



Welcome to CCIERack.com. We are happy you have chosen us for your certification needs. CCIERack.com provides email technical support of our equipment, however we have compiled a list of common issues that you might inquire about.

Please review this information before starting your remote rack session.

Remember that when you are taking the actual lab exam, you must be familiar with the cisco.com documentation CD (at <http://www.cisco.com/univercd/home/home.htm>) subscription not required. and you will be troubleshooting network issues. Please try to do a few debugs first before emailing us with a problem. Good Luck on your CCIE number hunt!

GETTING CONNECTED

You will need to do the following things to setup your session:

- Telnet to the Rack and login
- Have our network diagram for your specific labbook
- Verify the local TERMSERV clock
- Load the FRAME with your specific labbook configuration

When you telnet to the rack, you will be connected to a term server that will allow access to all devices via reverse telnet sessions.

Always do a “**show clock**” in TERMSERV to verify the local rack time is correct with your schedule which is CENTRAL STANDARD TIMEZONE. You can also check here: <http://www.timeanddate.com/worldclock/city.html?n=64>

Always do a “**show user**” to verify the previous customer has left the rack. If there is someone still on, please do a quick verify of your session on our web calendar (don't forget to refresh your browser).

If you are **positive** that your session has started, do a “**show line**” and “**clear line vty (x)**” to remove the previous customers' telnet (VTY) sessions. There is also an inactivity logout of 15 minutes, just in case someone forgets to logout.

You may have up to twelve (12) separate telnet sessions to the rack. This will allow you to have each router in a different screen. It will assist troubleshooting, and is something you will probably see on the actual lab exam.

TERMSERV NAVIGATION

By typing “**show host**” you will see all available devices and hostnames. For example, typing “r1” will access Router 1.

IMPORTANT: Different hostnames are used for different labbooks. For example, IER(x) is used for InternetworkExpert. The specific router nomenclature is shown on the network diagram for each labbook. IER1 is not the same router as R1 is not the same router as NMR1.

To return to TERMSERV from a device, hit **“control-shift-6”** then type **“x”**

Type **“show session”** or **“ss”** to see all current sessions you have open.

To resume a session, simply type **“(x)”** which is the number of the session from the previous command printout.

Type **“disconnect (x)”** to disconnect from a device. Your first connection to a device will be connection one. To disconnect you would type **“disc 1”**

Type **“exit”** from the TERMSERV to automatically close all open sessions.

During the last (15) minutes of your scheduled time, please erase your scenario routers and passwords as a courtesy to the next user.

ALL PASSWORDS MUST BE EITHER BLANK OR CISCO. FAILURE TO COMPLY WILL EXCLUDE YOU FROM FUTURE RENTALS

LOADING THE FRAME CONFIG:

Each labbook requires you to load a specific FRAME config. Access FRAME and to a **“dir”** to see all flashfiles. To load your labbook do **“write erase”**, **“copy configx.cfg start”**, **“reload”**. Configx is your specific labbook support. After the reload the FRAME will match your network diagram.

If you require simple all mesh between the serial interfaces, use **“all_mesh.cfg”** in FRAME flash to mesh all first and second interfaces for all routers.

To review a config before you load it, do a **“more configx.cfg”** to scroll it to your screen.

TROUBLESHOOTING LAYER1 CONNECTIONS

There are two major ways to troubleshoot Ethernet and Serial connections. Please try these methods and also provide this info if you email us with L1 issues.

Ethernet: To verify connections to the CAT/SW, with the required interfaces properly **“up/up”** and possibly **“cdp run”** enable required, do a **“show cdp neighbor”** in CAT. Below is an example printout.

```
Switch#sh cdp neigh
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone

Device ID          Local Intrfce    Holdtme    Capability    Platform    Port ID
Switch             Fas 0/24         144        S I           WS-C3550-2Fas 0/24
Switch             Fas 0/23         144        S I           WS-C3550-2Fas 0/23
Switch             Fas 0/22         144        S I           WS-C3550-2Fas 0/22
R2                 Fas 0/2          140        R             3620        Eth 0/0
R1                 Fas 0/1          166        R             2611        Eth 0/0
```

Serial: For the serial link in question, do a “show controllers serial x/y” for each side. Below is an example printout.

```
R1#sho control ser 0/1
Interface Serial0/1
Hardware is PowerQUICC MPC860
DTE V.35 TX and RX clocks detected.
idb at 0x82489A98, driver data structure at 0x82491D84
SCC Registers:
General [GSMR]=0x2:0x00000000, Protocol-specific [PSMR]=0x8
Events [SCCE]=0x0000, Mask [SCCM]=0x0000, Status [SCCS]=0x00
Transmit on Demand [TODR]=0x0, Data Sync [DSR]=0x7E7E
Interrupt Registers:
Config [CICR]=0x00367F80, Pending [CIPR]=0x00000C00
Mask [CIMR]=0x40204000, In-srv [CISR]=0x00000000
Command register [CR]=0x600
```

FAQs AND COMMON ISSUES:

How do I verify my VoIP connections and configuration?

VoIP questions are being removed from the R&S lab exam starting Jan 2005. However you can still verify via the **CSIM** command.

