Thanks for your interest in Juniper's Virtual Chassis Fabric technology

Let us help you with the deployment.

Juniper Networks Virtual Chassis Fabric technology, optimized for small, mixed 1GbE / 10GbE / 40GbE data center environments, enables up to 20 interconnected switches to operate as a low-latency, high-performance data center fabric that is managed as a single device.

This quick-start flyer provides simple, step-by-step instructions that will guide you through the process of deploying a high-performance, 192-port 1GbE Virtual Chassis Fabric configuration using Juniper QFX5100 switches. It assumes QFX5100-48S switches in the spine and EX4300-48T switches as leafs. The total number of switches depends on the deployment.

Let's get started.

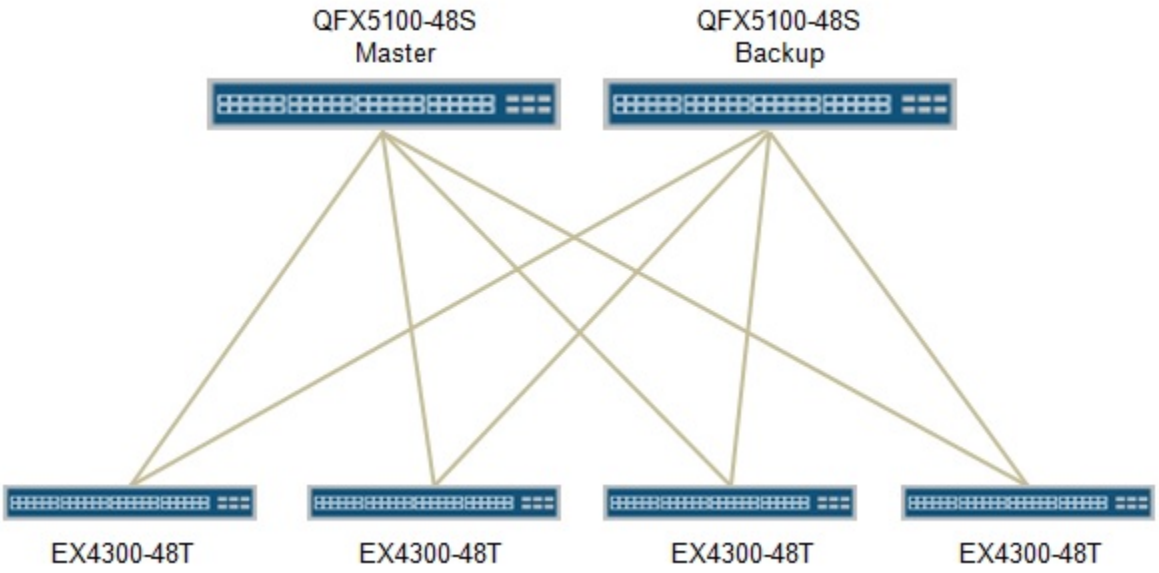

Figure 1: 192-port 1GbE Virtual Chassis Fabric configuration

Step 1: Prepare the QFX5100-48S Spine Switches

a. Un-pack the QFX5100-48S spine/core switches. **DO NOT** interconnect them yet.
b. Make sure all switches are running the latest Junos OS Release (version 13.2X51-D20 or later).
c. If not brand new, set each switch to factory default mode:

```
root> request system zeroize
```

d. In configuration mode, configure a management IP address:

```
root# set interface vme.0 family inet address 10.1.1.1/24
```

e. Set a root password after the switch reboot:

```
Root# set system root-authentication plain-text-password
New password:
Retype new password:
```

f. Disable automatic image upgrade

```
root# delete chassis auto-image-upgrade
```

g. Commit the changes.

h. Identify and list of the serial numbers of all spine and core switches:

```
root> show chassis hardware
Hardware inventory:
Item       Version  Part number  Serial number     Description
Chassis                          TA3713480037      QFX5100-48S-6Q
```

Switch	Serial
QFX5100-48S-01	TA3713480037
QFX5100-48S-02	TA3713480154

Step 2: Configure the Virtual Chassis Fabric

a. Install the Virtual Chassis Fabric licenses (purchased separately, or included with the QuickStart promotion) on the QFX5100-48S spine switches.

b. Once the licenses are installed, put the QFX5100-48S into Virtual Chassis Fabric mixed mode, since the deployment includes both QFX5100 and EX4300 switches. This configuration only needs to be applied to the ***first*** spine switch.

```
root> request virtual-chassis mode mixed
```

c. Reboot the switch(es).

d. Configure Virtual Chassis Fabric with auto-provision mode so that leaf switches can join the fabric automatically

```
root# set virtual-chassis auto-provisioned
```

e. Next, assign Routing Engine roles to the spine/core switches using their serial numbers.

```
root# set virtual-chassis member 0 role routing-engine serial-number
TA3713480037

root# set virtual-chassis member 1 role routing-engine serial-number
TA3713480154
```

f. Commit the configuration and quit.

