



TOSCA Support in ONAP

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Date , 2017

Current ONAP Situation

- VNF suppliers have two ways to define and describe how to instantiate their VNFs...
 - HEAT templates
 - TOSCA templates
- Two incompatible TOSCA based VNF representations at design time
 - External (VNF supplier) representation
 - Internal ONAP representations
- Two incompatible ways to orchestrate instantiation and operation of VNFs and network services

Emerging Industry Landscape

- Normative industry specification for representation of network functions and services are taking shape
 - ETSI NFV IFA011/014 – network service and VFN information models
 - ETSI NFV SOL001 – network service and VNF data models in TOSCA
 - ETSI NFV SOL006 – network service and VNF data models in YANG
- Alternative "defacto" representations are taking shape as well
 - Cloud native network functions are becoming common place
 - Container based deployments of network functions is becoming more popular
 - Helm and Spinnaker are emerging as defacto ways to specify how to instantiate and operate network functions
- Network service definitions are coming as well

Implications for ONAP

- Lack of interoperability and integration consistency
- Lack of a clear path towards “build it once” and “automate once” end-state
 - Consistency of packaging and delivery
 - Consistency of automation for on-boarding and deployment
- Divergence between industry accepted normative specifications and ONAP

Next Steps

- TOSCA Tiger Team
 - Define a way forward for consumption of TOSCA inside ONAP
 - TOSCA orchestration approach
 - TOSCA template support
 - Compatibility between TOSCA templates