Here is the output from csim start # for a successful and an unsuccessful call.
The unsuccessful call will have this line in it: **csim err csim**

Successful Call

```
r1# csim start 888 (or whatever you have configured for the number you
are calling)
csim: called number = 888, loop count = 1 ping count = 0
csim: loop = 1, failed = 1
csim: call attempted = 1, setup failed = 1, tone failed = 0
```

Unsuccessful Call

```
r1# csim start 888 (or whatever you have configured for the number you
are calling)
csim: called number = 888, loop count = 1 ping count = 0
csim err csim Disconnected recvd DISC cid(9)
csim: loop = 1, failed = 1
csim: call attempted = 1, setup failed = 1, tone failed = 0
```

How do I create FRAME connections?

There are a number of ways to create direct “virtual” serial connections between routers. This may be needed in cases where the labbook shows a direct connection, but you can easily emulate this via FRAME. DLCI nomenclature is generally defined as follows:

XYZ, where

(x) is the local router, example R1

(y) is the remote interface number, 0 for first interface or 1 for second interface

(z) is the remote router, example R5

Example: DLCI connections between Serial 0/0 on R1 to R5 would be 105 and 501 respectively.

Below are several methods and examples you would likely see:

First using direct DLCI commands:

R2:

```
interface Serial1/0
 ip address 10.1.100.1 255.255.255.0
 encapsulation frame-relay
 frame-relay interface-dlci 204
 frame-relay lmi-type cisco
!
```

R4:

```
interface Serial0/0
 ip address 10.1.100.2 255.255.255.0
 encapsulation frame-relay
 frame-relay interface-dlci 402
 frame-relay lmi-type cisco
!
```

Another way, using IP Maps, good for emulating direct serial links
Be sure to map your local interface also if you would like to be able to ping it locally

R1:

```
interface Serial1/0
 ip address 138.12.12.1 255.255.255.0
 encapsulation frame-relay
 no fair-queue
 no arp frame-relay
 frame-relay map ip 138.12.12.1 105 broadcast
 frame-relay map ip 138.12.12.5 105 broadcast
 no frame-relay inverse-arp
```

R5:

```
interface Serial1/0
 ip address 138.12.12.5 255.255.255.0
 encapsulation frame-relay
 no arp frame-relay
 frame-relay map ip 138.12.12.1 501 broadcast
 frame-relay map ip 138.12.12.5 501 broadcast
 no frame-relay inverse-arp
 frame-relay lmi-type cisco
!
```

Another way, subinterfaces and point-to-point

R7:

```
interface Serial0/0
  no ip address
  encapsulation frame-relay
!
interface Serial0/0.8 point-to-point
  ip address 10.1.100.7 255.255.255.0
  frame-relay interface-dlci 708
!
```

R8:

```
interface Serial0/0
  no ip address
  encapsulation frame-relay
  no fair-queue
!
interface Serial0/0.7 point-to-point
  ip address 10.1.100.8 255.255.255.0
  frame-relay interface-dlci 807
```

Another way, subinterfaces and multipoint

R6:

```
interface Serial0/0
  no ip address
  encapsulation frame-relay
!
interface Serial0/0.6 multipoint
  ip address 138.12.12.6 255.255.255.0
  frame-relay map ip 138.12.12.6 609 broadcast
  frame-relay map ip 138.12.12.9 609 broadcast
```

R9:

```
interface Serial0/0
  no ip address
  encapsulation frame-relay
  no fair-queue
!
interface Serial0/0.9 multipoint
  ip address 138.12.12.9 255.255.255.0
  frame-relay map ip 138.12.12.6 906 broadcast
  frame-relay map ip 138.12.12.9 906 broadcast
!
```

What should my ISDN configs look like?

The ISDN SPID information can be found on the network diagram, below are examples of how they might look in a config.

```
isdn switch-type basic-ni
isdn spid1 0835866101 8358661
isdn spid2 0835866301 8358663
```

```
isdn switch-type basic-ni
isdn spid1 0835866201 8358662
isdn spid2 0835866401 8358664
```

debugs include “**debug isdn q921**” and “**debug isdn q931**”

What should my ATM configs look like?

The ATM is configured to support IPEXpert by default, which uses the following vpi/vci pairs.

```
ATM-SW#show atm vc
Interface          VPI  VCI  Type  X-Interface      X-VPI X-VCI  Encap  Status
ATM0/1/0           0    5    PVC   ATM2/0/0         0     39    QSAAL  UP
ATM0/1/0           0    16   PVC   ATM2/0/0         0     35    ILMI   UP
ATM0/1/0           0    32   PVC   ATM0/1/1         0     32     UP
ATM0/1/0           1    100  PVC   ATM0/1/1         1    101     UP
ATM0/1/0           100  100  PVC   ATM0/1/1         100  100     UP
ATM0/1/1           0    5    PVC   ATM2/0/0         0     40    QSAAL  UP
ATM0/1/1           0    16   PVC   ATM2/0/0         0     36    ILMI   UP
ATM0/1/1           0    32   PVC   ATM0/1/0         0     32     UP
ATM0/1/1           1    101  PVC   ATM0/1/0         1    100     UP
ATM0/1/1           100  100  PVC   ATM0/1/0         100  100     UP
```

If you prefer, do a **write erase, reload** on the ATM switch and all vpi/vci pairs may pass via ILMI/QSAAL.

How do I get support with equipment issues?

Please email us immediately with issues at staff@ccierack.com.

You also have the ability to do a “SEND **” from TERMSERV which will send a message to all ports on the TERMSERV immediately.

GOOD LUCK AND THANKS AGAIN FOR MAKING CCIERACK.COM YOUR RACK RENTAL PROVIDER
