IBM 8260 Nways Multiprotocol Switching Hub

Installation Instructions

for

ATM Control Point Version 3.2.0
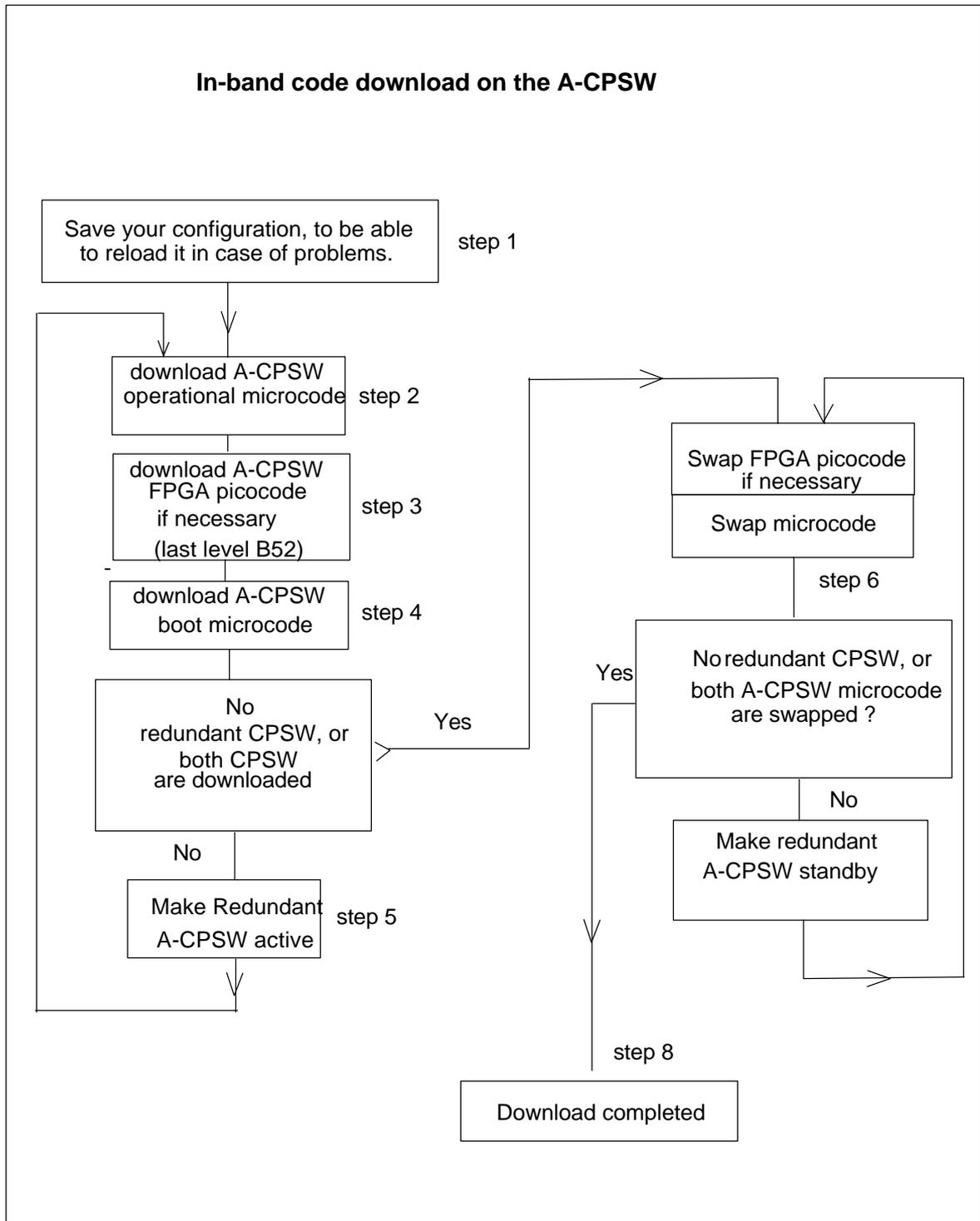
PNNI

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if necessary
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No
redundant CPSW, or
both CPSW
are downloaded

Yes

No

Make Redundant
A-CPSW active   step 5

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if necessary

Swap microcode

step 6

Yes

No redundant CPSW, or
both A-CPSW microcode
are swapped ?

No

Make redundant
A-CPSW standby

step 8

Download completed

1.1 Prerequisites

The minimum FPGA level required for A-CPSW is B52.

