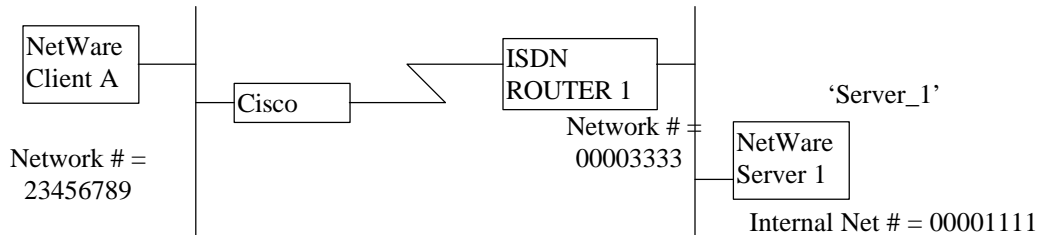


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LAN to LAN Connection w/Cisco

Routing IPX with PC client on Cisco side and Novell Server on ISDN ROUTER side



Note: The IPX network numbers shown above are examples only!

This configuration note explains how to set up a workstation on a network to use a Cisco 2503 to make a connection to a ISDN ROUTER to route IPX. In this configuration, the workstation has NetWare client software so that you will be able to log into the NetWare server on the remote network. There will be three items that you need to set up. These are the workstation, Cisco 2503 and the ISDN ROUTER.

I. Workstation Setup (NetWare Client)

To set up the workstation (W/S), you will need to set the following parameters:

- **IPX Frame Type** - First determine the frame type that the Cisco router is using, and set the same frame type on the NetWare client workstation.
- **Server Name** - In some cases, you may need the name that has been configured for the NetWare server you wish to login to. In the previous example, that would be 'Server_1'.

The procedure for configuring these parameters for your workstation may differ depending on the type of IPX client software you are using on your workstation. If you are unfamiliar with how to set these parameters, you can refer to the technical notes corresponding to your software.

- DOS workstation w/ NetWare Client (VLM) software
Windows 95/NT - see section 'LAN-to-LAN'

II. ISDN ROUTER Setup

In order to configure the ISDN ROUTER on the Novell server side for this application, make sure you have the following menus configured correctly.

Note that the fields are indicated in **bold** type.

Menu 1:

```
Menu 1 - General Setup

System Name= IRT1000
Location= Taipei
Contact Person's Name= CC

Route IP= Yes
Route IPX= Yes
Bridge= No

Press ENTER to Confirm or ESC to Cancel:
```

- In menu 1, make sure the **Route IPX** field is set to 'Yes'.

Menu 2:

```
Menu 2 - ISDN Setup

Switch Type= Northern Telecom Custom

B Channel Usage= Switch/Switch
1st Phone #= 5551212
SPID #= 408555121200

2nd Phone #= 5551213
SPID #= 408555121300

Press ENTER to Confirm or ESC to Cancel:
```

- In menu 2, set your switch type, phone numbers, and SPIDs (if necessary).
- After saving this menu, you will be asked if you want to perform an ISDN connection test. Select 'Yes' to perform the test. If the test fails, refer to the User's Manual Troubleshooting section for corrective action.

Menu 3.3:

```
Menu 3.3 - Novell IPX Ethernet Setup

Seed Router= No

Frame Type 802.2= No
IPX Network #= N/A

Frame Type 802.3= Yes
IPX Network #= N/A

Frame Type Ethernet II= No
IPX Network #= N/A

Frame Type SNAP= No
IPX Network #= N/A

Press ENTER to Confirm or ESC to Cancel:
```

- Since ISDN ROUTER is connected on the Novell server side, set that **Seed Router** field to 'No'.
- Make sure that you have set the correct **Frame Type(s)** to 'Yes'. You should enable the frame type that the NetWare server is running. (Please note that it is possible to set more than one frame type to 'Yes' if you have more than one server and they are using different frame types.)

