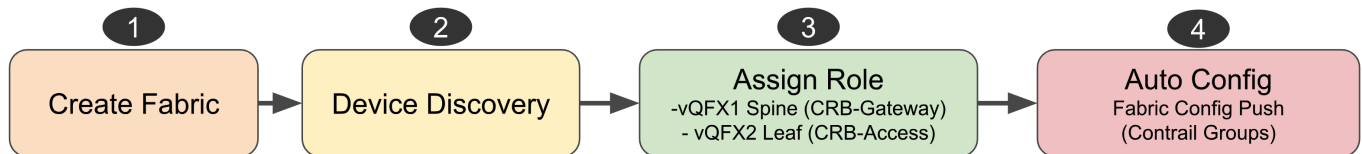# Creation of Fabric via Contrail Command UI

1. Fabric Creation, Discovery and Auto-config

In Conttrail 5.0.1 GA the whole fabric creation and discovery process is handled via a wizard. Here is the flow.

Fabric Auto Discovery Flow "Existing Fabric" (GA)

1	2	3	4
Create Fabric	Device Discovery	Assign Role -vQFX1 Spine (CRB-Gateway) - vQFX2 Leaf (CRB-Access)	Auto Config Fabric Config Push (Contrail Groups)

In our case vQFXs are already created via Vagrant so please use "Existing ".

Login to Contrail Command via FoxyProxy and click "Fabric" --> "Create Fabric"
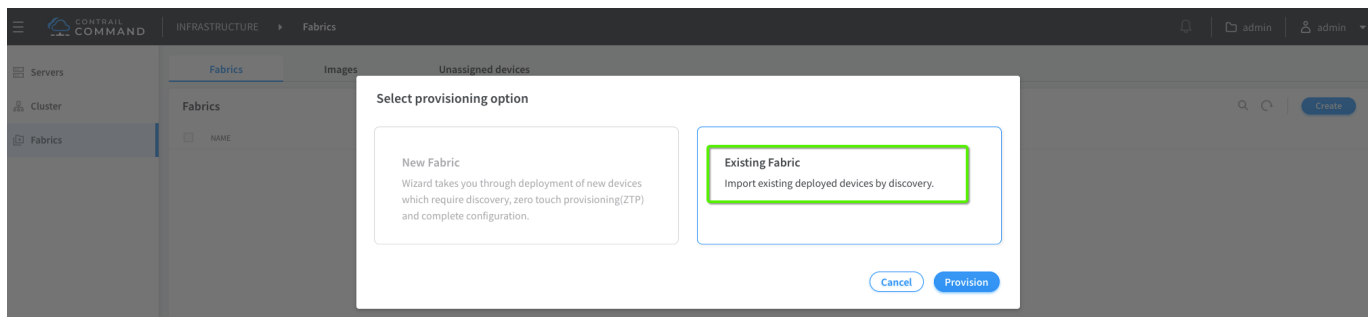
Create Fabric Name, add following namespaces and credentials:

- Name: Fabric-1
- Fabric Namespace:
    - Fabric ASN: 64512
    - Fabric MGMT IP addresses: 172.16.1.1/32 & 172.16.2.1/32
    - Credentials: root/c0ntrail123

