VNF Management Options in ONAP

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ONAP Joint SubC Meeting

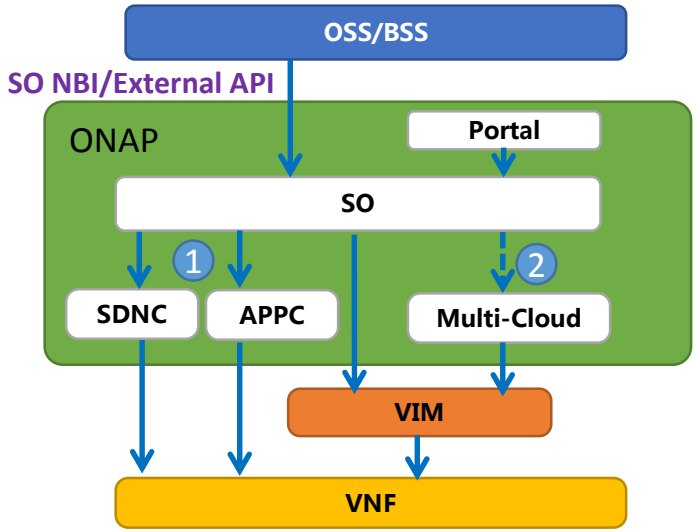
@ONS 2019

Outline

- VNF management options in ONAP
  - Provisioning Mgmt.
  - Configuration Mgmt.
  - Performance/Fault Mgmt.
- Implementation Status Summary
- Observations from 5G use case perspective

VNF Provisioning Options (Implemented)

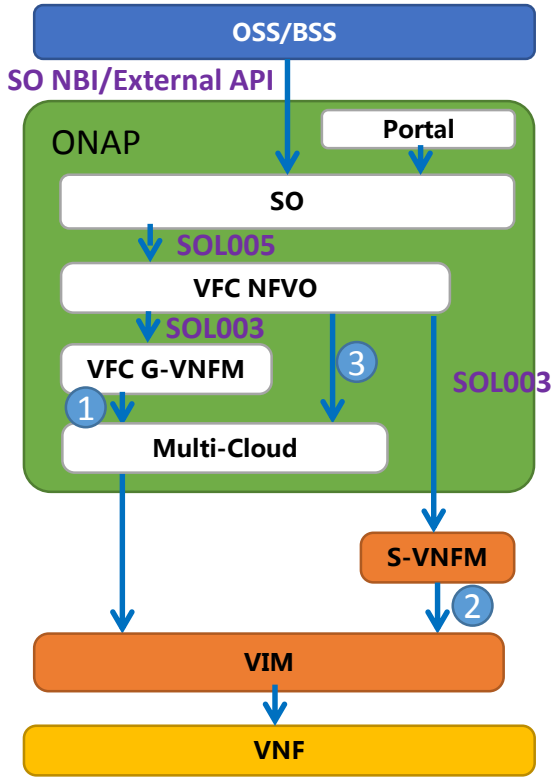
Option 1: SO+APPC



VNF Deploy: SDC design as input
- ① SO->VIM
- ② SO->Multi-Cloud (in progress)