Menu 11:

```
Menu 11.1 - Remote Node Profile

Rem Node Name= ToCisco           Route= IPX
Active= Yes                     Bridge= No
Call Direction= Incoming

Incoming:                       Edit PPP Options= No
Rem Login= username             Rem IP Addr= N/A
Rem Password= *****          Edit IP/IPX/AppleTalk/Bridge= Yes
Rem CLID=                       Telco Option:
Call Back= N/A                  Transfer Rate= 64K or 56K

Outgoing:                       Session Options:
My Login=                       Input Filter Sets=
My Password=                    Output Filter Sets=
Pri Phone #=                    Call Filter Sets=
Sec Phone #=                    Idle Timeout(sec)= 300

Press ENTER to Confirm or ESC to Cancel:
```

- The **Call Direction** should be set to 'Incoming'.
- Make sure the remote node is enabled by setting **Active** to 'Yes'.
- **Rem Login** and **Rem Password** is the login information that this ISDN ROUTER will use to authenticate Cisco.
- **Route** should be set to 'IPX'.
- Set **Edit IP/IPX/AppleTalk/Bridge** to 'Yes' and press ENTER.

Menu 11.3:

```

Menu 11.3 - Remote Node Network Layer Options

IP Options:
Rem IP Addr= N/A
Rem Subnet Mask= N/A
My WAN Addr= N/A
Single User Account= N/A
Server IP Addr= N/A
Metric= N/A
Private= N/A
RIP= N/A

IPX Options:
Dial-On-Query= No
Rem LAN Net #= 2345678
My WAN Net #= 00000000
Hop Count= 1
Tick Count= 2
W/D Spoofing(min)= 3
SAP/RIP Timeout(min)= 3

Bridge Options:
Dial-On-Broadcast= N/A
Ethernet Addr Timeout(min)= N/A

Enter here to CONFIRM or ESC to CANCEL:

```

Dial-On-Query should be 'No'.

The **Rem LAN Net #** field should be set to the number that Cisco is using on LAN. This number can be seen in your Cisco router. In our example, this value is '23456789'.

W/D Spoofing can be set to a greater value, so if your ISDN connection drops for an extended period of time, the ISDN ROUTER will still retain the proper SAP and RIP tables.

Menu 13:

```

Menu 13 - Default Dial-in Setup

Telco Options:
CLID Authen= None

PPP Options:
Recv Authen= CHAP/PAP
Compression= Yes
Mutual Authen= Yes
PAP Login=
PAP Password= *****
Multiple Link Options:
Max Trans Rate(Kbps)= 128

Callback Budget Management:
Allocated Budget(min)= 0
Period(hr)= 0

IP Address Supplied By:
Dial-in User= Yes
IP Pool= No
IP Start Addr= N/A
IP Count(1,2)= N/A

IPX Net Num Supplied By:
IPX Pool= No
IPX Start Net Num= N/A
IPX Count(2,16)= N/A

Session Options:
Input Filter Sets=
Output Filter Sets=
Idle Timeout= 300

Press ENTER to Confirm or ESC to Cancel:

```

- **Mutual Authen** should be 'Yes'.
- The **PAP login/Password** fields are the name and password that ISDN ROUTER will send to Cisco when Cisco calls into ISDN ROUTER and use PAP as authentication. In this example, the name is ISDN ROUTER and password is hidden.

III. Cisco 2503 Setup

Following is a capture of 'wr t' command. Please note those the fields are indicated in **bold** type.

```
####
```

```
Current configuration:
!
version 10.2
service password-encryption
!
hostname csco2503
!
enable password 7 03085A09
!
username ISDN ROUTER password 7 08701E1D5D4C
ip subnet-zero
ipx routing
isdn switch-type basic-dms100
!
interface Ethernet0
ip address 192.68.135.175 255.255.255.0
ipx network 23456789
!
interface Serial0
no ip address
shutdown
!
interface Serial1
no ip address
shutdown
!
interface BRI0
ip unnumbered Ethernet0
encapsulation ppp
ipx network 22221111
dialer idle-timeout 300
dialer map ip 204.247.203.176 name ISDN ROUTER 5551212
dialer map ipx 22221111.0003.0004.0005 name ISDN ROUTER broadcast 5551212
dialer-group 1
ppp authentication pap
!
ip classless
ip route 204.247.203.0 255.255.255.0 BRI0
ip route 204.247.203.156 255.255.255.255 BRI0
ipx route 00001111 22221111.0003.0004.0005
!
ipx sap 4 1ST_SERVER 00001111.0000.0000.0001 451 2
!
dialer-list 1 protocol ip permit
dialer-list 1 protocol novell permit
!
:
:
!
end
```