- Device discovery completed

- Fabric devices roles assignment
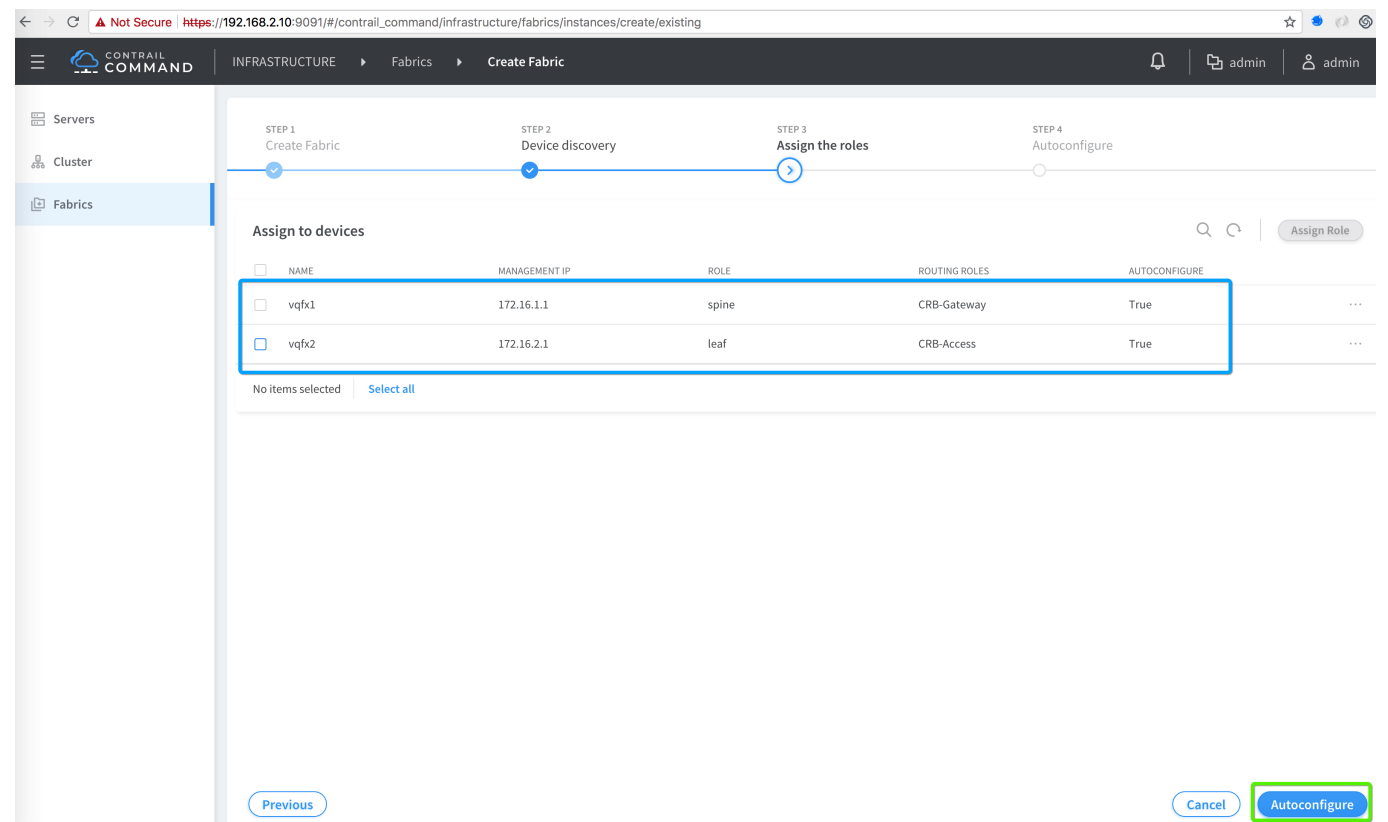
- Fabric creation completed
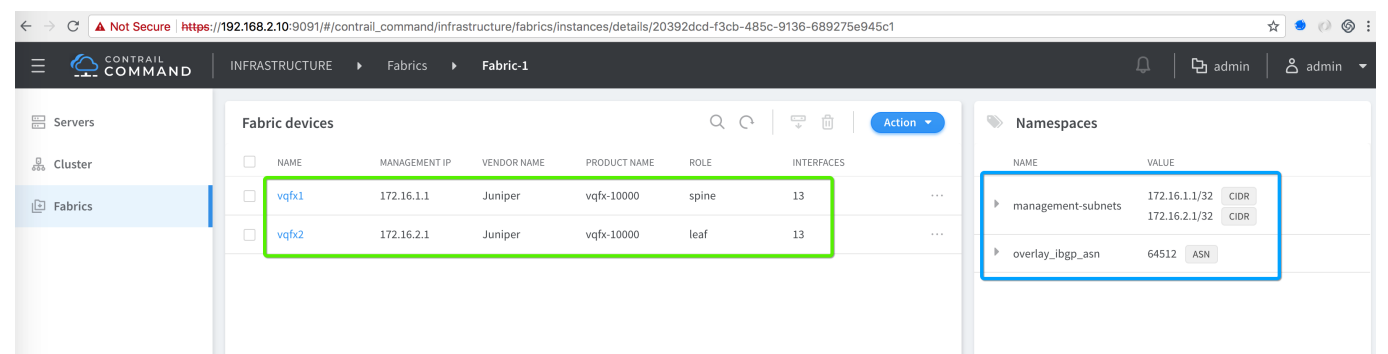