1.2 Copying Operational/Boot and FPGA A-CPSW Codes on your workstation

1.2 .1 Code from Distribution Diskettes

The present kit contains 2 diskettes :

1 The diskette, Part Number 42L2436, contains for A-CPSW 8260:

- *A notice file (READ8260.TXT)*

- *A-CPSW FPGA picocde (SWPGAB52.ENC)*

- *A-CPSW boot microcode (BOOTV320.BIN)*

- *A soft copy of this installation instructions (II60V320.ps)*

- *A soft copy of the release note (RN60V320.PS)*

2 The diskette, Part Number 42L2437, contains:

- *A new MIB version 2.1 (8260V21.MIB)*

- *A-CPSW operational microcode (8260V320.OPE)*

1.2 .1.1 References
- *Release Note, Part number 42L2438, EC level F55960.*

- *Installation Instructions for IBM Universal Code Download Kit, Part Number 80G3152*

- *ATM Control Point and Switch Module, Installation and user's Guide (SA33-0326).*

- *IBM 8285/8260 ATM Command Reference Guide (SA33-0385)*

- *SA33-0452.*
  IBM 8260 Nways Multiprotocol Switching Hub
  IBM 8285 Nways ATM Workgroup Switch
  ATM Control Point Version 3
  User's guide.

- *SA33-0453.*
  IBM 8260 Nways Multiprotocol Switching Hub
  IBM 8285 Nways ATM Workgroup Switch

1.2 .1.2 Copying the Distribution Files on your workstation

1 Insert the distribution diskette part number 42L2436 in the workstation.

2 Copy from the diskette to the directory where you want the microcodes to reside, the following files:

- *A-CPSW boot microcode, file name: **BOOTV320.BIN**.*

- *A-CPSW FPGA picocode, file name: **SWPGAB52.ENC**.*

3 Remove the distribution diskette part number 42L2436 from the workstation.

4 Insert the distribution diskette part number 42L2437 in the workstation.

5 Copy from the diskette to the directory where you want the microcodes to reside, the following files:

- *A-CPSW operational microcode, file name: **8260V320.OPE.***

6 Remove the distribution diskette part number 42L2437 from the workstation.

7 On an AIX Workstation make sure that the files can be read by all users :

- *Log in as "root"*

- *Set the path to the microcode files directory*

- *Enter: chmod a+r BOOTV320.BIN*

- *Enter: chmod a+r 8260V320.OPE*

- *Enter: chmod a+r SWPGAB52.ENC*

1.2 .2 Code download from the Web

The code upgrade files posted on the Web are available to upgrade (or restore) a CPSW. They consist of the boot and operational microcodes, the FPGA and MIB codes, so that text files in plain text or PDF (Acrobat reader) format.

These files must be placed in a directory reachable through TFTP, like /tmp for a Unix/AIX station, so that In-Band download toward the CPSW can be performed.

After package file has been downloaded and unzipped, on an AIX Workstation make sure that the files can be read by all users :

> *Log in as "root" Set the path to the microcode files directory*
>
> *Enter: chmod a+r BOOTV320.BIN*
>
> *Enter: chmod a+r 8260V320.OPE*
>
> *Enter: chmod a+r SWPGAB52.ENC*

1.3 In-Band download method

You need to perform an inband download operation, using either:

- **Classical IP mode.**
  Make sure that your ATM network is configured for IP Over ATM (RFC 1577). To configure your ATM network for IP over ATM:

1. Connect an ARP server to the ATM network. The ARP server will be used to map IP addresses to ATM addresses.
2. For each A-CPSW module verify that the following parameters are configured:

   - ATM address of the ARP server

   - IP address and IP mask of the A-CPSW

   - IP address of the default gateway

3. Verify the IP connectivity to the ARP server by entering a PING command for each A-CPSW module.
4. Verify the IP connectivity to the TFTP server by entering a PING command for each A-CPSW module.

- **Ethernet or Token Ring LAN-Emulation mode**
  Make sure your network is configured in Ethernet or Token Ring LAN-Emulation.
  To configure your network in Ethernet or Token Ring LAN-Emulation :

1. You must have an Ethernet or Token Ring LAN-Emulation Server configured and ready. You can use the local LES of the 8260.
2. You must configure the Ethernet or Token Ring LAN-Emulation Client on your 8260.

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3. You must have a TFTP Server somewhere in the IP network (either on the Emulated LAN, either behind an IP Gateway), and the microcode files installed on that TFTP Server.

4. Check that you can PING the TFTP server from the 8260 LEC.

- **Serial Line IP support (SLIP) mode.**
  Make sure your workstation can act as a TFTP server **.**

1. Set up a A-CPSW Configuration Console in SLIP Mode:

2. Then configuring the SLIP interface on the TFTP workstation will allow you to perform Inband Download between your workstation and the A-CPSW.

3. The SLIP connection will be broken after a reset of the A-CPSW and connection will be operational in normal mode.

1.4 Out of Band Download method

- *FPGA picocode cannot be downloaded using this method, only boot and operational.*

- *Download can only be performed on **active CPSW.***

Once you have the code on your A-disk or hard disk, and you have connected your PC on the RS232 port, using an RS232 emulated terminal, you have to type the following commands on the command line:

> MAINTAIN

> DOWNLOAD OUT-OF-BAND BOOT (or OPERATIONAL)

You then have to choose the Xmodem protocol and select the path where your code is located.

