDC will design blueprints (post-R1)

Examples:



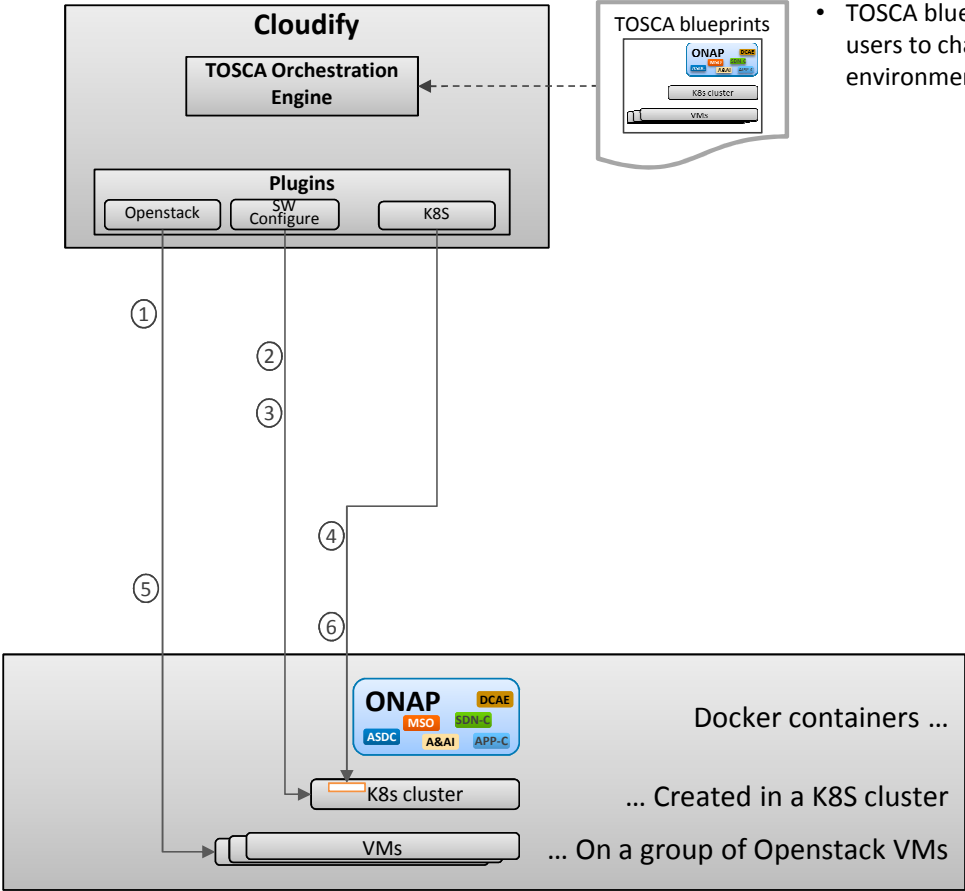
Single ONAP Instance on Multiple Locations in transition



Multiple ONAP Instances in Multiple Locations

Coordinated Orchestration (Container and Underlying Virtual Infrastructure)

- Orchestration Steps:**
1. Create VMs
 2. Create Kubernetes Cluster
 3. Configure Cluster connectivity
 4. Create/Run Docker Container
 5. Scale Cluster size (add VMs)
 6. Scale Containers



- TOSCA blueprints can be modified by Operations users to change the deployment targets (e.g., test environments, production, etc.)

Proposed Inclusion into OOM R1 MVP

- Day 0 creation of Cloudify (include plugins)
- TOSCA blueprint defined for orchestration tasks
 - Blueprint to create the rest of OOM: Consul/service registry, Postgres-aaS, Dashboard UI
 - Blueprint to create a K8S cluster
 - Blueprint to create each ONAP Component in scope
- Cloudify-Kubernetes Plugin to create/run dockerized apps
- Consul registration of components & subcomponents. Health check of component services.
- Dashboard UI to show ONAP instance, its components and health