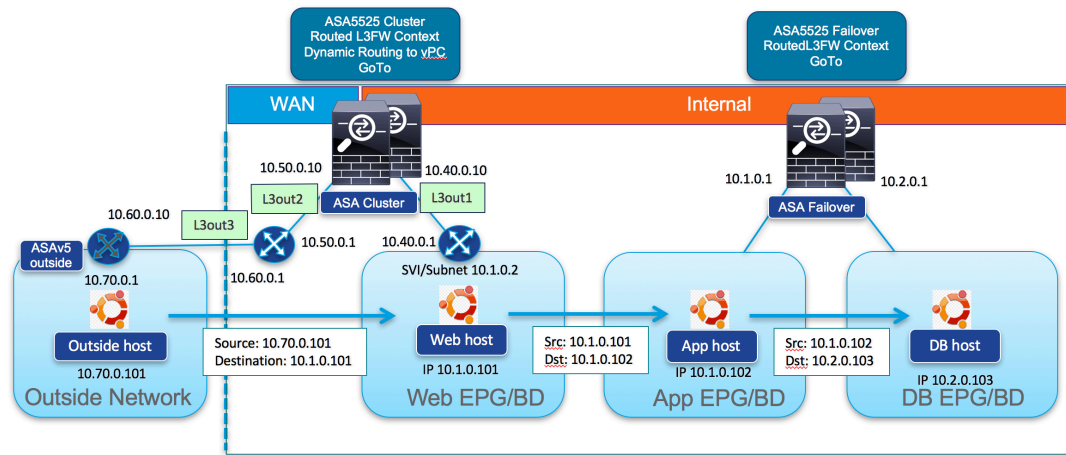# cisco-security/aci-scripts

The package included here allows creation of the following Tenant on APIC and ACI fabric:

ASA Service Graph in ACI - Tenant Diagram

BASH script wrapper for all python scripts is also included to allow step by step creation of Tenant pod1, application profile, bridge domains, EPGs, L4-7 ASA devices, their function profiles (configuration), L3outs in the ACI fabric and those needed for ASA dynamic routing, service graphs for ASAs, and wizard based creation of the contract, filter, and applied service graphs. Left of the WAN portion of the diagram is outside of the ACI fabric and not included in the scripting.

rebuild-my-pod.bash script assumes that the tenant pod1 already exists, and proceeds to delete specific items from this Tenant. To ensure the tenant exists, you may comment out the like so:

```
…
    do
  #echo "^@Delete pod$i tenant items (app profile,EPGs,BDs,contract,l3outs,vrfs,L4-L7 items:  [continue]"; read
go
  #python ${path}faba-tenant-delete.py $i $i
  echo "^@Create pod$i tenant app profile, EPGs, vrfs, BDs:  [continue]"; read go
 …
```

You could certainly delete the tenant through APIC and run the BASH script with commented out *-tenant-delete.py section.

Note that included python scripts are very dependent (refer to pre-configured items) on number of settings to execute properly. Those would have to be either matched by name or updated in the scripts to work properly. These are items like VMM and physical domains, imported ASA device package, pre-configured vPC for ASA data plane (p10), BGP routing backplane in the fabric, etc.

Here are addition screenshots of what this tenant looks like in the fabric:

ALL TENANTS | Add Tenant | Search: enter name, descr | pod2 | common | infra | mgmt | pod1

Tenant pod1

- Quick Start
- Tenant pod1
  - Application Profiles
    - aprof
  - Networking
  - L4-L7 Service Parameters
  - Security Policies
  - Troubleshoot Policies
  - Monitoring Policies
  - L4-L7 Services

Application Profile - aprof

Drag and drop to configure: C Contract   E EPG   µE µEPG   Any VZ Any   B Baremetal   V VM Ware   M Microsoft   O Openstack   L2   L3

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C app-to-db(Fir...   C out-to-web(F...

E app   E db   E web   L3 out-l3out3

V   V   V

ALL TENANTS | Add Tenant | Search: enter name, descr | pod2 | common | infra | mgmt | pod1

Tenant pod1

- Quick Start
- Tenant pod1
  - Application Profiles
  - Networking
  - L4-L7 Service Parameters
  - Security Policies
  - Troubleshoot Policies
  - Monitoring Policies
  - L4-L7 Services
    - L4-L7 Service Graph Templates
      - asa-clu-graph
      - asa-fail-graph
    - Router configurations
    - Function Profiles
    - L4-L7 Devices
    - Imported Devices
    - Devices Selection Policies
    - Deployed Graph Instances
    - Deployed Devices
    - Inband Management Configurat
    - Device Managers

L4-L7 Service Graph Template - asa-clu-graph

Topology   Policy

Consumer   **Provider**

EPG   C ▢ P   EPG

pod1-asa-clu

FIREWALL

pod1-asa-clu Information
Firewall: **Routed**
Profile: **asa-clu-fprof**
Route Redirect: **false**

Tenant pod1

- Quick Start
- Tenant pod1
  - Application Profiles
  - Networking
    - Bridge Domains
    - VRFs
    - External Bridged Networks
    - External Routed Networks
      - Route Maps/Profiles
      - Set Rules for Route Maps
      - Match Rules for Route Maps
      - asa-clu-external
      - asa-clu-internal
      - wan-out
    - Protocol Policies
  - L4-L7 Service Parameters
  - Security Policies
  - Troubleshoot Policies
  - Monitoring Policies
  - L4-L7 Services

L3 Outside - asa-clu-external

Properties

Name:	**asa-clu-external**
Description:	optional
Tags:	
	enter tags separated by comma
Alias:	
Provider Label:	
	enter names separated by comma
Consumer Label:	
	enter names separated by comma
Target DSCP:	Unspecified
Route Control Enforcement:	☐ Import ☑ Export
VRF:	pod1/vrf1net
Resolved VRF:	**pod1/vrf1net**
External Routed Domain:	l3out_domain
Route Profile for Interleak:	select a value
Route Control For Dampening:	

Tenant pod1

- 📁 Quick Start
- 👥 Tenant pod1
  - ▶ 📁 Application Profiles
  - ▼ 📁 Networking
    - ▶ 📁 Bridge Domains
    - ▼ 📁 VRFs
      - ▶ 🔒 pod1net
      - ▶ 🔒 vrf1net
    - ▶ 📁 External Bridged Networks
    - ▶ 📁 External Routed Networks
    - ▶ 📁 Protocol Policies
  - 📁 L4-L7 Service Parameters
  - ▶ 📁 Security Policies
  - ▶ 📁 Troubleshoot Policies
  - ▶ 📁 Monitoring Policies
  - ▶ 📁 L4-L7 Services

VRF - pod1net

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Properties

Name: **pod1net**

Description: optional

Alias:

Segment: **2359301**

Policy Control Enforcement Preference: [Enforced] [Unenforced]

Policy Control Enforcement Direction: [Egress] [Ingress]

BGP Timers: select a value ▼

BGP Context Per Address Family:

▲ BGP Address Family Type

Tenant pod1

- Quick Start
- Tenant pod1
  - Application Profiles
  - Networking
    - Bridge Domains
      - app
      - db
      - web
    - VRFs
    - External Bridged Networks
    - External Routed Networks
    - Protocol Policies
  - L4-L7 Service Parameters
  - Security Policies
  - Troubleshoot Policies
  - Monitoring Policies
  - L4-L7 Services

Bridge Domain - app

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Properties

Name:	app
Description:	optional
Type:	fc regular
Alias:	
Legacy Mode:	No
VRF:	pod1/pod1net
Resolved VRF:	pod1/pod1net
L2 Unknown Unicast:	Flood Hardware Proxy
L3 Unknown Multicast Flooding:	Flood Optimized Flood
Multi Destination Flooding:	Flood in BD Drop Flood in Encapsulation
PIM:	☐
IGMP Policy:	select an option
ARP Flooding:	☑
Endpoint Dataplane Learning:	☑
Limit IP Learning To Subnet:	☐
End Point Retention Policy:	select a value
	This policy only applies to local L2, L3, and remote L3 entries
IGMP Snoop Policy:	select a value

