



## FabricPath

« Enhanced vPC (EvPC) | FabricPath vPC+ »

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### Note:

For CCIE DCv2 Rack Rentals, the FabricPath feature-set has been pre-installed by our initialization scripts.

## FabricPath

### Objective

- Configure layer 2 bridging connectivity between your jumpbox servers using FabricPath between the 5K Leafs and the 7K Spines.

### Task

- Configure IP connectivity between the Jumpbox Servers as follows:
  - Configure your first N5K's link to the first server in VLAN 10, with the server using the IP address 10.0.0.1Y/24, where Y is the server number.
  - Configure your second N5K's link to the second server in VLAN 10, with the server using the IP address 10.0.0.1Y/24, where Y is the server number.
  - Configure both 5Ks with SVIs in VLAN 10 with IP addresses 10.0.0.X/24, where X is the device number.
  - Both of these links should be STP Edge Ports.
  - Configure the links between the 5Ks as trunks, and verify that the servers have IP connectivity to each other.
- Configure FabricPath connectivity as follows:
  - Disable the trunk links between the 5Ks.
  - Configure your 5Ks so that both uplinks to the 7Ks run in FabricPath mode.
  - Configure all links on your 7Ks to run in FabricPath mode, but do not use any interface level commands to accomplish this.
  - Once complete, your 5Ks and 7Ks should establish IS-IS adjacencies for FabricPath, and your servers should have IP connectivity to each other and to the 5Ks over FabricPath.

### Configuration [Click to collapse](#)

#### N5K1

```
feature-set fabricpath
feature interface-vlan

vlan 10
 mode fabricpath

interface Vlan10
 no shutdown
 ip address 10.0.0.51/24

interface Ethernet1/1
 switchport access vlan 10
 spanning-tree port type edge

interface Ethernet1/3 - 4
 shutdown

interface Ethernet1/5 - 6
 switchport
 switchport mode fabricpath
 no shutdown
```

#### N5K2

```
feature-set fabricpath
feature interface-vlan

vlan 10
 mode fabricpath

interface Vlan10
 no shutdown
 ip address 10.0.0.52/24

interface Ethernet1/2
 switchport access vlan 10
 spanning-tree port type edge

interface Ethernet1/3 - 4
 shutdown

interface Ethernet1/5 - 6
 switchport
 switchport mode fabricpath
 no shutdown
```

#### N7K1

```
feature-set fabricpath

vlan 10
 mode fabricpath

system default switchport
no system default switchport shutdown
system default switchport fabricpath
```

#### N7K2

```
feature-set fabricpath

vlan 10
 mode fabricpath
```

```

system default switchport
no system default switchport shutdown
system default switchport fabricpath

```

## Verification

```

N5K3# config t
Enter configuration commands, one per line. End with CNTL/Z.
N5K3(config)# int e1/5 - 6
N5K3(config-if-range)# shut
N5K3(config-if-range)# terminal monitor
N5K3(config-if-range)# no shut ; end
N5K3# 2001 Dec 6 01:02:06 N5K3 %ETHPORT-5-IF_ADMIN_UP: Interface Ethernet1/6 is admin up .
2001 Dec 6 01:02:06 N5K3 %ETHPORT-5-IF_ADMIN_UP: Interface Ethernet1/5 is admin up .
2001 Dec 6 01:02:06 N5K3 %VSHD-5-VSHD_SYSLOG_CONFIG_I: Configured from vty by brian on 192.168.3.254@pts/0
2001 Dec 6 01:02:09 N5K3 %ETHPORT-5-SPEED: Interface Ethernet1/6, operational speed changed to 10 Gbps
2001 Dec 6 01:02:09 N5K3 %ETHPORT-5-IF_DUPLEX: Interface Ethernet1/6, operational duplex mode changed to Full
2001 Dec 6 01:02:09 N5K3 %ETHPORT-5-IF_RX_FLOW_CONTROL: Interface Ethernet1/6, operational Receive Flow Control state changed to off
2001 Dec 6 01:02:09 N5K3 %ETHPORT-5-IF_TX_FLOW_CONTROL: Interface Ethernet1/6, operational Transmit Flow Control state changed to off
2001 Dec 6 01:02:09 N5K3 %ETHPORT-5-SPEED: Interface Ethernet1/5, operational speed changed to 10 Gbps
2001 Dec 6 01:02:09 N5K3 %ETHPORT-5-IF_DUPLEX: Interface Ethernet1/5, operational duplex mode changed to Full
2001 Dec 6 01:02:09 N5K3 %ETHPORT-5-IF_RX_FLOW_CONTROL: Interface Ethernet1/5, operational Receive Flow Control state changed to off
2001 Dec 6 01:02:09 N5K3 %ETHPORT-5-IF_TX_FLOW_CONTROL: Interface Ethernet1/5, operational Transmit Flow Control state changed to off
2001 Dec 6 01:02:09 N5K3 %ISIS_FABRICPATH-5-ADJCHANGE: isis_fabricpath-default [23610] P2P adj L1 N7K3 over Ethernet1/5 - DOWN (New) on MT-0
2001 Dec 6 01:02:09 N5K3 %ISIS_FABRICPATH-5-ADJCHANGE: isis_fabricpath-default [23610] P2P adj L1 N7K3 over Ethernet1/5 - UP on MT-0
2001 Dec 6 01:02:09 N5K3 %ISIS_FABRICPATH-5-ADJCHANGE: isis_fabricpath-default [23610] P2P adj L1 N7K4 over Ethernet1/6 - DOWN (New) on MT-0
2001 Dec 6 01:02:09 N5K3 %ISIS_FABRICPATH-5-ADJCHANGE: isis_fabricpath-default [23610] P2P adj L1 N7K4 over Ethernet1/6 - INIT on MT-0
2001 Dec 6 01:02:09 N5K3 %ISIS_FABRICPATH-5-ADJCHANGE: isis_fabricpath-default [23610] P2P adj L1 N7K4 over Ethernet1/6 - UP on MT-0