VNF Manage:
- SO->SDN-C/APPC->VNF

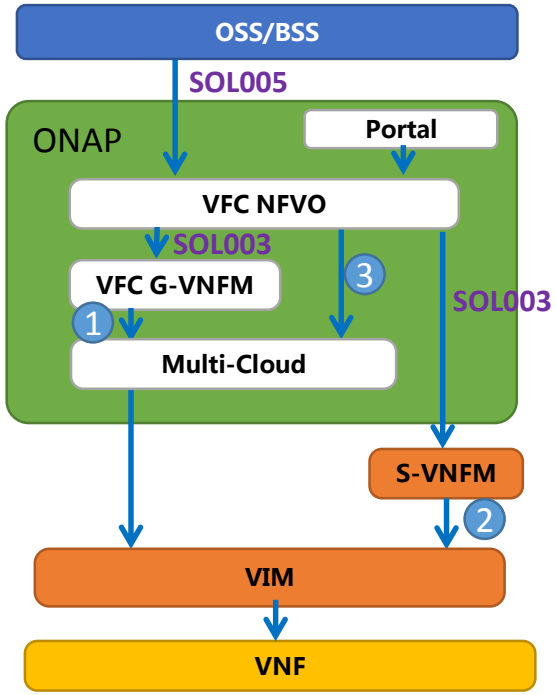
Option 2: SO+VFC



VNF Deploy: SDC design as input
- ① SO->VFC NFVO->VFC VNFM->Multi-Cloud (direct)
- ② SO->VFC->S-VNFM->VIM (direct)
- ③ SO->VFC NFVO->VIM (indirect)

VNF Manage (e.g., scaling, healing):
- (1) SO->VFC (NFVO+G-VNFM)->VNF
- (2) SO->VFC NFVO->S-VNFM/EMS->VNF

Option 3: VFC only



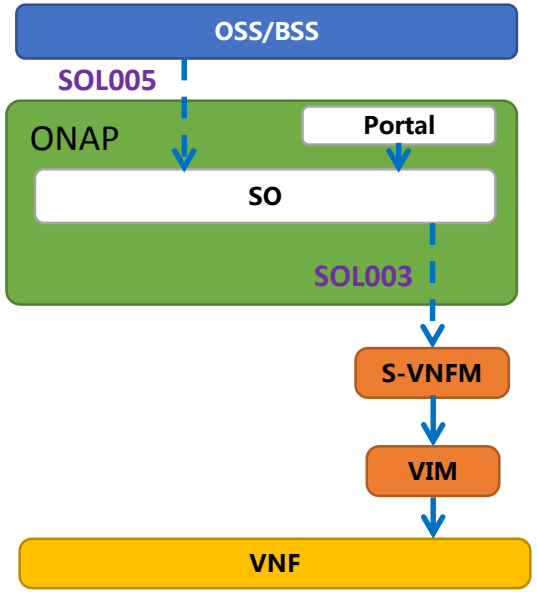
VNF Deploy: run-time on-boarded ETSI model as input
- ① VFC NFVO->VFC VNFM->Multi-Cloud (direct)
- ② VFC->S-VNFM->VIM (direct)
- ③ VFC NFVO->VIM (indirect)

VNF Manage:
- (1) VFC (NFVO+G-VNFM)->VNF
- (2) VFC NFVO->S-VNFM/EMS->VNF

NOTE: configuration, fault, performance management not illustrated

VNF Provisioning Options (Work in Progress)

