

## **Cisco – Configuring IP Unnumbered Frame Relay**

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# Configuring IP Unnumbered Frame Relay

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## Introduction

### Before You Begin

- Conventions

- Prerequisites

- Components Used

### Configure

- Network Diagram

- Configurations

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- Spicey

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## Introduction

If you do not have the IP address space to use many subinterfaces, you can use IP unnumbered on each subinterface. If this is the case, you need to use static routes or dynamic routing so that your traffic is routed as usual, and you must use point-to-point subinterfaces.

## Before You Begin

### Conventions

For more information on document conventions, see the Cisco Technical Tips Conventions.

### Prerequisites

There are no specific prerequisites for this document.

### Components Used

This document is not restricted to specific software and hardware versions.

The information presented in this document was created from devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If you are working in a live network, ensure that you understand the potential impact of any command before using it.

## Configure

In this section, you are presented with the information to configure the features described in this document.

**Note:** To find additional information on the commands used in this document, use the Command Lookup Tool ( registered customers only) .

## Network Diagram

The example below illustrates this:



## Configurations

- Spicey
- Prasit

```
Spicey
Spicey#show running-config
Building configuration...
Current configuration : 1674 bytes
!
version 12.1
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Spicey
!
!
!
interface Ethernet0
 ip address 124.124.124.1 255.255.255.0
!
interface Serial0
 no ip address
 encapsulation frame-relay
!
interface Serial0.1 point-to-point
 ip unnumbered Ethernet0
 frame-relay interface-dlci 140
!
router igrp 2
 network 124.0.0.0
!
line con 0
 exec-timeout 0 0
 transport input none
line aux 0
line vty 0 4
 login
!
end
```

```
Prasit
Prasit#show running-config
Building configuration...
```

```

Current configuration : 1188 bytes
!
version 12.1
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Prasit
!
!
interface Ethernet0
 ip address 123.123.123.1 255.255.255.0
!
interface Serial1
 no ip address
 encapsulation frame-relay
!
interface Serial1.1 point-to-point
 ip unnumbered Ethernet0
 frame-relay interface-dlci 150
!
router igrp 2
 network 123.0.0.0
!
line con 0
 exec-timeout 0 0
 transport input none
line aux 0
line vty 0 4
 login
!
end

```

## Verify

This section provides information you can use to confirm your configuration is working properly.

Certain **show** commands are supported by the Output Interpreter Tool ( registered customers only) , which allows you to view an analysis of **show** command output.

- **show frame-relay map**
- **show frame-relay pvc**

## Spicey

```
Spicey#show frame-relay map
```

```
Serial0.1 (up): point-to-point dlci, dlci 140(0x8C,0x20C0), broadcast
                status defined, active
```

```
Spicey#show frame-relay pvc
```

```
PVC Statistics for interface Serial0 (Frame Relay DTE)
```

	Active	Inactive	Deleted	Static
Local	1	0	0	0
Switched	0	0	0	0
Unused	0	0	0	0

```
DLCI = 140, DLCI USAGE = LOCAL, PVC STATUS = ACTIVE, INTERFACE =
Serial0.1
```

```
input pkts 23          output pkts 24          in bytes 3391
out bytes 4952         dropped pkts 0          in FECN pkts 0
in BECN pkts 0        out FECN pkts 0        out BECN pkts 0
in DE pkts 0          out DE pkts 0
out bcast pkts 14     out bcast bytes 3912
pvc create time 00:04:47, last time pvc status changed 00:04:47
```

Spicey#**show ip route**

```
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS
inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route
```

Gateway of last resort is not set

```
124.0.0.0/24 is subnetted, 1 subnets
C      124.124.124.0 is directly connected, Ethernet0
123.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
I      123.0.0.0/8 [100/8576] via 123.123.123.1, 00:01:11, Serial0.1
I      123.123.123.0/32 [100/8576] via 123.123.123.1, 00:01:11,
Serial0.1
```

Spicey#**ping 123.123.123.1**

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 123.123.123.1, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 36/36/36 ms

## Prasit

Prasit#**show frame-relay map**

```
Serial1.1 (up): point-to-point dlci, dlci 150(0x96,0x2460), broadcast
status defined, active
```

Prasit#**show frame-relay pvc**

PVC Statistics for interface Serial1 (Frame Relay DTE)

	Active	Inactive	Deleted	Static
Local	1	0	0	0
Switched	0	0	0	0
Unused	0	0	0	0

DLCI = 150, DLCI USAGE = LOCAL, PVC STATUS = ACTIVE, INTERFACE = Serial1.1

```
input pkts 24          output pkts 52          in bytes 4952
out bytes 10892        dropped pkts 0          in FECN pkts 0
in BECN pkts 0        out FECN pkts 0        out BECN pkts 0
in DE pkts 0          out DE pkts 0
out bcast pkts 41     out bcast bytes 9788
pvc create time 00:10:54, last time pvc status changed 00:03:51
```

Prasit#**show ip route**

```
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS
inter area
```

```
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route

Gateway of last resort is not set
  124.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
I       124.0.0.0/8 [100/8576] via 124.124.124.1, 00:00:18, Serial1.1
I       124.124.124.0/32 [100/8576] via 124.124.124.1, 00:00:18,
Serial1.1
  123.0.0.0/24 is subnetted, 1 subnets
C       123.123.123.0 is directly connected, Ethernet0

Prasit#ping 124.124.124.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 124.124.124.1, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 36/120/436 ms
```

## Troubleshoot

There is currently no specific troubleshooting information available for this configuration.

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## Related Information

- [More Information on Frame Relay Commands](#)
  - [More Information on Configuring Frame Relay](#)
  - [Comprehensive Guide to Configuring and Troubleshooting Frame Relay](#)
  - [Frame Relay Technology Support Pages](#)
  - [Technical Support – Cisco Systems](#)
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