CISCO

Tenant pod1

- Quick Start
- ▲ Tenant pod1
  - ▲ Application Profiles
    - ▲ aprof
      - ▲ Application EPGs
        - ▶ ⊘ EPG app
        - ▶ ⊘ EPG db
        - ▶ ⊘ EPG web
      - ▶ uSeg EPGs
      - L4-L7 Service Parameters
  - ▶ Networking
  - L4-L7 Service Parameters
  - ▶ Security Policies
  - ▶ Troubleshoot Policies
  - ▶ Monitoring Policies
  - ▶ L4-L7 Services

EPG - app

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Properties

Name:	**app**
Description:	optional
Tags:	
	enter tags separated by comma
Alias:	
uSeg EPG:	**false**
pcTag(sclass):	**16389**
QoS class:	Unspecified
Custom QoS:	select a value
Intra EPG Isolation:	Enforced / **Unenforced**
Preferred Group Member:	**Exclude** / Include
Configuration Status:	**applied**
Configuration Issues:	
Label Match Criteria:	AtleastOne
Bridge Domain:	pod1/app
Resolved Bridge Domain:	**pod1/app**
Monitoring Policy:	select a value

Sample Script Execution

This is a sample output of the script, executed for pod1 tenant (1 can be set inside the BASH script). Each python script requires interaction by the user to continue to the next one:

user@api-client:~/demo$ ./rebuild-my-pod.bash

Delete pod1 tenant items (app profile,EPGs,BDs,contract,l3outs,vrfs,L4-L7 items: [continue]

```
<?xml version="1.0" encoding="UTF-8"?>
<vzRsSubjGraphAtt status='deleted'></vzRsSubjGraphAtt>
<?xml version="1.0" encoding="UTF-8"?>
<fvAp name='aprof' status='deleted'></fvAp>
<?xml version="1.0" encoding="UTF-8"?>
<fvCtx name='pod1net' status='deleted'></fvCtx>
<?xml version="1.0" encoding="UTF-8"?>
<fvCtx name='vrf1net' status='deleted'></fvCtx>
<?xml version="1.0" encoding="UTF-8"?>
<l3extOut name='asa-clu-external' status='deleted'></l3extOut>
<?xml version="1.0" encoding="UTF-8"?>
<l3extOut name='asa-clu-internal' status='deleted'></l3extOut>
<?xml version="1.0" encoding="UTF-8"?>
<l3extOut name='wan-out' status='deleted'></l3extOut>
```

<?xml version="1.0" encoding="UTF-8"?>
<fvBD status='deleted' name='app'></fvBD>
<?xml version="1.0" encoding="UTF-8"?>
<fvBD status='deleted' name='db'></fvBD>
<?xml version="1.0" encoding="UTF-8"?>
<fvBD status='deleted' name='web'></fvBD>
<?xml version="1.0" encoding="UTF-8"?>
<vzBrCP name='app-to-db' status='deleted'></vzBrCP>
<?xml version="1.0" encoding="UTF-8"?>
<vzBrCP name='out-to-web' status='deleted'></vzBrCP>
<?xml version="1.0" encoding="UTF-8"?>
<vnsAbsGraph name='asa-clu-graph' status='deleted'></vnsAbsGraph>
<?xml version="1.0" encoding="UTF-8"?>
<vnsAbsGraph name='asa-fail-graph' status='deleted'></vnsAbsGraph>
<?xml version="1.0" encoding="UTF-8"?>
<vnsAbsFuncProfGrp name='asa-clu-gr' status='deleted'></vnsAbsFuncProfGrp>
<?xml version="1.0" encoding="UTF-8"?>
<vnsAbsFuncProfGrp name='asa-fail-gr' status='deleted'></vnsAbsFuncProfGrp>
<?xml version="1.0" encoding="UTF-8"?>
<vnsLDevVip name='pod1-asa-clu' status='deleted'></vnsLDevVip>
<?xml version="1.0" encoding="UTF-8"?>
<vnsLDevVip name='pod1-asa-fover' status='deleted'></vnsLDevVip>

Create pod1 tenant app profile, EPGs, vrfs, BDs: [continue]

<?xml version="1.0" encoding="UTF-8"?>
<polUni status='created,modified'><fvTenant ownerKey=" name='pod1' descr=" status='created,modified' ownerTag="><fvBD status='created,modified' multiDstPktAct='bd-flood' unicastRoute='yes' unkMcastAct='flood' descr=" llAddr='::' mac='00:22:BD:F8:19:FF' epMoveDetectMode=" ownerTag=" ownerKey=" name='web' unkMacUcastAct='flood' arpFlood='yes' limitIpLearnToSubnets='no'><fvRsBdToEpRet resolveAct='resolve' status='created,modified' tnFvEpRetPolName="></fvRsBdToEpRet><fvSubnet name=" descr=" ctrl=" ip='10.1.0.2/24' preferred='no' status='created,modified'></fvSubnet><fvRsBDToNdP status='created,modified' tnNdIfPolName="></fvRsBDToNdP><fvRsCtx status='created,modified' tnFvCtxName='pod1net'></fvRsCtx><fvRsIgmpsn tnIgmpSnoopPolName=" status='created,modified'></fvRsIgmpsn></fvBD><fvBD status='created,modified' multiDstPktAct='bd-flood' unicastRoute='yes' unkMcastAct='flood' descr=" llAddr='::' mac='00:22:BD:F8:19:FF' epMoveDetectMode=" ownerTag=" ownerKey=" name='app' unkMacUcastAct='flood' arpFlood='yes' limitIpLearnToSubnets='no'><fvRsBdToEpRet resolveAct='resolve' status='created,modified' tnFvEpRetPolName="></fvRsBdToEpRet><fvRsBDToNdP status='created,modified' tnNdIfPolName="></fvRsBDToNdP><fvRsCtx status='created,modified' tnFvCtxName='pod1net'></fvRsCtx><fvRsIgmpsn tnIgmpSnoopPolName=" status='created,modified'></fvRsIgmpsn></fvBD><fvBD status='created,modified' multiDstPktAct='bd-flood' unicastRoute='yes' unkMcastAct='flood' descr=" llAddr='::' mac='00:22:BD:F8:19:FF' epMoveDetectMode=" ownerTag=" ownerKey=" name='db' unkMacUcastAct='flood' arpFlood='yes' limitIpLearnToSubnets='no'><fvRsBdToEpRet resolveAct='resolve' status='created,modified' tnFvEpRetPolName="></fvRsBdToEpRet><fvRsBDToNdP status='created,modified' tnNdIfPolName="></fvRsBDToNdP><fvRsCtx status='created,modified' tnFvCtxName='pod1net'></fvRsCtx><fvRsIgmpsn tnIgmpSnoopPolName="