Note: This method is not recommended since it takes more time than the In-Band method.

2   Upgrading the 8260

YOU SHOULD MIGRATE YOUR NETWORK CLUSTER BY CLUSTER AND YOU
SHOULD DOWNLOAD THE FPGA CODE AND MICROCODE ON ALL YOUR 8260
AND 8285 SWITCHES (in the cluster) BEFORE PERFORMING ANY SWAP
COMMAND.

Note that interoperability between v.2.x.x clusters and v.3.x.x peer groups is possible through
NNI/IISP respectively.

- *IMPORTANT*
  The following steps are showing an example of Inband Download.
  *You may log in to the A-CPSW console either **locally** using an ASCII terminal connected
  to the A-CPSW console port, or **remotely** using a TELNET session. PLEASE, READ
  WHAT FOLLOWS CAREFULLY :*

1. If you have only one A-CPSW (no redundant) follow the steps 1 to 4 then the steps 6 to 8.

2. If you have two A-CPSWs modules (one redundant A-CPSW) follow the steps 1 to 5 for main
   A-CPSW and the steps 2 to 4 then 6 for redundant A-CPSW .Then follow the steps 6, 7 and 8 on
   main A-CPSW (see upgrade synopsis).

2.1 Step 1: Saving Configuration before the upgrade

It is recommended to perform the following steps with **NO OPERATIONAL TRAFFIC**
flowing in your ATM campus network. Typically, this would be scheduled as part of a
maintenance period. You should save all your configuration parameters before.
Before you begin the upgrade procedure we recommend to upload the configuration of each
8260 in your network :

1 Setup the TFTP parameters by entering the following commands:

   •*SET TFTP SERVER_IP_ADDRESS <ip address of the TFTP server>*

   •*SET TFTP FILE_TYPE CONFIGURATION*

   •*SET TFTP FILE_NAME*

   •*Provide the full path of the file when prompted*

2 Start the upload inband procedure by entering: UPLOAD

2.2 Step 2: Download Inband the 8260 A-CPSW operational microcode

Upgrade the new active A-CPSW operational microcode as follows:

1 Configure the TFTP parameters by entering the following commands:

- *SET TFTP SERVER_IP_ADDRESS <ip address of the TFTP server>*

- *SET TFTP FILE_TYPE OPERATIONAL*

- *SET TFTP FILE_NAME*

- *Type the full path name of the operational microcode file when prompted (its actual name is indicated in the Readme file).*

2 Make sure you can reach the TFTP server by entering:
    *PING **<ip adress of the TFTP server>***
        (Stop PING by entering: Ctrl+C)

3 Start the download inband procedure by entering:
    DOWNLOAD INBAND
        When prompted, type "Y" to confirm.

4 Wait for successful termination of the download operation. The message *Download successful* is displayed.
This may also be checked by displaying the TFTP last transfer result through the command: *"SHOW TFTP".*

The command *"SHOW DEVICE"* displays the downloaded operational code level as backup. It should display : **v. 3.2.0.**

2.3 Step 3 : Download Inband the 8260 A-CPSW FPGA picocode

This operation should be done only if your CPSW FPGA level is not uptodate, the latest level is B52.

1 Configure the TFTP parameters by entering the following commands:

- *SET TFTP SERVER_IP_ADDRESS <ip address of the TFTP server>*

- *SET TFTP FILE_TYPE FPGA*

- *SET TFTP FILE_NAME*

- *Type the full path name of the FPGA file when prompted*

- *SET TFTP TARGET_MODULE <n>* (n=9 or 11 depending of active A-CPSW position).

- *SAVE TFTP*

2 Make sure you can reach the TFTP server by entering:
     *PING **<ip adress of the TFTP server>***
       (Stop PING by entering: Ctrl+C)

3 Start the download inband procedure by entering:
     DOWNLOAD INBAND
       When prompted, type "Y" to confirm.

**4 Wait for successful termination of the download operation (it may take up to 10 minutes). The message *Download successful* is displayed.
This may also be checked by displaying the TFTP last transfer result with the command:** *"SHOW TFTP".*

The command *SHOW MODULE <n> VERBOSE* (n=9 or 11 depending on A-CPSW active position) displays the FPGA level in backup.
It should appear as B52.

2.4 Step 4: Download Inband the 8260 A-CPSW boot microcode

Upgrade the new active A-CPSW boot microcode as follows:

1 Log in as the Administrator on the A-CPSW console

2 Perform the command:

- *SET DEVICE MIGRATION NOT_ALLOWED*

3 Upgrade the A-CPSW boot microcode (Boot EEPROM) as follows:

- Configure the TFTP parameters by entering the following commands:

  - *SET TFTP SERVER_IP_ADDRESS <ip address of the TFTP server>*

  - *SET TFTP FILE_TYPE BOOT*

  - *SET TFTP FILE_NAME*

  Type the full path name of the boot microcode file when prompted (its actual name is indicated in the Readme file).

