Configuring the Cisco 2500/1000 for LAN-ISDN Service:

LAN / WAN Port Table

Model	Serial	Ethernet	Token Ring	ISDN-BRI
1003	N/A	1	0	1
1004	N/A	1	0	1 with internal NT1
2503	2	1	0	1
2504	2	0	1	1

The Cisco 1003, 1004, 2503, and 2504 routers are certified to work with our LAN-ISDN service. All of the certified 2500 series routers come with 2 serial ports and 1 console port. The certified Cisco 1000 series routers come with 1 BRI interface as well as a 1 console port. The table above lists the LAN interfaces for each router. In addition some of the 2500 series routers come with a BRI ST interface; an NT1 is needed to make an ISDN connection.

In order to use a Cisco 2503, 2504 and 1003 with our LAN-ISDN Service you will need an external NT1. For 2B access the router operating system must be version 11.0 or greater.

In addition to the NT1 you will need the following:

- 1 RJ11 straight through cable to connect the U interface of the NT1 to the demarc (this should be included).
- (For routers with an external NT1) 1 RJ45 cable to connect the S/T interface to the S/T interface of the NT1 (this should be included).
- You will also need the appropriate cable to connect the router to your local area network.
- In order to connect the Cisco 2500 to a 10BaseT or BNC LAN you will need a transceiver to connect the AUI port to the appropriate media type. The Cisco 1000 only supports 10BaseT.

Note: The Cisco will also come with an RJ45-DB25 connector with an RJ45 cable. This is used to connect an out of band console to configure the router. You should be prepared to use a VT100 terminal (or VT100 terminal emulator) as a console to do configuration and management.

The following pages include instructions for configuring the Cisco 2500/1000 series of routers along with sample configurations for each model.

Configuring a Cisco 2500/1000 Via the Console

To configure a Cisco 2500/1000 you can connect a console to the Console port of the router. A console cable and RJ45-RS232 adapter is provided. Connect the console cable to the console port of the 2500/1000 and to a PC (or Mac with proper cables) with VT100 emulation software set to 9600, 8, none 1. This is required if the router has not been preconfigured. If the router has been preconfigured by us you will be able to telnet to the LAN interface of the router.

Once you have gained access to the router, you will start off in non-enable mode. To configure the router you must enter enable mode by typing 'en':

Router>en <return>

The router will prompt you for a password, enter the password and the prompt will change from ending with a '>' to ending with a '#'. At this point you type 'configure':

Router#configure <Return>
Configuring from terminal, memory, or network [terminal]? <Return>
Enter configuration commands, one per line. End with CTRL-Z.

Enter the configuration from the appropriate template and press Control-Z when you are finished.

The **Cisco 2500** comes with the following:

Cables:

RJ45 Rolled Console Cable (included is RJ45 to DB25M adapter)

Ports:

AUI ethernet ports
DB9 Token Ring ports
RJ45 13RI ST port
2 Serial Wan port v.35 (DB60 F)
1 Serial Console port RJ45

(These routers are certified for our LAN-ISDN connections)

The **Cisco 1000** comes w1th the following:

Cables:

RJ45 Rolled Console Cable (included is RJ45 to DB25M adapter)

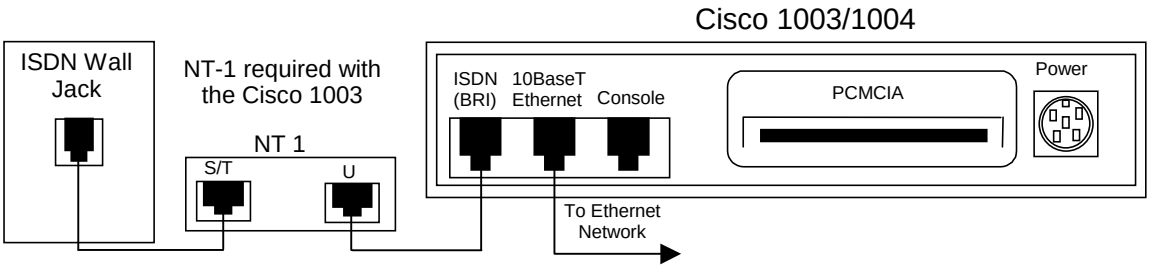
Ports:

1 UTP ethernet ports
1 RJ45 BRI port
1 Serial Console port RJ45

(These routers are certified for our LAN-ISDN connections)

Cisco 1003/1004 Configuration for LAN-ISDN Service

Router configuration is the same for the 1003 and 1004. The difference is the 1003 has an external NT-1 while the 1004 has an internal NT-1.