g. Verify the Virtual Chassis Fabric configuration.

```
root> show virtual-chassis

Fabric ID: 5ba4.174a.04ca
Fabric Mode: Enabled
                Mstr          Mixed Route Neighbor List
Member ID  Status   Serial No    Model          prio  Role      Mode  Mode ID  Interface
0 (FPC 0)  Prsnt    TA3713480037 qfx5100-48s-6q  128   Master*      N  F    0  vcp-255/0/0
```

Step 3: Prepare the EX4300-48T Leaf/Access Switches

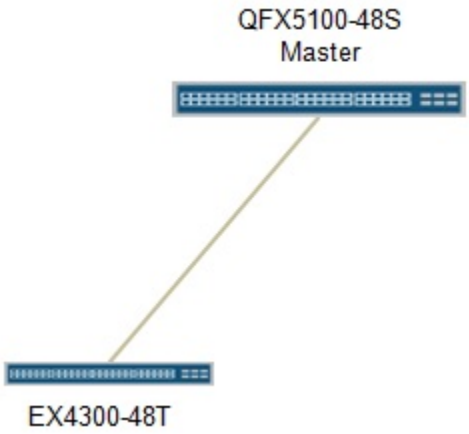

Figure 2: Connecting the leaf switch to the spine switch.

a. Un-pack the EX4300-48T leaf/access switches.

b. If not brand new, set each switch to factory default mode with the “zeroize” command.

c. Once the EX4300-48T switches are set to factory default mode, connect the first switch to the QFX5100-48S spine/core switches with the included 10GbE SFP+ optics (Figure 2).

d. Once the cables are connected, the master QFX5100-48S will automatically add the new EX4300-48T to the Virtual Chassis Fabric.

e. Repeat this step for each EX4300-48T leaf device.

Step 4: Install the Last QFX5100-48S Spine Switch and Verify Virtual Chassis Fabric Configuration

a. Repeat Step 1 to zeroize the QFX5100-48S if necessary and install the Virtual Chassis Fabric license.

b. Connect the QFX5100-48S spine switch to all EX4300-48T leaf switches using the 10GbE optics included.

c. Once all cables are connected as shown in Figure 1, verify Virtual Chassis Fabric configuration.

```
root> show virtual-chassis

Auto-provisioned Virtual Chassis Fabric
Fabric ID: 742a.6f8b.6de6
Fabric Mode: Mixed
```

```
Member ID  Status   Serial No    Model          prio  Role      Mode  Mode ID  Interface
0 (FPC 0)  Prsnt    TA3713480037 qfx5100-48s-6q 128   Master*      Y  F    2  vcp-255/0/0
                                                                             3  vcp-255/0/1
1 (FPC 0)  Prsnt    TA3713480154 qfx5100-48s-6q 128   Backup       Y  F    2  vcp-255/0/0
                                                                             3  vcp-255/0/1
2 (FPC 2)  Prsnt    TA3713480228 ex4300-48t      0    Linecard     Y  F    0  vcp-255/2/0
                                                                             1  vcp-255/2/1
3 (FPC 3)  Prsnt    TA3713480106 ex4300-48t      0    Linecard     Y  F    0  vcp-255/2/0
                                                                             1  vcp-255/2/1
```

Step 5: Configure High Availability for the Virtual Chassis Fabric

a. To protect against potential failures, make sure the Virtual Chassis Fabric is configured for high availability by enabling Graceful Routing Engine Switchover (GRES), Non-Stop Routing (NSR) and Non-Stop Bridging (NSB) on the master QFX5100-48S spine switch.

```
{master:0}[edit]
root@VCF# set chassis redundancy graceful-switchover
{master:0}[edit]
root@VCF# set system commit synchronize
{master:0}[edit]
root@VCF# set routing-options nonstop-routing
{master:0}[edit]
root@VCF# set protocols layer2-control nonstop-bridging
{master:0}[edit]
root@VCF# commit and-quit
configuration check succeeds
commit complete
Exiting configuration mode
```

Congratulations—You Have Successfully Deployed your Virtual Chassis Fabric Configuration

For more information, visit http://www.juniper.net/us/en/products-services/switching/qfx-series/qfx5100/ or download the Virtual Chassis Fabric white paper at http://www.juniper.net/us/en/local/pdf/whitepapers/2000571-en.pdf.

Corporate and Sales Headquarters
Juniper Networks, Inc.
1194 North Mathilda Avenue
Sunnyvale, CA 94089 USA
Phone: 888.JUNIPER (888.586.4737)
or 408.745.2000
Fax: 408.745.2100

APAC Headquarters
Juniper Networks (Hong Kong)
26/F, Cityplaza One
1111 King's Road
Taikoo Shing, Hong Kong
Phone: 852.2332.3636
Fax: 852.2574.7803

EMEA Headquarters
Juniper Networks Ireland
Airside Business Park
Swords, County Dublin, Ireland
Phone: 35.31.8903.600
EMEA Sales: 00800.4586.4737
Fax: 35.31.8903.601