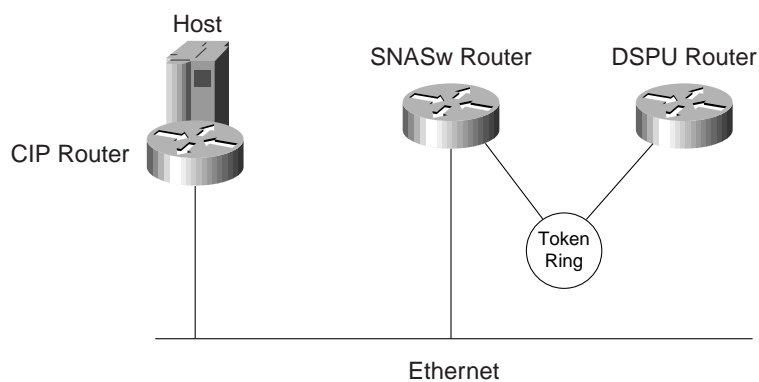


Enterprise Extender (HPR/IP) Sample Configuration

Overview

This sample configuration illustrates HPR using IP. Figure C-1 shows how SNASw can be used to connect to downstream devices. In this case, a downstream physical unit (DSPU) router is simulating a downstream PU connected to CS/390 through the DLUR. The DSPU router is configured as a downstream PU. The PU connects to the virtual Token Ring interface on the SNASw router by means of SRB over the physical Token Ring interface. The upstream connection to the host is done through IP. The CIP router is configured to run Cisco MultiPath Channel Plus (CMPC+).

Figure C-1 Network Topology



To implement this configuration, you need to have the following host definitions:

- An external communications adapter (XCA) major node in CS/390 with "MEDIUM=HPRIP" defined
- A switch major node for the SNASw CP
- A switch major node for the downstream PU
- A Transport Resource List (TRL)
- A Profile TCP/IP with device name matching CS/390 TRL entry

Note: The downstream devices are not limited to LAN-based connections; therefore, you can use SDLC and so on. You can also use DLSw+ for downstream devices and connect into the SNASw using a VDLC port.

SNASw Configurations

SNASw Router

```
Current configuration:
!
version 12.0
hostname SNASW
!
boot system flash slot0:rsp-a3jsv-mz.120-5.XN
enable password lab
!
ip subnet-zero
!
source-bridge ring-group 100
!
interface Ethernet0/0/0
 ip address 172.18.49.37 255.255.255.128
 no ip directed-broadcast
 no ip route-cache distributed
!
interface TokenRing2/0/2
 no ip address
 no ip directed-broadcast
 no ip route-cache distributed
 ring-speed 16
 source-bridge 200 1 100
 source-bridge spanning
interface Virtual-TokenRing2
description this interface is used to connect in the downstream PU
 mac-address 4000.eeee.0000
 no ip address
 no ip directed-broadcast
 ring-speed 16
 source-bridge 222 1 100
 source-bridge spanning
snasw cpname NETA hostname
snasw port HPRIP hpr-ip Ethernet0/0/0 vnname NETMD.EEJEB
snasw port VTOK2 Virtual-TokenRing2 vnname NETMD.EEJEB
snasw link HPRMVSD port HPRIP ip-dest 172.18.1.41
router eigrp 109
 network 172.18.0.0
 no auto-summary
!
ip classless
line con 0
 exec-timeout 0 0
 transport input none
line aux 0
line vty 0 4
 login
!
end
SNASW#
```

DSPU Router

```
!
hostname DSPU
!
boot system flash
enable password lab
!
ip subnet-zero
!
source-bridge ring-group 300

dspu host TOKEN xid-snd 02201002 rmac 4000.eeee.0000 rsap 4 lsap 12
dspu pool pool_lu host TOKEN lu 2 2
!

interface TokenRing0/0
 no ip address
 no ip directed-broadcast
 ring-speed 16
 source-bridge 200 1 300
 dspu enable-host lsap 12
 dspu start TOKEN
!
line con 0
 exec-timeout 0 0
 transport input none
line aux 0
line vty 0 4
 password lab
 login
!
end

DSPU#
```