status='created,modified'></fvRsIgmpsn></fvBD><fvRsTenantMonPol status='created,modified' tnMonEPGPolName=''></fvRsTenantMonPol><aaaDomainRef ownerKey='' name='pod1' descr='' status='created,modified' ownerTag=''></aaaDomainRef><fvCtx ownerKey='' name='pod1net' descr='' knwMcastAct='permit' status='created,modified' ownerTag='' pcEnfPref='enforced'><fvRsCtxToEpRet status='created,modified' tnFvEpRetPolName=''></fvRsCtxToEpRet><fvRsCtxToExtRouteTagPol status='created,modified' tnL3extRouteTagPolName=''></fvRsCtxToExtRouteTagPol><vzAny matchT='AtleastOne' name='' descr='' status='created,modified'></vzAny><fvRsOspfCtxPol tnOspfCtxPolName='' status='created,modified'></fvRsOspfCtxPol><fvRsBgpCtxPol tnBgpCtxPolName='' status='created,modified'></fvRsBgpCtxPol></fvCtx><fvAp ownerKey='' name='aprof' descr='' status='created,modified' ownerTag='' prio='unspecified'><fvAEPg status='created,modified' prio='unspecified' matchT='AtleastOne' descr='' name='web'><fvRsCustQosPol tnQosCustomPolName='' status='created,modified'></fvRsCustQosPol><fvRsDomAtt status='created,modified' tDn='uni/vmmp-VMware/dom-lab_vmm1' instrImedcy='lazy' encap='unknown' resImedcy='lazy'></fvRsDomAtt><fvRsBd status='created,modified' tnFvBDName='web'></fvRsBd></fvAEPg><fvAEPg status='created,modified' prio='unspecified' matchT='AtleastOne' descr='' name='app'><fvRsCustQosPol tnQosCustomPolName='' status='created,modified'></fvRsCustQosPol><fvRsDomAtt status='created,modified' tDn='uni/vmmp-VMware/dom-lab_vmm1' instrImedcy='lazy' encap='unknown' resImedcy='lazy'></fvRsDomAtt><fvRsBd status='created,modified' tnFvBDName='app'></fvRsBd></fvAEPg><fvAEPg status='created,modified' prio='unspecified' matchT='AtleastOne' descr='' name='db'><fvRsCustQosPol tnQosCustomPolName='' status='created,modified'></fvRsCustQosPol><fvRsDomAtt status='created,modified' tDn='uni/vmmp-VMware/dom-lab_vmm1' instrImedcy='lazy' encap='unknown' resImedcy='lazy'></fvRsDomAtt><fvRsBd status='created,modified' tnFvBDName='db'></fvRsBd></fvAEPg></fvAp></fvTenant></polUni>

Create asa failover context as L4-L7 device: [continue]

<?xml version="1.0" encoding="UTF-8"?>

<fvTenant name='pod1' status='created,modified'><vnsLDevVip devtype='PHYSICAL' contextAware='single-Context' name='pod1-asa-fover' funcType='GoTo' status='created,modified' mode='legacy-Mode'><vnsCCred name='username' value='aciadmin' status='created,modified'></vnsCCred><vnsRsALDevToPhysDomP tDn='uni/phys-asa_fover' status='created,modified'></vnsRsALDevToPhysDomP><vnsLIf name='internal' status='created,modified'><vnsRsCIfAtt tDn='uni/tn-pod1/lDevVip-pod1-asa-fover/cDev-pod1-asa-fover_Device_2/cIf-[GigabitEthernet0/0]' status='created,modified'></vnsRsCIfAtt><vnsRsCIfAtt tDn='uni/tn-pod1/lDevVip-pod1-asa-fover/cDev-pod1-asa-fover_Device_1/cIf-[GigabitEthernet0/0]' status='created,modified'></vnsRsCIfAtt><vnsRsMetaIf tDn='uni/infra/mDev-CISCO-ASA-1.2/mIfLbl-internal' status='created,modified'></vnsRsMetaIf></vnsLIf><vnsLIf name='external' status='created,modified'><vnsRsCIfAtt tDn='uni/tn-pod1/lDevVip-pod1-asa-fover/cDev-pod1-asa-fover_Device_2/cIf-[GigabitEthernet0/1]' status='created,modified'></vnsRsCIfAtt><vnsRsCIfAtt tDn='uni/tn-pod1/lDevVip-pod1-asa-fover/cDev-pod1-asa-fover_Device_1/cIf-[GigabitEthernet0/1]' status='created,modified'></vnsRsCIfAtt><vnsRsMetaIf tDn='uni/infra/mDev-CISCO-ASA-1.2/mIfLbl-external' status='created,modified'></vnsRsMetaIf></vnsLIf><vnsChkr name='' status='created,modified'></vnsChkr><vnsCCredSecret name='password' value='cisco' status='created,modified'></vnsCCredSecret><vnsCDev name='pod1-asa-fover_Device_2' devCtxLbl='' status='created,modified' vcenterName='' vmName=''><vnsCCredSecret name='password' value='cisco' status='created,modified'></vnsCCredSecret><vnsCCred name='username' value='aciadmin' status='created,modified'></vnsCCred><vnsCMgmt name='' host='10.10.11.81' status='created,modified' port='443'></vnsCMgmt><vnsCIf name='GigabitEthernet0/1' vnicName='' status='created,modified'><vnsRsCIfPathAtt tDn='topology/pod-1/paths-101/pathep-[eth1/30]' status='created,modified'></vnsRsCIfPathAtt></vnsCIf><vnsCIf name='GigabitEthernet0/0' vnicName='' status='created,modified'><vnsRsCIfPathAtt tDn='topology/pod-1/paths-101/pathep-[eth1/29]' status='created,modified'></vnsRsCIfPathAtt></vnsCIf></vnsCDev><vnsCDev name='pod1-asa-fover_Device_1' devCtxLbl='' status='created,modified' vcenterName='' vmName=''><vnsCCredSecret name='password' value='cisco' status='created,modified'></vnsCCredSecret><vnsCCred name='username' value='aciadmin' status='created,modified'></vnsCCred><vnsCMgmt name='' host='10.10.10.81' status='created,modified' port='443'></vnsCMgmt><vnsCIf name='GigabitEthernet0/1' vnicName='' status='created,modified'><vnsRsCIfPathAtt tDn='topology/pod-1/paths-101/pathep-[eth1/26]' status='created,modified'></vnsRsCIfPathAtt></vnsCIf><vnsCIf name='GigabitEthernet0/0' vnicName='' status='created,modified'><vnsRsCIfPathAtt tDn='topology/pod-1/paths-101/pathep-[eth1/25]' status='created,modified'></vnsRsCIfPathAtt></vnsCIf></vnsCDev><vnsCMgmt name='' host='10.10.10.22' status='created,modified' port='443'></vnsCMgmt><vnsRsMDevAtt tDn='uni/infra/mDev-CISCO-ASA-1.2' status='created,modified'></vnsRsMDevAtt></vnsLDevVip></fvTenant>

Create context config - function profile: [continue]

<?xml version="1.0" encoding="UTF-8"?>

 <vnsAbsFuncProfContr status='created,modified'><vnsAbsFuncProfGrp ownerKey=" name='asa-fail-gr' descr="
status='created,modified' ownerTag="><vnsAbsFuncProf ownerKey=" name='asa-fail-fprof' descr="
status='created,modified' ownerTag="><vnsAbsDevCfg ownerKey=" name='devConfig' descr="
status='created,modified' ownerTag="><vnsAbsFolder status='created,modified' profileBehaviorShared='yes'
key='AccessList' cardinality='unspecified' locked='no' name='access-list-inbound' scopedBy='epg'
devCtxLbl="><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='AccessControlEntry'
cardinality='unspecified' locked='no' name='permit-udp' scopedBy='epg' devCtxLbl="><vnsAbsParam
status='created,modified' mandatory='yes' key='action' cardinality='unspecified' locked='no' name='action'
value='permit' validation="></vnsAbsParam><vnsAbsParam status='created,modified' mandatory='yes'
key='order' cardinality='unspecified' locked='no' name='order' value='40'
validation="></vnsAbsParam><vnsAbsFolder status='created,modified' profileBehaviorShared='yes'
key='protocol' cardinality='unspecified' locked='no' name='udp' scopedBy='epg' devCtxLbl="><vnsAbsParam
status='created,modified' mandatory='no' key='name_number' cardinality='unspecified' locked='no'
name='name_number' value='udp' validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder
status='created,modified' profileBehaviorShared='yes' key='source_address' cardinality='unspecified'
locked='no' name='source_address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified'
mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any'
validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified'
profileBehaviorShared='yes' key='destination_address' cardinality='unspecified' locked='no'
name='destination_address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified'
mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any'
validation="></vnsAbsParam></vnsAbsFolder></vnsAbsFolder><vnsAbsFolder status='created,modified'
profileBehaviorShared='yes' key='AccessControlEntry' cardinality='unspecified' locked='no' name='permit-
icmp' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='yes' key='action'
cardinality='unspecified' locked='no' name='action' value='permit'
validation="></vnsAbsParam><vnsAbsParam status='created,modified' mandatory='yes' key='order'
cardinality='unspecified' locked='no' name='order' value='30' validation="></vnsAbsParam><vnsAbsFolder
status='created,modified' profileBehaviorShared='yes' key='destination_address' cardinality='unspecified'
locked='no' name='destination_address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified'
mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any'
validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified'
profileBehaviorShared='yes' key='protocol' cardinality='unspecified' locked='no' name='icmp' scopedBy='epg'
devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='name_number'
cardinality='unspecified' locked='no' name='name_number' value='icmp'
validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified'
profileBehaviorShared='yes' key='source_address' cardinality='unspecified' locked='no' name='source_address'
scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='any'
cardinality='unspecified' locked='no' name='any' value='any'
validation="></vnsAbsParam></vnsAbsFolder></vnsAbsFolder><vnsAbsFolder status='created,modified'
profileBehaviorShared='yes' key='AccessControlEntry' cardinality='unspecified' locked='no' name='permit-
https' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='yes' key='action'
cardinality='unspecified' locked='no' name='action-permit' value='permit'
validation="></vnsAbsParam><vnsAbsParam status='created,modified' mandatory='yes' key='order'
cardinality='unspecified' locked='no' name='order1' value='10' validation="></vnsAbsParam><vnsAbsFolder
status='created,modified' profileBehaviorShared='yes' key='source_address' cardinality='unspecified'
locked='no' name='src-address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified'
mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any'
validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified'
profileBehaviorShared='yes' key='destination_service' cardinality='unspecified' locked='no' name='dest-service'
scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='yes' key='low_port'
cardinality='unspecified' locked='no' name='port' value='https' validation="></vnsAbsParam><vnsAbsParam
status='created,modified' mandatory='yes' key='operator' cardinality='unspecified' locked='no' name='op'
value='eq' validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified'
profileBehaviorShared='yes' key='protocol' cardinality='unspecified' locked='no' name='tcp' scopedBy='epg'
devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='name_number'
cardinality='unspecified' locked='no' name='tcp' value='tcp'
validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified'