• Make sure you can reach the TFTP server by entering:
> *PING <ip address of the TFTP server>*
> *(Stop PING by entering: Ctrl+C)*

• Start the download inband procedure by entering:
> *DOWNLOAD INBAND*
> When prompted, type *"Y"* to confirm.

• Wait for successful termination of the download operation. The message Download successful is displayed.
This may also be checked by displaying the TFTP last transfer result with the command: *"SHOW TFTP"*.

The command *"SHOW DEVICE"* displays the new BOOT code version which will become active after an A-CPSW reset.
It should display: **v.3.2.0.**

If you have only one A-CPSW module go to step 6.

If you were upgrading your backup A-CPSW module go to step 6.

2.5 Step 5: Make the backup A-CPSW active

If you have a redundant A-CPSW make the backup one active by entering on the active A-CPSW:
• *SET DEVICE ROLE SECONDARY*

• *SAVE ALL*

• *RESET ATM_SUBSYSTEM*

• *Log in as the **Administrator** on the A-CPSW console*
> *The hub will reset and the backup A-CPSW will become active. **GO TO STEP 2.***

2.6 Step 6: Activate the new A-CPSW microcodes and the new FPGA picocode

DO NOT PERFORM ANY SWAP BEFORE HAVING DOWNLOADED :

1 OPERATIONAL CODE

2 FPGA CODE (If necessary)

3 BOOT CODE

4 Activate the new version of A-CPSW FPGA. picocode by entering the command:

- *SAVE ALL*

- *SWAP FPGA_PICOCODE 9 (or 11).The telnet session, if any, is broken.*

- *Login as **Administrator** on the A-CPSW console.*

5 Activate the new version of A-CPSW microcode by entering the command:

- *SWAP MICROCODE* and confirm with *Y. Your remote TELNET session is broken and you have to connect locally an ASCII terminal to the A-CPSW console port to get the connectivity again.*

- *Login as **Administrator** on the A-CPSW ASCII console.*

**6 If you do not have redundant A-CPSW, go to step 7.
If you had already swapped new FPGA picocode and microcode on both A-CPSW modules go to step 7. Check the new levels of codes .
The following table lists the microcode and FPGA versions that must be displayed at completion of the upgrade. Use the following commands**

- *SHOW DEVICE*

- *SHOW MODULE <n> VERBOSE*

Component	FPGA version	Flash EEPROM version	Boot EEPROM Version
A-CPSW	B52	v.3.2.0	v.3.2.0

Now make this A-CPSW be secondary again as it was before the beginning of the migration :

- *SET DEVICE ROLE SECONDARY*

- *SAVE ALL*

- *RESET ATM_SUBSYSTEM*

- *The hub will reset and the backup A-CPSW will become active.*

- *Perform the step 6 again on the other A-CPSW.*

2.7 Step 7: Check the new levels of codes :

1 Login as ADMINISTRATOR on the active A-CPSW console

2 The following table lists the microcode and FPGA versions that must be displayed at completion of the upgrade. Use the following commands

•*SHOW DEVICE*

•*SHOW MODULE n VERBOSE*

Component	FPGA version	Flash EEPROM version	Boot EEPROM Version
A-CPSW	B52	v.3.2.0	v.3.2.0

WARNING

Because of the major differences of operations between PNNI-1 and SSI, all your PVC are cleared, all logical links and static routes will be deleted.
Before performing any swap, record your network parameters for LOGICAL LINK, STATIC ROUTE, ATM ADDRESS and VPC (record those information on a sheet of paper):
Example for CLUSTER 1:
  1. HUBb>**SHOW LOGICAL_LINK ALL** will display
       PORT VPI ACN SIDE   MODE   SIG TRAF BWITH STATUS INDEX
        3.1   3   02   USER   ENABLE 3.1 ANY 85000   UP   1

  2. HUBb>**SHOW STATIC ROUTE** will display :
      INDEX ACN STATIC ROUTE
       1   02   39.99.99.99.99.99.99.00.00.88.88.03

  3. HUBb>**SHOW DEVICE** will display :
       ATM ADDRESS: 39.99.99.99.99.99.99.00.00.77.77.01.02.00.00.82.60.01.02.00

  4. HUBb>**SHOW PVC ALL** will display :
        port id type   Vpi/Vci Port   Vpi/Vci Hnb Party Role   QOS   Status
         1.01 4   PTM-PVC 1/50   4.01   2/40   3   0   Primary BE   Active

2.8 SET MINIMUM PNNI PHASE-1 PARAMETERS.

NOTE THAT INTEROPERABILITY BETWEEN V.2.X.X CLUSTERS AND V.3.X.X PEER-GROUPS IS POSSIBLE THROUGH NNI AND IISP LINK RESPECTIVELY.