Version 10.3

```
!
hostname ACCTID
!
enable password <PASSWORD>
!
isdn switch-type basic-CUSTOMER SWITCH TYPE
!
interface Ethernet0
 ip address LAN.LAN.LAN.LAN 255.255.255.0
 ip broadcast-address LAN.LAN.LAN.255
 no shutdown
!
interface BRI0
ip unnumbered Ethernet0
encapsulation ppp
no keepalive
dialer map ip 38.1.1.1 name ACCTID POP.PHONE.NUMBER
dialer-group 1
isdn spid1 SPID1
isdn spid2 SPID2
!
interface Dialer0
 no ip address
!
ip classless
ip route 0.0.0.0 0.0.0.0 154.1.1.1
ip route 38.1.0.0 255.1.0.0 154.1.1.1
ip route 38.1.1.1 255.255.255.255 BRI0
dialer-list 1 protocol ip list 101
!
line con 0
line vty 0 4
 login
!
end
```

Version 11.0

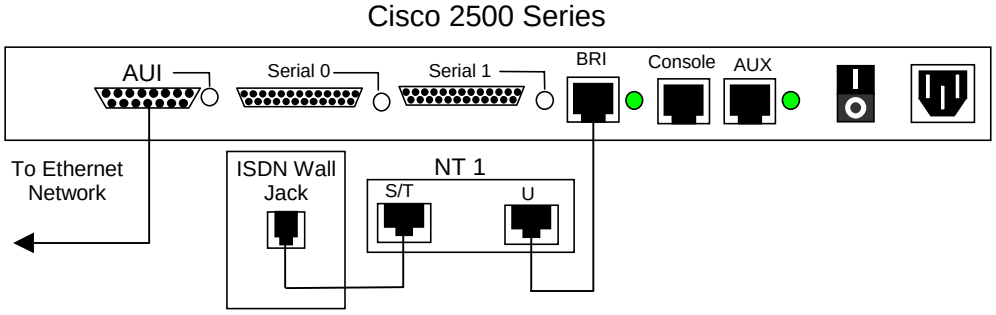
```
!
hostname ACCTID
!
enable password <PASSWORD>
!
ip subnet-zero
no ip domain-lookup
isdn switch-type basic-CUST SWITCH TYPE
!
interface Ethernet0
 ip address LAN.LAN.LAN.LAN 255.255.255.0
 ip broadcast-address LAN.LAN.LAN.255
 no shutdown
!
interface BRI0
 ip unnumbered Ethernet0
encapsulation ppp
 no keepalive
 dialer map ip 38.1.1.1 name ACCTID
POP.PHONE.NUMBER
 dialer-group 1
 isdn spid1 SPID 1
 isdn spid2 SPID 2
 no fair-queue
 ppp multilink
 ppp pap sent-username ACCTID password PASSWORD
interface Dialer0
 no ip address
!
ip classless
ip route 0.0.0.0 0.0.0.0 154.1.1.1
ip route 38.0.0.0 255.255.0.0 154.1.1.1
ip route 38.1.1.1 255.255.255.255 BRI0
dialer-list 1 protocol ip list 101
!
line con 0
line vty 0 4
login
```

NOTES:
CUST.SWITCH options are: 5ess, dms100, or NI-1
LINE.SPEED options are: 56 or 64
DOMAIN cannot be domain.com, omit the .com