CIP Router

```
Current configuration:
!
version 12.0
hostname CIPRouter
!
enable password lab
!
microcode CIP flash slot0:cip27-6
microcode reload
ip subnet-zero
source-bridge ring-group 80
interface Ethernet0/0
 ip address 172.18.49.17 255.255.255.128
 no ip directed-broadcast
 no ip mroute-cache
interface Channell1/0
 no ip address
 no ip directed-broadcast
 no keepalive
!
interface Channell1/1
 no ip address
 no ip directed-broadcast
 no keepalive
 cmpc E160 92 EETGJEB READ
 cmpc E160 93 EETGJEB WRITE
!
interface Channell1/2
 ip address 172.18.1.42 255.255.255.248
 no ip directed-broadcast
 no ip mroute-cache
 no keepalive
 lan TokenRing 0
  source-bridge 70 1 80
  adapter 0 4000.dddd.aaaa
 tg EETGJEB ip 172.18.1.43 172.18.1.42
router eigrp 109
 network 172.18.0.0
 no auto-summary
!
ip classless
ip route 172.18.1.41 255.255.255.255 172.18.1.43
!
line con 0
 exec-timeout 0 0
 transport input none
line aux 0
line vty 0
 exec-timeout 0 0
 password lab
 login
 length 75
 width 114
line vty 1 4
 exec-timeout 0 0
 password lab
 login
!
end
CIPRouter#
```

Host Definitions

```
CISCO.NETMD.VTAMLST(XCAEEJEB)
```

```
-----  
EEXCAJ VBUILD TYPE=XCA  
EETGJ PORT MEDIUM=HPRIP, X  
VNNAME=EEJEB, X  
VNGROUP=EEGRPJ, X  
LIVTIME=15, X  
SRQTIME=15, X  
SRQRETRY=9, X  
SAPADDR=04  
*  
EEGRPJ GROUP ANSWER=ON, X  
AUTOGEN=(64,L,P), X  
CALL=INOUT, X  
DIAL=YES, X  
DYNPU=YES, X  
DYNPUFX=$E, X  
ISTATUS=ACTIVE
```

```
CISCO.NETMD.VTAMLST(EETGJEB)
```

```
-----  
EETGJEBV VBUILD TYPE=TRL  
EETGJEB TRLE LNCTL=MPC,MAXBFRU=16, X  
READ=(4F92), X  
WRITE=(4F93)
```

```
PROFILE.TCPIP
```

```
DEVICE IUTSAMEH MPCPTP AUTORESTART  
LINK samehlnk MPCPTP IUTSAMEH  
;  
DEVICE EETGJEB MPCPTP  
LINK EELINK2 MPCPTP EETGJEB  
;  
DEVICE VIPADEV2 VIRT 0  
LINK VIPALNK2 VIRT 0 VIPADEV2  
;  
HOME  
172.18.1.43 EELINK2 ; This corresponds to the host-ip-addr for the CIPRouter tg  
command.  
172.18.1.41 VIPALNK2 ; This corresponds to the ip-dest specified in the SNASW router  
link command.  
GATEWAY  
172.18 = EELINK2 4468 0.0.255.248 0.0.1.40  
172.18 172.18.1.42 EELINK2 4468 0.0.255.0 0.0.49.0  
;  
START IUTSAMEH  
START EETGJEB
```

```
VIEW CISCO.NETMD.VTAMLST(SNASWCP) - 01.02 Columns 00001 00072  
***** Top of Data *****  
==MSG> -Warning- The UNDO command is not available until you change
```

```

==MSG>          your edit profile using the command RECOVERY ON.
000001 *        SNASWITCH CONTROL POINT
000002          VBUILD TYPE=SWNET
000003 *
000004 R7507PU  PU      ADDR=01,ANS=CONTINUE,DISCNT=NO,                X
000005          PUTYPE=2, ISTATUS=ACTIVE,                              X
000006          NETID=NETA,CPCP=YES,CONNTYPE=APPN,CPNAME=SNASW,HPR=YES
000007
***** ***** Bottom of Data *****

```

```

VIEW          CISCO.NETMD.VTAMLST(SNASWPUS) - 01.02          Columns 00001 00072
***** ***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG>          your edit profile using the command RECOVERY ON.
000001 *        SNASWITCH DOWNSTREAM PU
000002          VBUILD TYPE=SWNET
000003 *
000004 DSPU02  PU      ADDR=01,ANS=CONTINUE,DISCNT=NO,                X
000005          PUTYPE=2, ISTATUS=ACTIVE,                              X
000006          DLOGMOD=D4C32782,MODETAB=ISTINCLM,USSTAB=USSTCPMF,    X
000007          IDBLK=022,IDNUM=01002                                  X
000008 DSPU02LU LU      LOCADDR=02

***** ***** Bottom of Data *****

```



SNASw Verification Commands

Table C-1 lists some of the commands for verifying that SNASw is running in the router. For a full list, see the *Cisco IOS Bridging and IBM Networking Command Reference*.

Table C-1 SNASw Show and Trace Commands

Command	Description
show snasw session	To see the session and partner details
show snasw dlus	To verify if the DLUS is active
show snasw pu	To verify if the PU is active
show snasw link	To verify which port the link uses, the node type, and if the link is active
snasw dlctrace	To trace frames arriving and leaving SNASw
show dlctrace	To display a trace on the console; alternatively, you can dump the trace onto a server