Figure 2, represents a network configured with 8260/8285 at the ATM firmware kit level MES5099. In this example there are two subnetworks (X and Y), three clusters and four hubs, using UNI/SSI/NNI links. You should recognize in this drawing the different components of your current network.

Subnetwork X (ATM address 39.99.99.99.99.99.0.9.77.77)

Cluster 1 (ACN=1)   *Cluster 2 (ACN=2)*

WS 1   WS 2

UNI

4.3

3.2 **2.1**   **3.1**   **4.1**   **5.1**

SSI   **vpi3**   **NNI** **vpi3**

HUB a (HN=1)   **HUB b (HN=2)**   **HUB c (HN=1)**

NNI   **vpi0**

Subnetwork Y (ATM address 39.99.99.99.99.99.99.0.0.88.88)

Cluster 3 (ACN=3)

WS 3

4.3   **6.1**

HUB d (HN=1)

Figure 2. Example of a network at the ATM firware kit level(MES 5099).
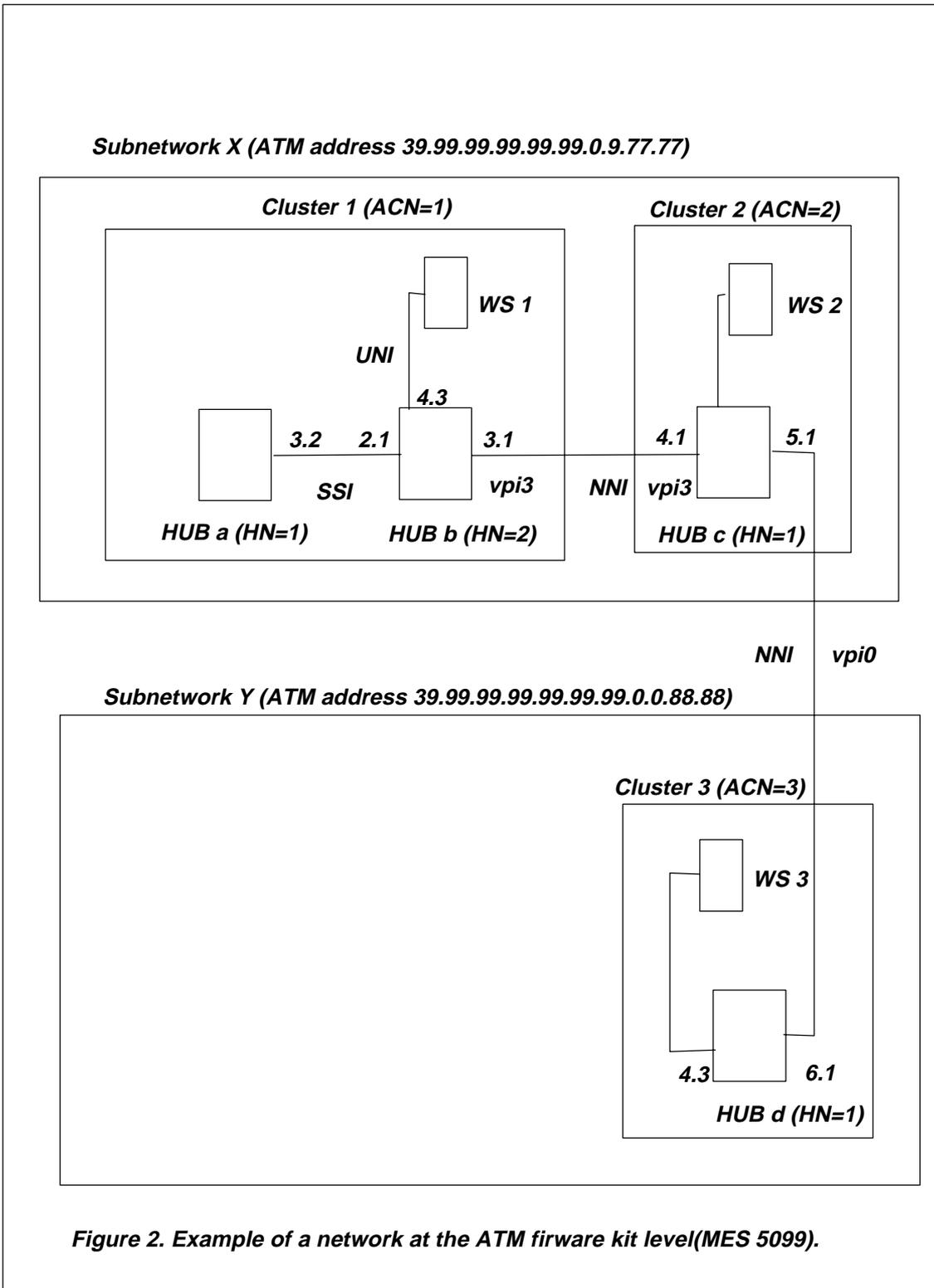
2.8 .1 Example of a migration to PNNI phase 1 (SEE FIGURE 3)

