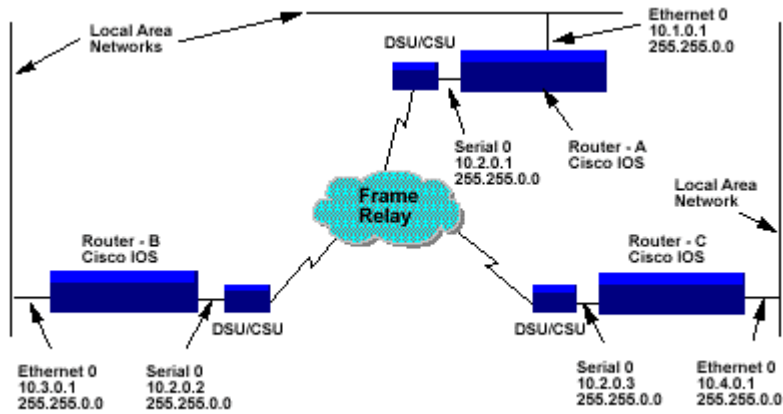


Frame Relay Connections Between IOS routers

This document describes how to connect three IOS routers together through frame relay.. The following illustration shows that topology:



This network is connected with frame relay in a fully meshed configuration.

The routers are configured with the following:

- IP routing
- RIP routing protocol
- Telnet access allowed
- SNMP with read only access
- Serial interfaces are configured for frame relay using LMI management.

The topology can be implemented with the configurations shown below. Follow the steps below to connect these routers together.

1) Open the Sample Configurations

Note: Use the initial System Configuration Dialog when the router boots up for the first time to configure as much of the IOS router as possible, then modify the IOS router configuration.

- See the Router A Configuration File below
- See the Router B Configuration File below
- See the Router C Configuration File below

2) Configuration Checklist

You will need to change the following items in the sample configuration above in order to use the files to configure your routers:

IOS

- Hostnames
- Passwords:
 - enable secret
 - enable
 - virtual terminal
- IGRP autonomous system number
- IP address on interface Ethernet 0 (E0) or 100VG-AnyLAN0 (V0)
- Serial 0 (S0) frame relay management type if it is not LMI
- IP address on interface Serial 0.
- community string if it is not "public"

Note: IOS routers cannot IP ping their own frame relay serial interface.

Router-A's configuration file

```
! In a configuration file all comments begin with a "!"

!
version 11.2
service udp-small-servers
service tcp-small-servers
!
hostname Router-A      ! define the hostname for the router
!
enable secret 5 xxxx  ! password in encrypted form
                        ! The enable password will be used if
                        ! the secret password is not configured
!
enable password xx     ! define the password for entering
                        ! enable level
!
!
interface Ethernet0    ! designates the Ethernet interface
!
 ip address 10.1.0.1 255.255.0.0
                        !assign the IP address and subnet mask
 no mop enabled
!
interface Serial0      ! this command designates the serial 0  interface
!
 ip address 10.2.0.1 255.255.0.0
                        ! assigns IP address and subnet mask
!
 encapsulation frame-relay
                        ! configure frame relay as the link protocol
!
interface Serial1      ! this interface is not operational
 no ip address
 shutdown
!
interface BRI0         ! this interface is not operational
 no ip address
 shutdown
!
router igrp 1          ! enable IGRP with autonomous system number 1
 network 10.0.0.0      ! list of directly connected networks using IGRP
!
no ip classless
snmp-server community public RO
                        ! enable SNMP for get only with public as string
!
line con 0             ! define the console port
 exec-timeout 0 0
line aux 0
line vty 0 4          ! define virtual terminals for remote access
 password xx          ! define the virtual terminal password
 login                ! allow logins via telnet session
!
end
```

```
Router-B's configuration file
!
version 11.2
no service udp-small-servers
no service tcp-small-servers
!
hostname Router-B
!
enable secret 5 xxxx
enable password xx
!
!
interface Ethernet0
 ip address 10.3.0.1 255.255.0.0
 no mop enabled
!
interface Serial0
 ip address 10.2.0.2 255.255.0.0
 encapsulation frame-relay
!
interface Serial1
 no ip address
 shutdown
!
interface BRI0
 no ip address
 shutdown
!
router igrp 1
 network 10.0.0.0
!
no ip classless
snmp-server community public RO
!
line con 0
line aux 0
line vty 0 4
 password xx
 login
!
end
```

```
Router-C's configuration file
!
version 11.2
no service udp-small-servers
no service tcp-small-servers
!
hostname Router-C
!
enable secret 5 xxxx
enable password xx
!
!
interface Ethernet0
 ip address 10.4.0.1 255.255.0.0
 no mop enabled
!
interface Serial0
 ip address 10.2.0.3 255.255.0.0
 encapsulation frame-relay
!
interface Serial1
 no ip address
 shutdown
!
interface BRI0
 no ip address
 shutdown
!
router igrp 1
 network 10.0.0.0
!
no ip classless
snmp-server community public RO
!
line con 0
line aux 0
line vty 0 4
 password xx
 login
!
end
```