profileBehaviorShared='yes' key='destination_address' cardinality='unspecified' locked='no' name='dest-address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any' validation="></vnsAbsParam></vnsAbsFolder></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='AccessControlEntry' cardinality='unspecified' locked='no' name='permit-http' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='yes' key='action' cardinality='unspecified' locked='no' name='action-permit' value='permit' validation="></vnsAbsParam><vnsAbsParam status='created,modified' mandatory='yes' key='order' cardinality='unspecified' locked='no' name='order1' value='10' validation="></vnsAbsParam><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='source_address' cardinality='unspecified' locked='no' name='src-address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any' validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='destination_service' cardinality='unspecified' locked='no' name='dest-service' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='yes' key='low_port' cardinality='unspecified' locked='no' name='port' value='http' validation="></vnsAbsParam><vnsAbsParam status='created,modified' mandatory='yes' key='operator' cardinality='unspecified' locked='no' name='op' value='eq' validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='protocol' cardinality='unspecified' locked='no' name='tcp' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='name_number' cardinality='unspecified' locked='no' name='tcp' value='tcp' validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='destination_address' cardinality='unspecified' locked='no' name='dest-address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any' validation="></vnsAbsParam></vnsAbsFolder></vnsAbsFolder></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='Interface' cardinality='unspecified' locked='no' name='internalIf' scopedBy='epg' devCtxLbl="><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='InterfaceConfig' cardinality='unspecified' locked='no' name='internalIfCfg' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='security_level' cardinality='unspecified' locked='no' name='internal_security_level' value='100' validation="></vnsAbsParam><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='IPv4Address' cardinality='unspecified' locked='no' name='IPv4Address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='yes' key='ipv4_address' cardinality='unspecified' locked='no' name='ipv4_address' value='10.2.0.1/255.255.255.0' validation="></vnsAbsParam></vnsAbsFolder></vnsAbsFolder></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='Interface' cardinality='unspecified' locked='no' name='externalIf' scopedBy='epg' devCtxLbl="><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='InterfaceConfig' cardinality='unspecified' locked='no' name='externalIfCfg' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='security_level' cardinality='unspecified' locked='no' name='external_security_level' value='50' validation="></vnsAbsParam><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='IPv4Address' cardinality='unspecified' locked='no' name='IPv4Address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='yes' key='ipv4_address' cardinality='unspecified' locked='no' name='ipv4_address' value='10.1.0.1/255.255.255.0' validation="></vnsAbsParam></vnsAbsFolder></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='AccessGroup' cardinality='unspecified' locked='no' name='ExtAccessGroup' scopedBy='epg' devCtxLbl="><vnsAbsCfgRel locked='no' name='name' status='created,modified' key='inbound_access_list_name' mandatory='no' cardinality='unspecified' targetName='access-list-inbound'></vnsAbsCfgRel></vnsAbsFolder></vnsAbsFolder></vnsAbsDevCfg><vnsRsProfToMFunc tDn='uni/infra/mDev-CISCO-ASA-1.2/mFunc-Firewall' status='created,modified'></vnsRsProfToMFunc><vnsAbsFuncCfg ownerKey=" name='funcConfig' descr=" status='created,modified' ownerTag="><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='InIntfConfigRelFolder' cardinality='unspecified' locked='no' name='IntConfig' scopedBy='epg' devCtxLbl="><vnsAbsCfgRel locked='no' name='InConfigrel' status='created,modified' key='InIntfConfigRel' mandatory='no' cardinality='unspecified' targetName='internalIf'></vnsAbsCfgRel></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='ExIntfConfigRelFolder' cardinality='unspecified' locked='no' name='ExtConfig' scopedBy='epg' devCtxLbl="><vnsAbsCfgRel locked='no' name='ExtConfigrel' status='created,modified' key='ExIntfConfigRel' mandatory='no' cardinality='unspecified'

targetName='externalIf'></vnsAbsCfgRel></vnsAbsFolder></vnsAbsFuncCfg></vnsAbsFuncProf></vnsAbsFuncProfGrp></vnsAbsFuncProfContr>

Add service graph: [continue]

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<fvTenant name='pod1' status='created,modified'><vnsAbsGraph ownerKey=" name='asa-fail-graph' descr=" status='created,modified' ownerTag=" uiTemplateType='ONE_NODE_FW_ROUTED'><vnsAbsTermNodeCon ownerKey=" name='T1' descr=" status='created,modified' ownerTag="><vnsOutTerm name='output-terminal' descr=" status='created,modified'></vnsOutTerm><vnsInTerm name='input-terminal' descr=" status='created,modified'></vnsInTerm><vnsAbsTermConn ownerKey=" attNotify='no' name='1' descr=" status='created,modified' ownerTag="></vnsAbsTermConn></vnsAbsTermNodeCon><vnsAbsNode status='created,modified' descr=" ownerTag=" ownerKey=" name='Firewall' funcType='GoTo' shareEncap='no'><vnsAbsFuncConn ownerKey=" attNotify='no' name='internal' descr=" status='created,modified' ownerTag="><vnsRsMConnAtt tDn='uni/infra/mDev-CISCO-ASA-1.2/mFunc-Firewall/mConn-internal' status='created,modified'></vnsRsMConnAtt></vnsAbsFuncConn><vnsAbsFuncConn ownerKey=" attNotify='no' name='external' descr=" status='created,modified' ownerTag="><vnsRsMConnAtt tDn='uni/infra/mDev-CISCO-ASA-1.2/mFunc-Firewall/mConn-external' status='created,modified'></vnsRsMConnAtt></vnsAbsFuncConn><vnsRsNodeToMFunc tDn='uni/infra/mDev-CISCO-ASA-1.2/mFunc-Firewall' status='created,modified'></vnsRsNodeToMFunc><vnsRsNodeToAbsFuncProf tDn='uni/tn-pod1/absFuncProfContr/absFuncProfGrp-asa-fail-gr/absFuncProf-asa-fail-fprof' status='created,modified'></vnsRsNodeToAbsFuncProf></vnsAbsNode><vnsAbsTermNodeProv ownerKey=" name='T2' descr=" status='created,modified' ownerTag="><vnsOutTerm name='output-terminal' descr=" status='created,modified'></vnsOutTerm><vnsInTerm name='input-terminal' descr=" status='created,modified'></vnsInTerm><vnsAbsTermConn ownerKey=" attNotify='no' name='1' descr=" status='created,modified' ownerTag="></vnsAbsTermConn></vnsAbsTermNodeProv><vnsAbsConnection adjType='L2' ownerKey=" name='C2' descr=" connType='external' status='created,modified' ownerTag=" unicastRoute='yes'><vnsRsAbsConnectionConns tDn='uni/tn-pod1/AbsGraph-asa-fail-graph/AbsNode-Firewall/AbsFConn-internal' status='created,modified'></vnsRsAbsConnectionConns><vnsRsAbsConnectionConns tDn='uni/tn-pod1/AbsGraph-asa-fail-graph/AbsTermNodeProv-T2/AbsTConn' status='created,modified'></vnsRsAbsConnectionConns></vnsAbsConnection><vnsAbsConnection adjType='L2' ownerKey=" name='C1' descr=" connType='external' status='created,modified' ownerTag=" unicastRoute='yes'><vnsRsAbsConnectionConns tDn='uni/tn-pod1/AbsGraph-asa-fail-graph/AbsNode-Firewall/AbsFConn-external' status='created,modified'></vnsRsAbsConnectionConns><vnsRsAbsConnectionConns tDn='uni/tn-pod1/AbsGraph-asa-fail-graph/AbsTermNodeCon-T1/AbsTConn' status='created,modified'></vnsRsAbsConnectionConns></vnsAbsConnection></vnsAbsGraph></fvTenant>