Figure 3 represents your network after migration to PNNI phase-1 (v.3.1.0).
You can note that

- *CLUSTER changes to PEER GROUP*

- *SSI changes to PNNI*

- *NNI changes to IISP.*

Subnetwork X (ATM address 39.99.99.99.99.99.0.9.77.77)

Peer Group 1   **Peer Group 2**

WS 1   WS 2

UNI

4.3

3.2   *2.1*   *3.1*   *4.1*   *5.1*

PNNI   vpc3   IISP   vpc3
             void

HUB a (HN=1)   **HUB b (HN=2)**   **HUB c (HN=1)**

IISP   vpc0

Subnetwork Y (ATM address 39.99.99.99.99.99.99.0.0.88.88)

Peer Group 3

WS 3

4.3   *6.1*

HUB d (HN=1)

Figure 3. Example of a network in level PNNI phase 1 (v.3.1.0)
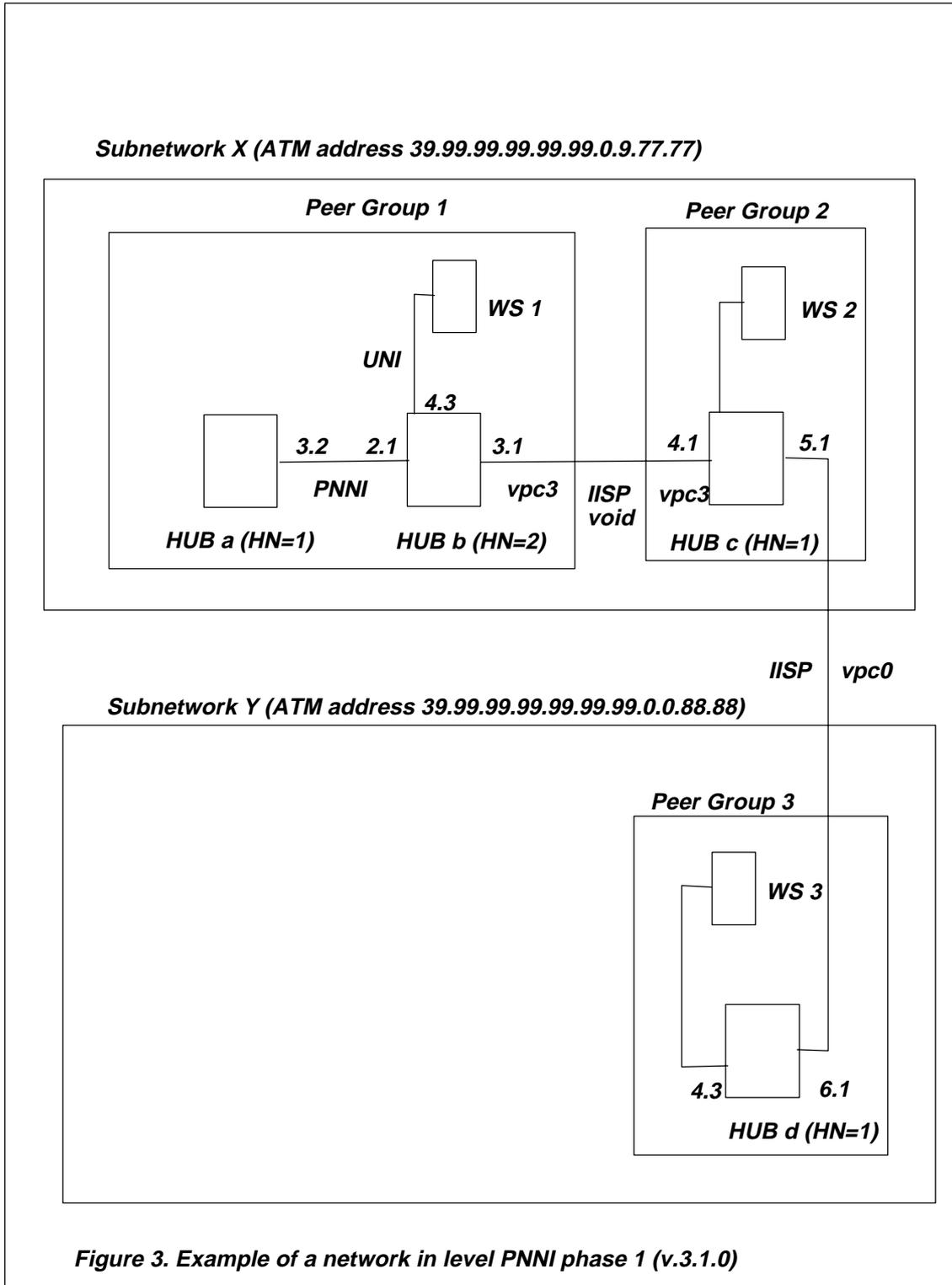
2.8 .1.1 Migration of PEER GROUP 1 - HUB a