- Check BGP Peer is established between Contrail Conttroller and Fabric Nodes (Spine/Leaf).
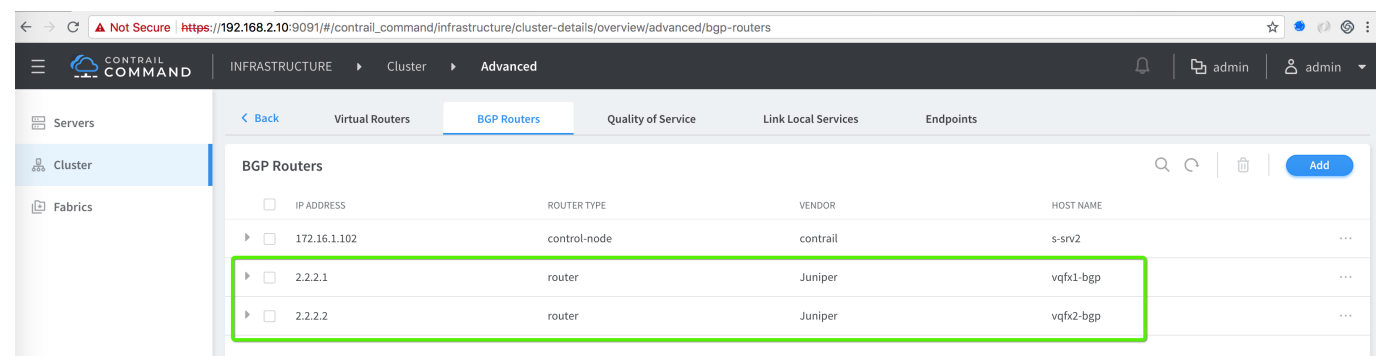
- Assign CSN to vQFX1 (Leaf) node.