Apply asa-fover SG and create app-to-db contract: [continue]

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<fvTenant name='pod1' status='created,modified'><fvAp name='aprof' status='created,modified' prio='unspecified'><fvAEPg status='created,modified' matchT='AtleastOne' name='app'><fvRsCons status='created,modified' tnVzBrCPName='app-to-db'></fvRsCons></fvAEPg><fvAEPg status='created,modified' matchT='AtleastOne' name='db'><fvRsProv status='created,modified' tnVzBrCPName='app-to-db'></fvRsProv></fvAEPg></fvAp><vnsLDevCtx ctrctNameOrLbl='app-to-db' status='created,modified' graphNameOrLbl='asa-fail-graph' nodeNameOrLbl='Firewall'><vnsLIfCtx status='created,modified' connNameOrLbl='internal'><vnsRsLIfCtxToLIf tDn='uni/tn-pod1/lDevVip-pod1-asa-fover/lIf-internal' status='created,modified'></vnsRsLIfCtxToLIf></vnsLIfCtx><vnsLIfCtx status='created,modified' connNameOrLbl='external'><vnsRsLIfCtxToLIf tDn='uni/tn-pod1/lDevVip-pod1-asa-fover/lIf-external' status='created,modified'></vnsRsLIfCtxToLIf></vnsLIfCtx><vnsRsLDevCtxToLDev tDn='uni/tn-pod1/lDevVip-pod1-asa-fover' status='created,modified'></vnsRsLDevCtxToLDev></vnsLDevCtx><vzBrCP name='app-to-db' status='created,modified'><vzSubj revFltPorts='yes' name='Subject' descr=" status='created,modified' consMatchT='AtleastOne' prio='unspecified' provMatchT='AtleastOne'><vzRsSubjGraphAtt status='created,modified' tnVnsAbsGraphName='asa-fail-graph'></vzRsSubjGraphAtt><vzRsSubjFiltAtt status='created,modified' tnVzFilterName='default'></vzRsSubjFiltAtt></vzSubj></vzBrCP></fvTenant>

Create asa cluster context as L4-L7 device: [continue]

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<fvTenant name='pod1' status='created,modified'><vnsLDevVip devtype='PHYSICAL' contextAware='single-Context' name='pod1-asa-clu' funcType='GoTo' status='created,modified' mode='legacy-Mode'><vnsCCred name='username' value='aciadmin' status='created,modified'></vnsCCred><vnsRsALDevToPhysDomP tDn='uni/phys-asa_phys' status='created,modified'></vnsRsALDevToPhysDomP><vnsLIf name='internal' status='created,modified'><vnsRsCIfAtt tDn='uni/tn-pod1/lDevVip-pod1-asa-clu/cDev-pod1-asa-clu_Device_1/cIf-[p10]' status='created,modified'></vnsRsCIfAtt><vnsRsMetaIf tDn='uni/infra/mDev-CISCO-ASA-1.2/mIfLbl-internal' status='created,modified'></vnsRsMetaIf></vnsLIf><vnsLIf name='external' status='created,modified'><vnsRsCIfAtt tDn='uni/tn-pod1/lDevVip-pod1-asa-clu/cDev-pod1-asa-clu_Device_1/cIf-[p10]' status='created,modified'></vnsRsCIfAtt><vnsRsMetaIf tDn='uni/infra/mDev-CISCO-ASA-1.2/mIfLbl-external' status='created,modified'></vnsRsMetaIf></vnsLIf><vnsChkr name='' status='created,modified'></vnsChkr><vnsCCredSecret name='password' value='cisco' status='created,modified'></vnsCCredSecret><vnsCDev name='pod1-asa-clu_Device_1' devCtxLbl='' status='created,modified' vcenterName='' vmName=''><vnsCCredSecret name='password' value='cisco' status='created,modified'></vnsCCredSecret><vnsDevFolder name='ClusterConfig' status='created,modified' key='ClusterConfig'><vnsDevParam value='in-cluster' name='cluster_role' status='created,modified' key='cluster_role'></vnsDevParam></vnsDevFolder><vnsCCred name='username' value='aciadmin' status='created,modified'></vnsCCred><vnsCMgmt name='' host='10.10.10.31' status='created,modified' port='443'></vnsCMgmt><vnsCIf name='p10' vnicName='' status='created,modified'><vnsRsCIfPathAtt tDn='topology/pod-1/protpaths-101-102/pathep-[vpc_aaep_asa1-asa2]' status='created,modified'></vnsRsCIfPathAtt></vnsCIf></vnsCDev><vnsCMgmt name='' host='10.10.10.20' status='created,modified' port='443'></vnsCMgmt><vnsRsMDevAtt tDn='uni/infra/mDev-CISCO-ASA-1.2' status='created,modified'></vnsRsMDevAtt></vnsLDevVip></fvTenant>

Create context config - function profile: [continue]

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<vnsAbsFuncProfGrp ownerKey='' name='asa-clu-gr' descr='' status='created,modified' ownerTag=''><vnsAbsFuncProf ownerKey='' name='asa-clu-fprof' descr='' status='created,modified' ownerTag=''><vnsAbsDevCfg ownerKey='' name='devConfig' descr='' status='created,modified' ownerTag=''><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='AccessList' cardinality='unspecified' locked='no' name='access-list-inbound' scopedBy='epg' devCtxLbl=''><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='AccessControlEntry' cardinality='unspecified' locked='no' name='permit-udp' scopedBy='epg' devCtxLbl=''><vnsAbsParam status='created,modified' mandatory='yes' key='action' cardinality='unspecified' locked='no' name='action' value='permit' validation=''></vnsAbsParam><vnsAbsParam status='created,modified' mandatory='yes' key='order' cardinality='unspecified' locked='no' name='order' value='40' validation=''></vnsAbsParam><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='protocol' cardinality='unspecified' locked='no' name='udp' scopedBy='epg' devCtxLbl=''><vnsAbsParam status='created,modified' mandatory='no' key='name_number' cardinality='unspecified' locked='no' name='name_number' value='udp' validation=''></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='source_address' cardinality='unspecified' locked='no' name='source_address' scopedBy='epg' devCtxLbl=''><vnsAbsParam status='created,modified' mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any' validation=''></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='destination_address' cardinality='unspecified' locked='no' name='destination_address' scopedBy='epg' devCtxLbl=''><vnsAbsParam status='created,modified' mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any' validation=''></vnsAbsParam></vnsAbsFolder></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='AccessControlEntry' cardinality='unspecified' locked='no' name='permit-icmp' scopedBy='epg' devCtxLbl=''><vnsAbsParam status='created,modified' mandatory='yes' key='action' cardinality='unspecified' locked='no' name='action' value='permit' validation=''></vnsAbsParam><vnsAbsParam status='created,modified' mandatory='yes' key='order' cardinality='unspecified' locked='no' name='order' value='30' validation=''></vnsAbsParam><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='destination_address' cardinality='unspecified' locked='no' name='destination_address' scopedBy='epg' devCtxLbl=''><vnsAbsParam status='created,modified' mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any' validation=''></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='protocol' cardinality='unspecified' locked='no' name='icmp' scopedBy='epg'

devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='name_number' cardinality='unspecified' locked='no' name='name_number' value='icmp' validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='source_address' cardinality='unspecified' locked='no' name='source_address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any' validation="></vnsAbsParam></vnsAbsFolder></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='AccessControlEntry' cardinality='unspecified' locked='no' name='permit-https' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='yes' key='action' cardinality='unspecified' locked='no' name='action-permit' value='permit' validation="></vnsAbsParam><vnsAbsParam status='created,modified' mandatory='yes' key='order' cardinality='unspecified' locked='no' name='order1' value='10' validation="></vnsAbsParam><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='source_address' cardinality='unspecified' locked='no' name='src-address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any' validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='destination_service' cardinality='unspecified' locked='no' name='dest-service' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='yes' key='low_port' cardinality='unspecified' locked='no' name='port' value='https' validation="></vnsAbsParam><vnsAbsParam status='created,modified' mandatory='yes' key='operator' cardinality='unspecified' locked='no' name='op' value='eq' validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='protocol' cardinality='unspecified' locked='no' name='tcp' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='name_number' cardinality='unspecified' locked='no' name='tcp' value='tcp' validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='destination_address' cardinality='unspecified' locked='no' name='dest-address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any' validation="></vnsAbsParam></vnsAbsFolder></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='AccessControlEntry' cardinality='unspecified' locked='no' name='permit-http' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='yes' key='action' cardinality='unspecified' locked='no' name='action-permit' value='permit' validation="></vnsAbsParam><vnsAbsParam status='created,modified' mandatory='yes' key='order' cardinality='unspecified' locked='no' name='order1' value='10' validation="></vnsAbsParam><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='source_address' cardinality='unspecified' locked='no' name='src-address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any' validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='destination_service' cardinality='unspecified' locked='no' name='dest-service' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='yes' key='low_port' cardinality='unspecified' locked='no' name='port' value='http' validation="></vnsAbsParam><vnsAbsParam status='created,modified' mandatory='yes' key='operator' cardinality='unspecified' locked='no' name='op' value='eq' validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='protocol' cardinality='unspecified' locked='no' name='tcp' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='name_number' cardinality='unspecified' locked='no' name='tcp' value='tcp' validation="></vnsAbsParam></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='destination_address' cardinality='unspecified' locked='no' name='dest-address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='any' cardinality='unspecified' locked='no' name='any' value='any' validation="></vnsAbsParam></vnsAbsFolder></vnsAbsFolder></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='Interface' cardinality='unspecified' locked='no' name='internalIf' scopedBy='epg' devCtxLbl="><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='InterfaceConfig' cardinality='unspecified' locked='no' name='internalIfCfg' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='no' key='security_level' cardinality='unspecified' locked='no' name='internal_security_level' value='100' validation="></vnsAbsParam><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='IPv4Address' cardinality='unspecified' locked='no' name='IPv4Address' scopedBy='epg' devCtxLbl="><vnsAbsParam status='created,modified' mandatory='yes' key='ipv4_address' cardinality='unspecified' locked='no' name='ipv4_address' value='10.40.0.10/255.255.255.0' validation="></vnsAbsParam></vnsAbsFolder></vnsAbsFolder></vnsAbsFolder><vnsAbsFolder

status='created,modified' profileBehaviorShared='yes' key='Interface' cardinality='unspecified' locked='no' name='externalIf' scopedBy='epg' devCtxLbl=''><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='InterfaceConfig' cardinality='unspecified' locked='no' name='externalIfCfg' scopedBy='epg' devCtxLbl=''><vnsAbsParam status='created,modified' mandatory='no' key='security_level' cardinality='unspecified' locked='no' name='external_security_level' value='50' validation=''></vnsAbsParam><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='IPv4Address' cardinality='unspecified' locked='no' name='IPv4Address' scopedBy='epg' devCtxLbl=''><vnsAbsParam status='created,modified' mandatory='yes' key='ipv4_address' cardinality='unspecified' locked='no' name='ipv4_address' value='10.50.0.10/255.255.255.0' validation=''></vnsAbsParam></vnsAbsFolder></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='AccessGroup' cardinality='unspecified' locked='no' name='ExtAccessGroup' scopedBy='epg' devCtxLbl=''><vnsAbsCfgRel locked='no' name='name' status='created,modified' key='inbound_access_list_name' mandatory='no' cardinality='unspecified' targetName='access-list-inbound'></vnsAbsCfgRel></vnsAbsFolder></vnsAbsFolder></vnsAbsDevCfg><vnsRsProfToMFunc tDn='uni/infra/mDev-CISCO-ASA-1.2/mFunc-Firewall' status='created,modified'></vnsRsProfToMFunc><vnsAbsFuncCfg ownerKey='' name='funcConfig' descr='' status='created,modified' ownerTag=''><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='InIntfConfigRelFolder' cardinality='unspecified' locked='no' name='IntConfig' scopedBy='epg' devCtxLbl=''><vnsAbsCfgRel locked='no' name='InConfigrel' status='created,modified' key='InIntfConfigRel' mandatory='no' cardinality='unspecified' targetName='internalIf'></vnsAbsCfgRel></vnsAbsFolder><vnsAbsFolder status='created,modified' profileBehaviorShared='yes' key='ExIntfConfigRelFolder' cardinality='unspecified' locked='no' name='ExtConfig' scopedBy='epg' devCtxLbl=''><vnsAbsCfgRel locked='no' name='ExtConfigrel' status='created,modified' key='ExIntfConfigRel' mandatory='no' cardinality='unspecified' targetName='externalIf'></vnsAbsCfgRel></vnsAbsFolder></vnsAbsFuncCfg></vnsAbsFuncProf></vnsAbsFuncProfGrp>

Add service graph: [continue]