 ---ATM ADDRESS SETTING --

 After having completed the swap, the ATM address has been migrated to the Node-0 ATM address, but the PNNI Summary Address was set to a default value. So you need to enter the old ATM address again, *with a new selector*, by issuing the following command :

  o HUBa>set pnni node_0 atm_address:
     39.99.99.99.99.99.99.00.00.77.77.01.01.00.00.82.60.01.01.**01**

  o HUBa>SHOW FUTURE_PNNI NODE_0
     Check your new ATM address.

  o HUBa>COMMIT PNNI , the 8260 will be reset
     The telnet session if any is broken.
     Login as ADMINISTRATOR on the 8260 console.

  o HUBa>SHOW PNNI NODE_0
     Check your ATM address. It will display information about : LEVEL
     ID, PEERGROUP ID, NODE ID.

 --- PORT SETTING ---

 AUTOMATICALLY MIGRATED.

 --- VIRTUAL PATH CHANNELS SETTING (VPCS) : ---------------------------------

 No VPC links need to be defined

 --- REACHABLE ADDRESS SETTING : ---

 No REACHABLE ADDRESS need to be defined

2.8 .1.2 Migration of PEER GROUP 1 - HUB b

--- ATM ADDRESS SETTING ---

> After having completed the swap, the ATM address has been migrated to the Node-0 ATM address, but the PNNI Summary Address was set to a default value. So you need to enter the old ATM address again, *with a new selector*, by issuing the following command :
>
> o HUBb>set pnni node_0 atm_address:
>   39.99.99.99.99.99.99.00.00.77.77.01.02.00.00.82.60.01.02.**01**
>
> o HUBb>SHOW FUTURE_PNNI NODE_0
>   Check your new ATM address.
>
> o HUBb>COMMIT PNNI, the 8260 will be reset
>   The telnet session if any is broken.
>   Login as ADMINISTRATOR on the 8260 console.
>
> o HUBb>SHOW PNNI NODE_0
>   Check your ATM address. It will display information about : LEVEL ID, PEERGROUP ID, NODE ID.

---- PORT SETTING ---

> After having completed the swap, the SSI port automatically became an enabled PNNI port and the NNI port became a disabled IISP port, so you need to re-enable the IISP port only:
>   1. Enable all your old NNI port (now IISP) as VOID port.
>   HUBb>SET PORT 3.1 ENABLE VOID
>
>   2. SETTING FOR UNI PORT. No change is needed for the port set as UNI before the migration, the port 4.3 of HUBb has been left after migration as UNI enabled.

--- VIRTUAL PATH CHANNELS SETTING (VPCS) : --------------------------------

For each LOGICAL LINK in v2.x.x (if VPI was not equal to 0) you must define a VPC link in v3.1.0 :

1. To set your new VPC_LINKS, YOU NEED THE V2.X.X PARAMETERS YOU
         HAVE WRITTEN DOWN IN STEP 6.
example for old CLUSTER 1 HUB b (figure2), now PEER GROUP 1,HUB b (fig 3):

   The VPI on the LOGICAL LINK 3.1 was 3.
   Use VPI 3 to set up the new VPC_LINK.
      HUBb>SET VPC_LINK 3.1 3 ENABLE IISP USER BANDWIDTH:85000

--- REACHABLE ADDRESS SETTING : --

After having completed the swap, you lose your STATIC ROUTES and LOGICAL
  LINKS

  o   Define the reachable address over the IISP link with your old static route and your
old VPI.

      example for PEER GROUP 1 HUBb (figure3):
        HUBb>SET REACHABLE_ADDRESS
        3.1 96 39.99.99.99.99.99.99.00.00.77.77.02 VPI:3
        3.1 96 39.99.99.99.99.99.99.00.00.88.88.03 VPI:3

  o   Check that your reachable address is active (Y) with the command:
      example for PEER GROUP 1 HUBb (figure3):
        HUBb>SHOW REACHABLE_ADDRESS 3.1

2.8 .1.3 Migration of PEER GROUP 2 - HUB c

--- ATM ADDRESS SETTING ---

After having completed the swap, the ATM address has been migrated to the Node-0 ATM address, but the PNNI Summary Address was set to a default value. So you need to enter the old ATM address again, *with a new selector*, by issuing the following command :

  o   HUBc>set pnni node_0 atm_address:
      39.99.99.99.99.99.99.00.00.77.77.02.01.00.00.82.60.02.01.**01**

  o   HUBc>SHOW FUTURE_PNNI NODE_0
      Check your new ATM address.

  o   HUBc>COMMIT PNNI, the 8260 will be reset
      The telnet session if any is broken.
      Login as ADMINISTRATOR on the 8260 console.

  o   HUBc>SHOW PNNI NODE_0
      Check your ATM address. It will display information about : LEVEL
      ID, PEERGROUP ID, NODE ID.