Check following logs during discovery

```
cd cfm-vagrant/cfm-1x1-vqfx-7srv
vagrant status

vagrant ssh s-srv2

tail -200f /var/log/contrail/contrail-fabric-ansible-playbooks.log

tail -200f /var/log/contrail/contrail-fabric-ansible.log
```

2. Fabric Side Config Changes

vQFX1 Config Changes

```
vagrant@vqfx1> show configuration groups ?
Possible completions:
  <[Enter]>              Execute this command
  <group_name>          Group name
  __contrail_basic__    Group name
  __contrail_ip_clos__  Group name
  __contrail_overlay_bgp__   Group name
  __contrail_overlay_evpn__   Group name
  __contrail_overlay_evpn_type5__   Group name
  __contrail_overlay_lag__   Group name
  __contrail_overlay_multi_homing__   Group name
  __contrail_overlay_security_group__   Group name
  |                      Pipe through a command
```

```
vagrant@vqfx1> show configuration groups | display set
set groups __contrail_basic__ snmp community public authorization read-
only
set groups __contrail_ip_clos__ routing-options router-id 2.2.2.1
set groups __contrail_ip_clos__ routing-options route-distinguisher-id
2.2.2.1
set groups __contrail_ip_clos__ routing-options autonomous-system 64512
set groups __contrail_ip_clos__ routing-options forwarding-table export
PFE-LB
set groups __contrail_ip_clos__ routing-options forwarding-table ecmp-
fast-reroute
set groups __contrail_ip_clos__ policy-options policy-statement PFE-LB
then load-balance per-packet
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_EXP term loopback from protocol direct
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_EXP term loopback from interface lo0.0
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_EXP term loopback then accept
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_EXP term default then reject
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_IMP term loopback from protocol bgp
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_IMP term loopback from protocol direct
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_IMP term loopback then accept
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_IMP term default then reject
set groups __contrail_overlay_bgp__ routing-options resolution rib
bgp.rtarget.0 resolution-ribs inet.0
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 type internal
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 local-address 2.2.2.1
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 hold-time 90
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 family evpn signaling
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 family route-target
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 export _contrail_ibgp_export_policy
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 multipath
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 neighbor 172.16.1.102 peer-as 64512
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 neighbor 2.2.2.2 peer-as 64512
set groups __contrail_overlay_bgp__ policy-options policy-statement
_contrail_ibgp_export_policy term inet-vpn then next-hop self
set groups __contrail_overlay_bgp__ policy-options policy-statement
_contrail_ibgp_export_policy term inet6-vpn then next-hop self
```

```
set groups __contrail_overlay_evpn__ protocols evpn encapsulation vxlan
set groups __contrail_overlay_evpn__ protocols evpn multicast-mode
ingress-replication
set groups __contrail_overlay_evpn__ protocols evpn extended-vni-list all
set groups __contrail_overlay_evpn__ switch-options vtep-source-interface
lo0.0
set groups __contrail_overlay_evpn__ switch-options route-distinguisher
2.2.2.1:1
set groups __contrail_overlay_evpn__ switch-options vrf-target
target:64512:1
set groups __contrail_overlay_evpn__ switch-options vrf-target auto
set groups __contrail_overlay_evpn_type5__
set groups __contrail_overlay_lag__
set groups __contrail_overlay_multi_homing__
set groups __contrail_overlay_security_group__

vagrant@vqfx1> show bgp summary
Groups: 2 Peers: 3 Down peers: 0
Table          Tot Paths  Act Paths Suppressed    History Damp State
Pending
bgp.rtarget.0
                     8          7          0          0          0
0
inet.0
                     2          2          0          0          0
0
bgp.evpn.0
                     0          0          0          0          0
0
Peer                 AS      InPkt     OutPkt    OutQ   Flaps Last
Up/Dwn State|#Active/Received/Accepted/Damped...
2.2.2.2            64512      165        163      0       0
1:13:20 Establ
  bgp.rtarget.0: 0/1/1/0
  bgp.evpn.0: 0/0/0/0
  default-switch.evpn.0: 0/0/0/0
  __default_evpn__.evpn.0: 0/0/0/0
10.0.0.2           64501     3328       3326      0       0 1d
0:53:33 Establ
  inet.0: 2/2/2/0
172.16.1.102       64512      150        164      0       0
1:13:22 Establ
  bgp.rtarget.0: 7/7/7/0
  bgp.evpn.0: 0/0/0/0
  default-switch.evpn.0: 0/0/0/0
  __default_evpn__.evpn.0: 0/0/0/0

{master:0}
```

