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

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

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