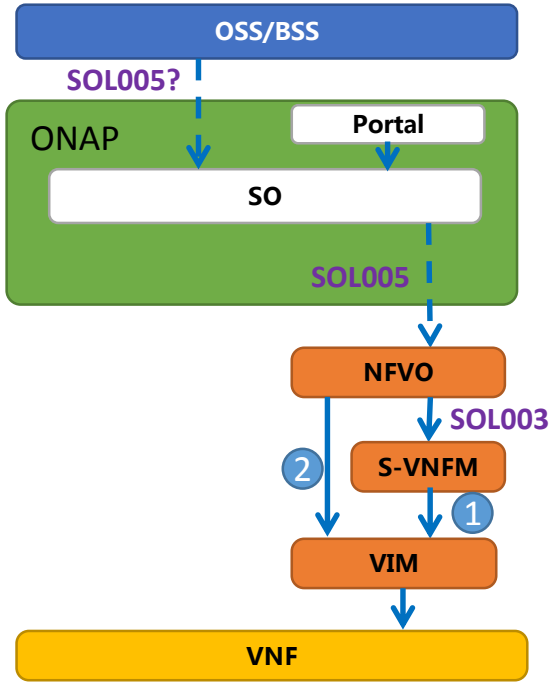
Option 4: SO+external VNFM



VNF Deploy: on-boarded ETSI model as input
- SO->S-VNFM->VIM

VNF Manage:
- SO->S-VNFM/EMS->VNF

Option 5: SO+external NFVO

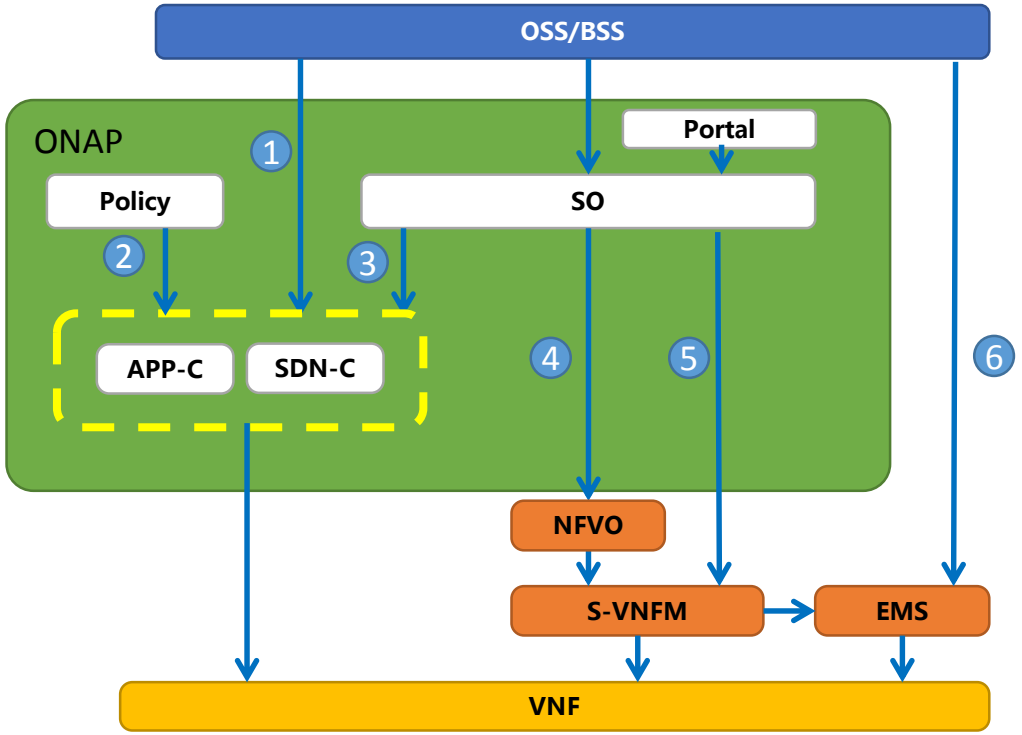


VNF Deploy: on-boarded ETSI model as input
- ① SO->NFVO->S-VNFM->VIM (direct)
- ② SO->NFVO->VIM (indirect)