--- PORT SETTING ---

After having completed the swap, all the NNI ports will become disa-
    bled IISP ports, so you need to re-enable them : enable all your old
    NNI ports (now IISP) as VOID ports.

  1. HUBc>SET PORT 4.1 ENABLE VOID

  2. Because in the example the vpc between hubc and hubd is ZERO, you can
      define the port 5.1 as IISP:
      HUBc>SET PORT 5.1 ENABLE IISP

  3. SETTING FOR UNI PORT. No change is needed for the port set as UNI
      before the migration.

--- VIRTUAL PATH CHANNELS SETTING (VPCS) : --------------------------------

For each LOGICAL LINK in v2.x.x (if VPI was not equal to 0) you must
  define a VPC link in v3.1.0 :

  1. To set your new VPC_LINKS, YOU NEED THE V2.X.X PARAMETERS YOU
       HAVE WRITTEN DOWN IN STEP 6.

     example for old CLUSTER 2 HUBc (figure2), now PEER GROUP 2,HUB c:
     The VPI on the LOGICAL LINK 4.1 was 3.
     Use VPI 3 to set up the new VPC_LINK on PORT 4.1.
       HUBc>SET VPC_LINK 4.1 3 ENABLE IISP NETWORK
       BANDWIDTH:85000

---REACHABLE ADDRESS SETTING : ---

After having completed the swap, you lose your STATIC ROUTES and LOGICAL LINKS

  o Define the reachable address over the IISP link with your old static
     route and your old VPI.

     example to set up reachability to PEER GROUP 1 HUBb (figure3):
       HUBc>SET REACHABLE_ADDRESS
       4.1 96 39.99.99.99.99.99.99.00.00.77.77.01 VPI:3

     example to set up reachability to PEER GROUP 3 HUBd (figure3):
       HUBc>SET REACHABLE_ADDRESS
       5.1 96 39.99.99.99.99.99.99.00.00.88.88.03

  o Check that your reachable address is active (Y) with the command:
       HUBc>SHOW REACHABLE_ADDRESS 5.1
       HUBc>SHOW REACHABLE_ADDRESS 4.1

2.8 .1.4 Migration of PEER GROUP 3 - HUB d

--- ATM ADDRESS SETTING ---

   After having completed the swap, the ATM address has been migrated to the Node-0 ATM address, but the PNNI Summary Address was set to a default value. So you need to enter the old ATM address again, *with a new selector*, by issuing the following command :

   o   HUBd>set pnni node_0 atm_address:
       39.99.99.99.99.99.99.00.00.88.88.03.01.D0.E0.20.15.16.17.**19**

   o   HUBd>SHOW FUTURE_PNNI NODE_0
       Check your new ATM address.

   o   HUBd>COMMIT PNNI, the 8260 will be reset
       The telnet session if any is broken.
       Login as ADMINISTRATOR on the 8260 console.

   o   HUBd>SHOW PNNI NODE_0
       Check your ATM address. It will display information about : LEVEL
       ID, PEERGROUP ID, NODE ID.

--- PORT SETTING ---

After having completed the swap, your NNI port will become a disabled IISP port, so you need to re-enable it :
 Enable your old NNI port (now IISP) as IISP
Because in the example, the VPC between hubd and hubc is ZERO, you can define the port 6.1 as IISP:
HUBd> SET PORT 6.1 ENABLE IISP

--- VIRTUAL PATH CHANNELS SETTING (VPCS) : --------------------------------

No VPCs links need to be defined

--- REACHABLE ADDRESS SETTING : ---

After having completed the swap, you lose your STATIC ROUTES and LOGICAL
   LINKS

o   Define the reachable address over the IISP link with your old static
     route and your old VPI.

     example to set up reachability to PEER GROUP 1 HUBa and b (figure3):
       HUBd>SET REACHABLE_ADDRESS
       6.1 96 39.99.99.99.99.99.99.00.00.77.77.01

     example to set up reachability to PEER GROUP 2 HUBc (figure3):
       HUBd>SET REACHABLE_ADDRESS
       6.1 96 39.99.99.99.99.99.99.00.00.77.77.02

o   Check that your reachable address is active (Y) with the command:
       HUBd>SHOW REACHABLE_ADDRESS 6.1

--- NOW TRY TO PING.. --

   To be sure you have successfuly completed PNNI installation, in the case you have set
TCP/IP parameters in a classical IP or LAN Emulation network, enter from HUB b, PING
x.y.z.w where x.y.z.w is the HUB c ip address, then enter from HUB b, PING a.b.c.d where
a.b.c.d is the HUB d ip address.

--- MIGRATION COMPLETE ---
You have successfully completed the MES 5511 upgrade.

END OF DOCUMENT