<?xml version="1.0" encoding="UTF-8"?>

<fvTenant name='pod1' status='created,modified'><vnsAbsGraph ownerKey='' name='asa-clu-graph' descr='' status='created,modified' ownerTag='' uiTemplateType='UNSPECIFIED'><vnsAbsTermNodeCon ownerKey='' name='T1' descr='' status='created,modified' ownerTag=''><vnsOutTerm name='output-terminal' descr='' status='created,modified'></vnsOutTerm><vnsInTerm name='input-terminal' descr='' status='created,modified'></vnsInTerm><vnsAbsTermConn ownerKey='' attNotify='no' name='1' descr='' status='created,modified' ownerTag=''></vnsAbsTermConn></vnsAbsTermNodeCon><vnsAbsNode status='created,modified' managed='yes' sequenceNumber='0' funcTemplateType='FW_ROUTED' descr='' ownerTag='' ownerKey='' name='FIREWALL' funcType='GoTo' shareEncap='no'><vnsAbsFuncConn ownerKey='' attNotify='no' name='consumer' descr='' status='created,modified' ownerTag=''><vnsRsMConnAtt tDn='uni/infra/mDev-CISCO-ASA-1.2/mFunc-Firewall/mConn-external' status='created,modified'></vnsRsMConnAtt></vnsAbsFuncConn><vnsAbsFuncConn ownerKey='' attNotify='no' name='provider' descr='' status='created,modified' ownerTag=''><vnsRsMConnAtt tDn='uni/infra/mDev-CISCO-ASA-1.2/mFunc-Firewall/mConn-internal' status='created,modified'></vnsRsMConnAtt></vnsAbsFuncConn><vnsRsNodeToMFunc tDn='uni/infra/mDev-CISCO-ASA-1.2/mFunc-Firewall' status='created,modified'></vnsRsNodeToMFunc><vnsRsNodeToAbsFuncProf tDn='uni/tn-pod1/absFuncProfContr/absFuncProfGrp-asa-clu-gr/absFuncProf-asa-clu-fprof' status='created,modified'></vnsRsNodeToAbsFuncProf><vnsRsNodeToLDev tDn='uni/tn-pod1/lDevVip-pod1-asa-clu' status='created,modified'></vnsRsNodeToLDev></vnsAbsNode><vnsAbsTermNodeProv ownerKey='' name='T2' descr='' status='created,modified' ownerTag=''><vnsOutTerm name='output-terminal' descr='' status='created,modified'></vnsOutTerm><vnsInTerm name='input-terminal' descr='' status='created,modified'></vnsInTerm><vnsAbsTermConn ownerKey='' attNotify='no' name='1' descr='' status='created,modified' ownerTag=''></vnsAbsTermConn></vnsAbsTermNodeProv><vnsAbsConnection adjType='L3' ownerKey='' name='C2' descr='' connDir='provider' connType='external' status='created,modified' ownerTag='' unicastRoute='yes'><vnsRsAbsConnectionConns tDn='uni/tn-pod1/AbsGraph-asa-clu-graph/AbsTermNodeProv-T2/AbsTConn' status='created,modified'></vnsRsAbsConnectionConns><vnsRsAbsConnectionConns tDn='uni/tn-pod1/AbsGraph-asa-clu-graph/AbsNode-FIREWALL/AbsFConn-provider' status='created,modified'></vnsRsAbsConnectionConns></vnsAbsConnection><vnsAbsConnection adjType='L3' ownerKey='' name='C1' descr='' connDir='provider' connType='external' status='created,modified' ownerTag='' unicastRoute='yes'><vnsRsAbsConnectionConns tDn='uni/tn-pod1/AbsGraph-asa-clu-

graph/AbsNode-FIREWALL/AbsFConn-consumer'
status='created,modified'></vnsRsAbsConnectionConns><vnsRsAbsConnectionConns tDn='uni/tn-pod1/AbsGraph-asa-clu-graph/AbsTermNodeCon-T1/AbsTConn'
status='created,modified'></vnsRsAbsConnectionConns></vnsAbsConnection></vnsAbsGraph></fvTenant>

Create L3outs for fabric and ASA cluster context: [continue]

<?xml version="1.0" encoding="UTF-8"?>

<fvTenant name='pod1' status='created,modified'><l3extOut ownerKey='' name='asa-clu-internal' descr=''
targetDscp='unspecified' enforceRtctrl='export' status='created,modified' ownerTag=''><l3extRsL3DomAtt
tDn='uni/l3dom-l3out_domain' status='created,modified'></l3extRsL3DomAtt><ospfExtP
areaCtrl='redistribute,summary' areaId='backbone' areaType='regular' descr='' status='created,modified'
areaCost='1'></ospfExtP><l3extInstP matchT='AtleastOne' name='l3out1-epg' descr='' targetDscp='unspecified'
status='created,modified' prio='unspecified'><fvRsCustQosPol tnQosCustomPolName=''
status='created,modified'></fvRsCustQosPol><l3extSubnet name='' descr='' ip='10.40.0.0/24'
status='created,modified' aggregate=''></l3extSubnet><l3extSubnet name='' descr='' ip='10.1.0.0/24'
status='created,modified' aggregate='' scope='export-rtctrl'></l3extSubnet><l3extSubnet name='' descr=''
ip='10.70.0.0/24' status='created,modified' aggregate=''></l3extSubnet></l3extInstP><l3extLNodeP
ownerKey='' name='leafnp' descr='' targetDscp='unspecified' tag='yellow-green' status='created,modified'
ownerTag=''><l3extRsNodeL3OutAtt tDn='topology/pod-1/node-101' status='created,modified'
rtrIdLoopBack='yes' rtrId='111.0.0.1'></l3extRsNodeL3OutAtt><l3extRsNodeL3OutAtt tDn='topology/pod-1/node-102' status='created,modified' rtrIdLoopBack='yes'
rtrId='112.0.0.1'></l3extRsNodeL3OutAtt><l3extLIfP ownerKey='' descr='' name='leafip' tag='yellow-green'
status='created,modified' ownerTag=''><ospfIfP authType='none' name='' descr='' authKeyId='1'
status='created,modified'><ospfRsIfPol tnOspfIfPolName=''
status='created,modified'></ospfRsIfPol></ospfIfP><l3extRsPathL3OutAtt status='created,modified'
encapScope='local' targetDscp='unspecified' addr='0.0.0.0' descr='' llAddr='::' encap='vlan-3001' ifInstT='ext-svi'
mac='00:22:BD:F8:19:FF' tDn='topology/pod-1/protpaths-101-102/pathep-[vpc_aaep_asa1-asa2]' mtu='1500'
mode='regular'><l3extMember addr='10.40.0.1/24' descr='' name='' llAddr='::' status='created,modified'
side='A'></l3extMember><l3extMember addr='10.40.0.2/24' descr='' name='' llAddr='::'
status='created,modified' side='B'></l3extMember></l3extRsPathL3OutAtt><l3extRsNdIfPol
status='created,modified' tnNdIfPolName=''></l3extRsNdIfPol><l3extRsIngressQosDppPol
tnQosDppPolName='' status='created,modified'></l3extRsIngressQosDppPol><l3extRsEgressQosDppPol
tnQosDppPolName=''
status='created,modified'></l3extRsEgressQosDppPol></l3extLIfP></l3extLNodeP><l3extRsEctx
status='created,modified' tnFvCtxName='pod1net'></l3extRsEctx></l3extOut><l3extOut ownerKey=''
name='asa-clu-external' descr='' targetDscp='unspecified' enforceRtctrl='export' status='created,modified'
ownerTag=''><l3extRsL3DomAtt tDn='uni/l3dom-l3out_domain'
status='created,modified'></l3extRsL3DomAtt><ospfExtP areaCtrl='redistribute,summary' areaId='backbone'
areaType='regular' descr='' status='created,modified' areaCost='1'></ospfExtP><l3extInstP
matchT='AtleastOne' name='l3out2-epg' descr='' targetDscp='unspecified' status='created,modified'
prio='unspecified'><fvRsCustQosPol tnQosCustomPolName=''
status='created,modified'></fvRsCustQosPol><l3extSubnet name='' descr='' ip='10.1.0.0/24'
status='created,modified' aggregate=''></l3extSubnet><l3extSubnet name='' descr='' ip='10.70.0.0/24'
status='created,modified' aggregate='' scope='export-rtctrl'></l3extSubnet></l3extInstP><l3extLNodeP
ownerKey='' name='leaf1np' descr='' targetDscp='unspecified' tag='yellow-green' status='created,modified'
ownerTag=''><l3extRsNodeL3OutAtt tDn='topology/pod-1/node-101' status='created,modified'
rtrIdLoopBack='yes' rtrId='101.0.0.1'></l3extRsNodeL3OutAtt><l3extRsNodeL3OutAtt tDn='topology/pod-1/node-102' status='created,modified' rtrIdLoopBack='yes'
rtrId='102.0.0.1'></l3extRsNodeL3OutAtt><l3extLIfP ownerKey='' descr='' name='leaf1ip' tag='yellow-green'
status='created,modified' ownerTag=''><ospfIfP authType='none' name='' descr='' authKeyId='1'
status='created,modified'><ospfRsIfPol tnOspfIfPolName=''
status='created,modified'></ospfRsIfPol></ospfIfP><l3extRsPathL3OutAtt status='created,modified'
encapScope='local' targetDscp='unspecified' addr='0.0.0.0' descr='' llAddr='::' encap='vlan-3051' ifInstT='ext-svi'
mac='00:22:BD:F8:19:FF' tDn='topology/pod-1/protpaths-101-102/pathep-[vpc_aaep_asa1-asa2]' mtu='1500'
mode='regular'><l3extMember addr='10.50.0.1/24' descr='' name='' llAddr='::' status='created,modified'
side='A'></l3extMember><l3extMember addr='10.50.0.2/24' descr='' name='' llAddr='::'
status='created,modified' side='B'></l3extMember></l3extRsPathL3OutAtt><l3extRsNdIfPol
status='created,modified' tnNdIfPolName=''></l3extRsNdIfPol><l3extRsIngressQosDppPol
tnQosDppPolName='' status='created,modified'></l3extRsIngressQosDppPol><l3extRsEgressQosDppPol