VNF Manage:
- SO->NFVO->S-VNFM->VNF

NOTE: configuration, fault, performance management not illustrated

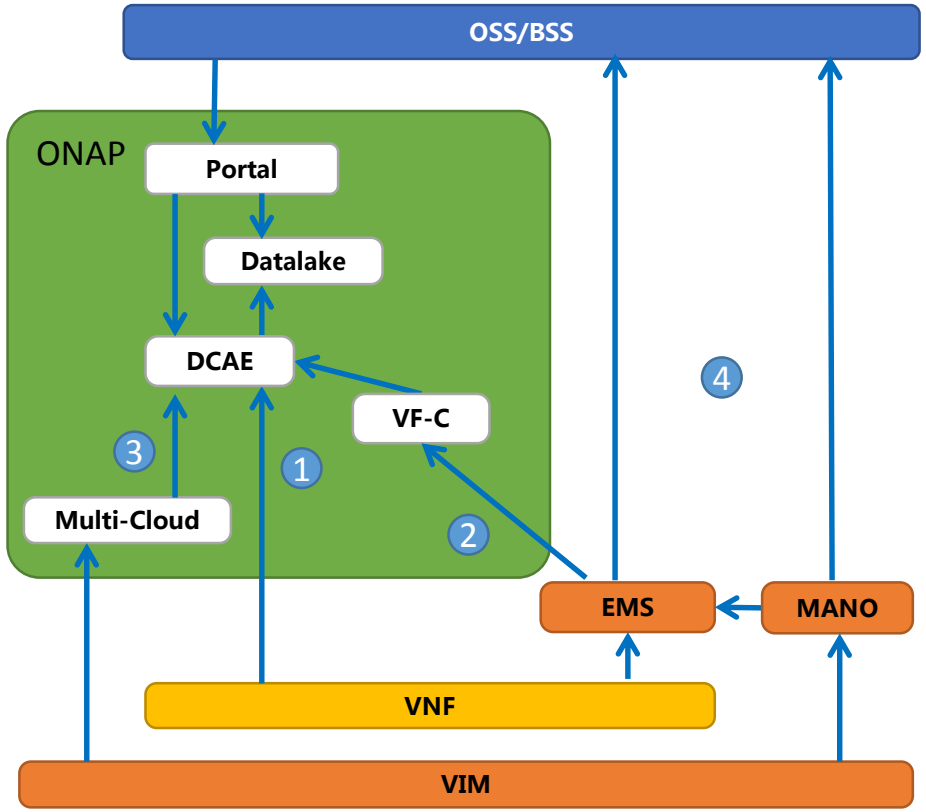
VNF (Application) Configuration Options



Application configuration:

- ① OSS/BSS->controller->VNF
- ② Policy->controller (close loop)
- ③ OSS/BSS->SO->controller->VNF
- ④ OSS/BSS->SO->NFVO->VNFM/EMS->VNF
- ⑤ OSS/BSS->SO->VNFM/EMS->VNF
- ⑥ OSS/BSS->EMS->VNF

Fault/Performance Management Options



Fault/Performance collection options:

- ① VNF->DCAE
- ② VNF->EMS->VF-C->DCAE
- ③ VIM->Multi-Cloud->DCAE

NOTE: OSS can get information from DCAE through the portal

- ④ MANO/EMS->OSS

Fault/Performance management options:

- ① SDC/CLAMP->DCAE (Collector+Holmes+Datalake)+Policy+Dmaap Topic Register
- ② OSS/BSS->NFVO->VNFM->VIM

Implementation Status Summary

Provisioning Options	Implemented	Use Case Verified	C Tested
SO+VFC	yes	VoLTE, vCPE	yes
only VFC	yes	vCPE	no
SO+APPC	yes	vCPE	no
SO+external VNFM	in progress	no	no
SO+external NFVO	plan	no	no

Config Options	Implemented	Use Case Verified	C Tested
controller	yes	vFW, vCPE	no
SO+controller	no	no	no
SO+external VNFM	no	no	no

FM/PM Collect Options	Implemented	Use Case Verified	C Tested
DCAE	yes	vFW, vCPE, vDNS	no
VFC+DCAE	yes	VoLTE, vCPE	yes
Multi-Cloud+DCAE	yes	VoLTE, vCPE	yes

FM/PM Manage Options	Implemented	Use Case Verified	C Tested
CLAMP+DCAE/Policy/…	yes	vDNS	yes
DCAE/Policy/…	yes	vFW, vCPE	yes

Quick Observations from 5G Use Case Perspective

- CNF Provisioning support
  - Slow progress with SDC client in Multi-Cloud PoC
- Nested Service Provisioning support
  - Design-Time support newly added, Run-Time support to be implemented
- VNF/CNF Configuration Mgmt support
  - No tested or verified solutioning with non-HEAT VNFs/CNFs
  - We had a vIMS pilot test NFVO(part of VF-C) with APP-C inside CMCC
- Service Configuration Support
  - Discussion initiated, need to be accelerated in order for E planning
- Package Mgmt support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