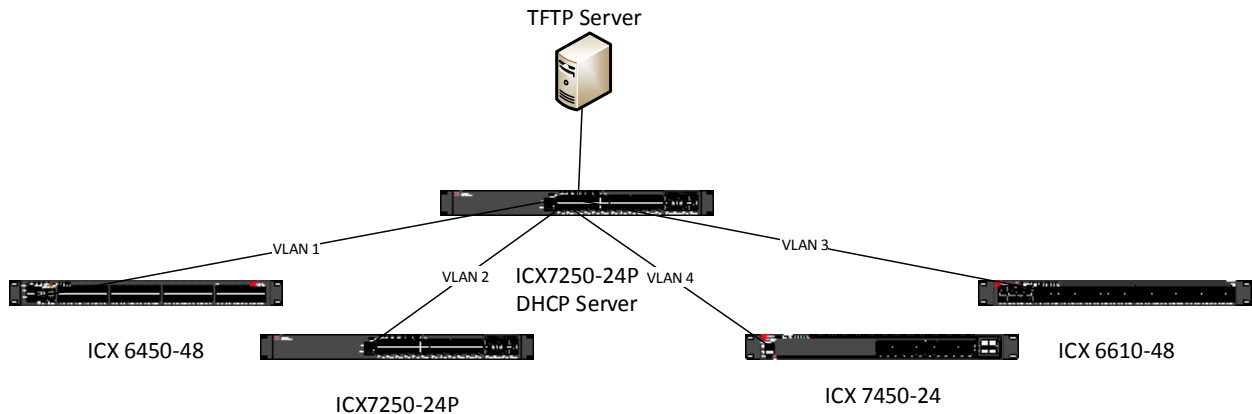# DHCP Auto-Provision

This document describes how to setup Brocade ICX switches to use DHCP Auto-Provisioning to install an OS Image to the switch and a configuration. Figure 1 depicts the network configuration for this test scenario.

Figure 1:

The ICX7250-24P in the center is the DHCP server and a PC running TFTP server is connected. Each different switch type is in its own VLAN and has a different DHCP pool assigned to it to give the proper image for the switch type. Figure 2 show the configuration on the switch.

Figure 2:

```
ver 08.0.30T213
!
vlan 1 by port
 tagged ethe 1/1/5
 untagged ethe 1/1/1
 router-interface ve 1
 spanning-tree 802-1w
!
vlan 2 by port
 tagged ethe 1/1/5
 untagged ethe 1/1/2
 router-interface ve 2
 spanning-tree 802-1w
```

```
  spanning-tree 802-1w priority 4096
 !
vlan 3 by port
 tagged ethe 1/1/5
 untagged ethe 1/1/3
 router-interface ve 3
 spanning-tree 802-1w
 spanning-tree 802-1w priority 4096
 !
vlan 4 by port
 tagged ethe 1/1/5
 untagged ethe 1/1/4
 router-interface ve 4
 spanning-tree 802-1w
 spanning-tree 802-1w priority 4096
 !
vlan 1499 name DEFAULT-VLAN by port
 spanning-tree 802-1w
 spanning-tree 802-1w priority 4096
 !
default-vlan-id 1499
hostname DHCP-Provision
ip dhcp-server enable
 !
ip dhcp-server pool 6450
 bootfile ICX64S08030d.bin
 dhcp-default-router 172.17.1.1
 excluded-address 172.17.1.1 172.17.1.99
 lease 0 0 15
 network 172.17.1.0 255.255.255.0
 tftp-server 172.17.2.25
 deploy
 !
ip dhcp-server pool 6610
 bootfile FCXR08030d.bin
 dhcp-default-router 172.17.2.1
 excluded-address 172.17.2.1 172.17.2.99
 lease 0 0 15
 network 172.17.2.0 255.255.255.0
 tftp-server 172.17.2.25
 deploy
```

```
!
ip dhcp-server pool 7250
 bootfile SPS08030d.bin
 dhcp-default-router 172.17.3.1
 excluded-address 172.17.3.1 172.17.3.99
 lease 0 0 15
 network 172.17.3.0 255.255.255.0
 tftp-server 172.17.2.25
 deploy
!
ip dhcp-server pool 7450
 bootfile SPR08030d.bin
 dhcp-default-router 172.17.4.1
 excluded-address 172.17.4.1 172.17.4.99
 lease 0 0 15
 network 172.17.4.0 255.255.255.0
 tftp-server 172.17.2.25
 deploy
!
interface ethernet 1/1/5
 dual-mode  2
!
interface ve 1
 ip address 172.17.1.1 255.255.255.0
!
interface ve 2
 ip address 172.17.2.1 255.255.255.0
!
interface ve 3
 ip address 172.17.3.1 255.255.255.0
!
interface ve 4
 ip address 172.17.4.1 255.255.255.0
```

The bootfile is the image that will be pulled to the switch via TFTP and the TFTP server address is where the image and configurations are located. In FI 8.0.40, you can use the manifest.txt file for code upgrades. Images prior to 8.0.40 can only receive the specific image (i.e. SPS0830.bin). After the switch receives its DHCP information, the switch downloads the image from TFTP. After the reboot for the image, the switch requests DHCP information again

and checks the image. The image is the same, so configuration requests begin to the TFTP server. Configurations can have several names depending on their intention. If the configuration is for a specific switch, it can be named for that switch. If it is a general configuration that any switch can get, it can be named a generic name. Table 1 shows a list of the only recognized naming conventions for the configuration and the order requested:

Table 1:

During the auto upgrade process the ICX DHCP client will request the device configuration file in the following order:
- <DefaultHostname>MAC-config.cfg
- <DefaultHostname>MAC.cfg
- <DefaultHostname>.cfg (i.e. ICX7450-24P-Router.cfg)
- ICX<Device#>.cfg (i.e. ICX7750.cfg)
- Brocade.cfg

Note: The configuration that is downloaded is written to the running configuration. It is not in the startup configuration. You must commit this to memory before a reboot or it will be lost. One way to automate this is to do the following:

Remove the End from the configuration:

!
End

And replace it with:

!
Exit
write mem

Note: ICX 7450 running routing code must be at 8.0.30 or newer. This is due to the device not recognizing the dhcp-default-router command from DHCP. You can add a static default route to the switch and reboot and it will get its information.