vQFX2 Config Changes

```
vagrant@vqfx2> show configuration groups ?
Possible completions:
  <[Enter]>              Execute this command
  <group_name>           Group name
  __contrail_basic__     Group name
  __contrail_ip_clos__   Group name
  __contrail_overlay_bgp__   Group name
  __contrail_overlay_evpn__   Group name
  __contrail_overlay_lag__   Group name
  __contrail_overlay_multi_homing__   Group name
  __contrail_overlay_security_group__   Group name
  |                      Pipe through a command
{master:0}

vagrant@vqfx2> show configuration groups | display set
set groups __contrail_basic__ snmp community public authorization read-
only
set groups __contrail_ip_clos__ routing-options router-id 2.2.2.2
set groups __contrail_ip_clos__ routing-options route-distinguisher-id
2.2.2.2
set groups __contrail_ip_clos__ routing-options autonomous-system 64512
set groups __contrail_ip_clos__ routing-options forwarding-table export
PFE-LB
set groups __contrail_ip_clos__ routing-options forwarding-table ecmp-
fast-reroute
set groups __contrail_ip_clos__ policy-options policy-statement PFE-LB
then load-balance per-packet
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_EXP term loopback from protocol direct
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_EXP term loopback from interface lo0.0
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_EXP term loopback then accept
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_EXP term default then reject
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_IMP term loopback from protocol bgp
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_IMP term loopback from protocol direct
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_IMP term loopback then accept
set groups __contrail_ip_clos__ policy-options policy-statement
IPCLOS_BGP_IMP term default then reject
set groups __contrail_overlay_bgp__ routing-options resolution rib
bgp.rtarget.0 resolution-ribs inet.0
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 type internal
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 local-address 2.2.2.2
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 hold-time 90
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 family evpn signaling
```

```
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 family route-target
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 export _contrail_ibgp_export_policy
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 multipath
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 neighbor 172.16.1.102 peer-as 64512
set groups __contrail_overlay_bgp__ protocols bgp group _contrail_asn-
64512 neighbor 2.2.2.1 peer-as 64512
set groups __contrail_overlay_bgp__ policy-options policy-statement
_contrail_ibgp_export_policy term inet-vpn then next-hop self
set groups __contrail_overlay_bgp__ policy-options policy-statement
_contrail_ibgp_export_policy term inet6-vpn then next-hop self
set groups __contrail_overlay_evpn__ protocols evpn encapsulation vxlan
set groups __contrail_overlay_evpn__ protocols evpn multicast-mode
ingress-replication
set groups __contrail_overlay_evpn__ protocols evpn extended-vni-list all
set groups __contrail_overlay_evpn__ switch-options vtep-source-interface
lo0.0
set groups __contrail_overlay_evpn__ switch-options route-distinguisher
2.2.2.2:1
set groups __contrail_overlay_evpn__ switch-options vrf-target
target:64512:1
set groups __contrail_overlay_evpn__ switch-options vrf-target auto
set groups __contrail_overlay_lag__
set groups __contrail_overlay_multi_homing__
set groups __contrail_overlay_security_group__

vagrant@vqfx2> show bgp summary
Groups: 2 Peers: 3 Down peers: 0
Table           Tot Paths  Act Paths Suppressed    History Damp State
Pending
bgp.rtarget.0
                      8          7          0          0          0
0
inet.0
                      2          2          0          0          0
0
bgp.evpn.0
                      0          0          0          0          0
0
Peer                 AS      InPkt     OutPkt     OutQ    Flaps Last
Up/Dwn State|#Active/Received/Accepted/Damped...
2.2.2.1             64512       169        169        0        0
1:15:29 Establ
  bgp.rtarget.0: 0/1/1/0
  bgp.evpn.0: 0/0/0/0
  default-switch.evpn.0: 0/0/0/0
  __default_evpn__.evpn.0: 0/0/0/0
10.0.0.1            64601      3333       3333        0        0 1d
0:55:47 Establ
  inet.0: 2/2/2/0
172.16.1.102        64512       155        170        0        0
```

```
1:15:33 Establ
  bgp.rtarget.0: 7/7/7/0
  bgp.evpn.0: 0/0/0/0
  default-switch.evpn.0: 0/0/0/0
  __default_evpn__.evpn.0: 0/0/0/0

{master:0}
```

3. Verify BGP Control Plane

Now let's verify after configuring vQFX in spine & leaf role with basic config BGP session is up with Contrail Controller using following commands.

```
show bgp summary

show route receive-protocol bgp 172.16.1.102

On the browser (Contrail introspect):

http://192.168.2.11:8083/Snh_ShowBgpNeighborSummaryReq?search_string=
```

Contrail Command Brownfield Fabric Discovery video recorded Session (Click the icon)

References

- https://github.com/Juniper/contrail-ansible-deployer/wiki
- https://github.com/Juniper/contrail-command-deployer/wiki/Using-Ansible-to-launch-the-Contrail-Command-Containers