```

### N5K3# show fabricpath isis adjacency

Fabricpath IS-IS domain: default Fabricpath IS-IS adjacency database:

System ID	SNPA	Level	State	Hold Time	Interface
N7K3	N/A	1	UP	00:00:26	Ethernet1/5
N7K4	N/A	1	UP	00:00:30	Ethernet1/6

```

N5K3# ping 10.0.0.14
PING 10.0.0.14 (10.0.0.14): 56 data bytes
64 bytes from 10.0.0.14: icmp_seq=0 ttl=127 time=2.496 ms
64 bytes from 10.0.0.14: icmp_seq=1 ttl=127 time=0.661 ms
64 bytes from 10.0.0.14: icmp_seq=2 ttl=127 time=0.65 ms
64 bytes from 10.0.0.14: icmp_seq=3 ttl=127 time=0.648 ms
64 bytes from 10.0.0.14: icmp_seq=4 ttl=127 time=0.649 ms

```

```

--- 10.0.0.14 ping statistics ---
5 packets transmitted, 5 packets received, 0.00% packet loss
round-trip min/avg/max = 0.648/1.02/2.496 ms

```

### N5K3# show ip arp | include 10.0.0.14

```

10.0.0.14      00:00:06 001b.2197.d7c4  Vlan10

```

### N5K3# show mac address-table address 001b.2197.d7c4

Legend:

\* - primary entry, G - Gateway MAC, (R) - Routed MAC, O - Overlay MAC  
age - seconds since last seen, + - primary entry using vPC Peer-Link

VLAN	MAC Address	Type	age	Secure	NTFY	Ports/SWID.SSID.LID
* 10	001b.2197.d7c4	dynamic	0	F	F	998.0.0

### N5K3# show fabricpath route

FabricPath Unicast Route Table

'a/b/c' denotes ftag/switch-id/subswitch-id

'[x/y]' denotes [admin distance/metric]

ftag 0 is local ftag

subswitch-id 0 is default subswitch-id

FabricPath Unicast Route Table for Topology-Default

```

0/2337/0, number of next-hops: 0
  via ----, [60/0], 0 day/s 00:10:10, local
1/998/0, number of next-hops: 2
  via Eth1/5, [115/80], 0 day/s 00:06:21, isis_fabricpath-default
  via Eth1/6, [115/80], 0 day/s 00:06:21, isis_fabricpath-default
1/1122/0, number of next-hops: 1
  via Eth1/6, [115/40], 0 day/s 00:06:21, isis_fabricpath-default
1/2600/0, number of next-hops: 1
  via Eth1/5, [115/40], 0 day/s 00:06:21, isis_fabricpath-default

```

### N5K4# show fabricpath switch-id

FABRICPATH SWITCH-ID TABLE

Legend: '\*' - this system

'[E]' - local Emulated Switch-id

'[A]' - local Anycast Switch-id

Total Switch-ids: 4

SWITCH-ID	SYSTEM-ID	FLAGS	STATE	STATIC	EMULATED/ ANYCAST
* 998	00de.fb06.f241	Primary	Confirmed	No	No
1122	0026.980c.2147	Primary	Confirmed	No	No
2337	00de.fb12.1a3c	Primary	Confirmed	No	No
2600	68bd.abd7.6047	Primary	Confirmed	No	No