tnQosDppPolName=”
status=’created,modified’></l3extRsEgressQosDppPol></l3extLIfP></l3extLNodeP><l3extRsEctx
status=’created,modified’ tnFvCtxName=’vrf1net’></l3extRsEctx></l3extOut><l3extOut ownerKey=”
name=’wan-out’ descr=” targetDscp=’unspecified’ enforceRtctrl=’export’ status=’created,modified’
ownerTag=”><l3extRsL3DomAtt tDn=’uni/l3dom-out-l3out’
status=’created,modified’></l3extRsL3DomAtt><ospfExtP areaCtrl=’redistribute,summary’ areaId=’0.0.0.2’
areaType=’regular’ descr=” status=’created,modified’ areaCost=’1’></ospfExtP><l3extInstP
matchT=’AtleastOne’ name=’out-l3out3’ descr=” targetDscp=’unspecified’ status=’created,modified’
prio=’unspecified’><fvRsCons status=’created,modified’ prio=’unspecified’ tnVzBrCPName=’out-to-
web’></fvRsCons><fvRsCustQosPol tnQosCustomPolName=”
status=’created,modified’></fvRsCustQosPol><l3extSubnet name=” descr=” ip=’10.70.0.0/24’
status=’created,modified’ aggregate=”></l3extSubnet></l3extInstP><l3extLNodeP ownerKey=” name=’leafnp’
descr=” targetDscp=’unspecified’ tag=’yellow-green’ status=’created,modified’
ownerTag=”><l3extRsNodeL3OutAtt tDn=’topology/pod-1/node-101’ status=’created,modified’
rtrIdLoopBack=’no’ rtrId=’101.0.0.1’></l3extRsNodeL3OutAtt><l3extLIfP ownerKey=” descr=” name=’leafip’
tag=’yellow-green’ status=’created,modified’ ownerTag=”><ospfIfP authType=’none’ name=” descr=”
authKeyId=’1’ status=’created,modified’><ospfRsIfPol tnOspfIfPolName=”
status=’created,modified’></ospfRsIfPol></ospfIfP><l3extRsPathL3OutAtt status=’created,modified’
encapScope=’local’ targetDscp=’unspecified’ addr=’10.60.0.1/24’ descr=” llAddr=’::’ encap=’vlan-3511’
ifInstT=’ext-svi’ mac=’00:22:BD:F8:19:FF’ tDn=’topology/pod-1/paths-101/pathep-[eth1/16]’ mtu=’1500’
mode=’regular’></l3extRsPathL3OutAtt><l3extRsNdIfPol status=’created,modified’
tnNdIfPolName=”></l3extRsNdIfPol><l3extRsIngressQosDppPol tnQosDppPolName=”
status=’created,modified’></l3extRsIngressQosDppPol><l3extRsEgressQosDppPol tnQosDppPolName=”
status=’created,modified’></l3extRsEgressQosDppPol></l3extLIfP></l3extLNodeP><l3extRsEctx
status=’created,modified’ tnFvCtxName=’vrf1net’></l3extRsEctx></l3extOut><fvCtx ownerKey=”
name=’vrf1net’ descr=” knwMcastAct=’permit’ status=’created,modified’ ownerTag=”
pcEnfPref=’enforced’><fvRsCtxToExtRouteTagPol status=’created,modified’ tnL3extRouteTagPolName=’asa-
outside’></fvRsCtxToExtRouteTagPol></fvCtx><fvCtx ownerKey=” name=’pod1net’ descr=”
knwMcastAct=’permit’ status=’created,modified’ ownerTag=” pcEnfPref=’enforced’><fvRsCtxToExtRouteTagPol
status=’created,modified’ tnL3extRouteTagPolName=’asa-
inside’></fvRsCtxToExtRouteTagPol></fvCtx><l3extRouteTagPol ownerKey=” name=’asa-inside’ descr=”
tag=’1040’ status=’created,modified’ ownerTag=”></l3extRouteTagPol><l3extRouteTagPol ownerKey=”
name=’asa-outside’ descr=” tag=’1050’ status=’created,modified’
ownerTag=”></l3extRouteTagPol></fvTenant>

Apply asa-cluster SG and create out-to-web contract: [continue]

<?xml version=”1.0” encoding=”UTF-8”?>

<fvTenant name=’pod1’ status=’created,modified’><vnsRtrCfg ownerKey=” name=’asa-cluster’ descr=’ASA
cluster routerID’ status=’created,modified’ ownerTag=” rtrId=’103.0.0.1’></vnsRtrCfg><fvAp name=’aprof’
status=’created,modified’ prio=’unspecified’><fvAEPg status=’created,modified’ matchT=’AtleastOne’
name=’web’><fvRsProv status=’created,modified’ tnVzBrCPName=’out-to-
web’></fvRsProv></fvAEPg></fvAp><vnsLDevCtx ctrctNameOrLbl=’out-to-web’ status=’created,modified’
graphNameOrLbl=’asa-clu-graph’ nodeNameOrLbl=’FIREWALL’><vnsLIfCtx status=’created,modified’
connNameOrLbl=’consumer’><vnsRsLIfCtxToLIf tDn=’uni/tn-pod1/lDevVip-pod1-asa-clu/lIf-external’
status=’created,modified’></vnsRsLIfCtxToLIf><vnsRsLIfCtxToInstP tDn=’uni/tn-pod1/out-asa-clu-
external/instP-l3out2-epg’ status=’created,modified’></vnsRsLIfCtxToInstP></vnsLIfCtx><vnsLIfCtx
status=’created,modified’ connNameOrLbl=’provider’><vnsRsLIfCtxToLIf tDn=’uni/tn-pod1/lDevVip-pod1-asa-
clu/lIf-internal’ status=’created,modified’></vnsRsLIfCtxToLIf><vnsRsLIfCtxToInstP tDn=’uni/tn-pod1/out-asa-
clu-internal/instP-l3out1-epg’
status=’created,modified’></vnsRsLIfCtxToInstP></vnsLIfCtx><vnsRsLDevCtxToRtrCfg
status=’created,modified’ tnVnsRtrCfgName=’asa-cluster’></vnsRsLDevCtxToRtrCfg><vnsRsLDevCtxToLDev
tDn=’uni/tn-pod1/lDevVip-pod1-asa-clu’
status=’created,modified’></vnsRsLDevCtxToLDev></vnsLDevCtx><vzBrCP name=’out-to-web’
status=’created,modified’ scope=’tenant’><vzSubj name=’Subject’ status=’created,modified’><vzRsSubjGraphAtt
status=’created,modified’ tnVnsAbsGraphName=’asa-clu-graph’></vzRsSubjGraphAtt><vzRsSubjFiltAtt
status=’created,modified’ tnVzFilterName=’default’></vzRsSubjFiltAtt></vzSubj></vzBrCP><l3extOut
name=’wan-out’ status=’created,modified’><l3extInstP name=’out-l3out3’ status=’created,modified’><fvRsCons
status=’created,modified’ tnVzBrCPName=’out-to-web’></fvRsCons></l3extInstP></l3extOut></fvTenant>

We are done, now review pod1 tenant and ping out->web and app->db: [continue]

Enjoy!