Cisco 2503 Configuration for LAN-ISDN Service

hostname **ACCT.ID**
!
enable-password letmein
isdn switch-type basic-**CUST.SWITCH**
I
interface Ethernet 0
ip address LAN.LAN.LAN.LAN 255.255.255.0
no shutdown
I
interface BRI 0
ip unnumbered Ethernet 0
encapsulation PPP
isdn spid1 CUST.SPID.A
isdn spid2 CUST.SPID.B
no shutdown
!
dialer idle-timeout 600
dialer wait-for-carrier-time 10
dialer map IP 38.1.1.1 speed **LINE.SPEED** name **ACCT. ID POP.PHONE.NUM**
dialer-group 1
ip route 38.1.1.1 255.255.255.255 BRI0
ip route 0.0.0.0 0.0.0.0 38.1.1.1
ip route 38.0.0.0 255.0.0.0 38.1.1.1
!
ip name-server 38.8.81.2
1
access-list 101 permit ip 0.0.0.0 255.255.255.255 0.0.0.0 255.255.255.255
dialer-list 1 LIST 101
!
username **ACCT.ID** password **PASSWORD**

line vty 0 4
login
line con 0
line aux 0
line vty 0
password letmein
line vty 1
password letmein
line vty 2
password letmein
line vty 3
password letmein
line vty 4
password letmein
!
interface Ethernet 0
no shutdown
!
end
!



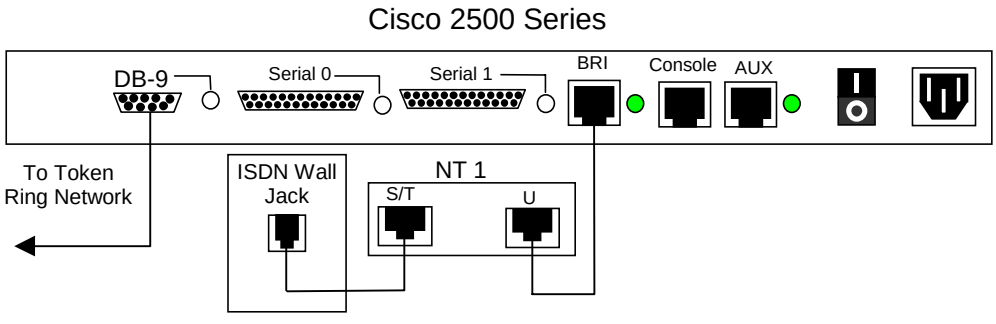
NOTES:

CUST.SWITCH options are: 5ess, dms100, or NI-1
LINE.SPEED options are: 56 or 64
DOMAIN cannot be domain.com, omit the .com

Cisco 2504 (Token Ring) Configuration for LAN-ISDN Service

```
hostname ACCT.ID
!
enable-password letmein
isdn switch-type basic-CUST.SWITCH
!
interface TokenRing0
ip address LAN.LAN.LAN.LAN 255.255.255.0
ip broadcast-address LAN.LAN.LAN.255
no ip route-cache
ring-speed 16
multiring all
no shutdown
!
interface BRI 0
ip unnumbered tokenring 0
encapsulation PPP
isdn spid1 CUST.SPID.A
isdn spid2 CUST.SPID.B
no shutdown
!
dialer idle-timeout 600
dialer wait-for-carrier-time 10
dialer map IP 38.1.1.1 speed LINE.SPEED name ACCT.ID POP.PHONE.NUM
dialer-group 1
!
ip route 38.1.1.1 255.255.255.255 BRI0
ip route 0.0.0.0 0.0.0.0 38.1.1.1
ip route 38.0.0.0 255.0.0.0 38.1.1.1
ip name-server 38.8.81.2
!
access-list 101 permit ip 0.0.0.0 255.255.255.255 0.0.0.0 255.255.255.255
dialer-list 1 LIST 101
!
username ACCT.ID password PASSWORD

line vty 0 4
login
line con 0
line aux 0
line vty 0
password letmein
line vty 1
password letmein
line vty 2
password letmein
line vty 3
password letmein
line vty 4
password letmein
!
interface Ethernet 0
no shutdown
!
end
```



NOTES:

CUST.SWITCH options are: 5ess, dms100, or NI-1
LINE.SPEED options are: 56 or 64
DOMAIN cannot be domain.com, omit the .com