# IBM 8265 Nways ATM Switch

# Installation Instructions

# for

# 8265 FPGA version

# 1D24_2D05_3D05_2D15

# for

# 4P155/1P622/Carrier 2.0 & 2.5

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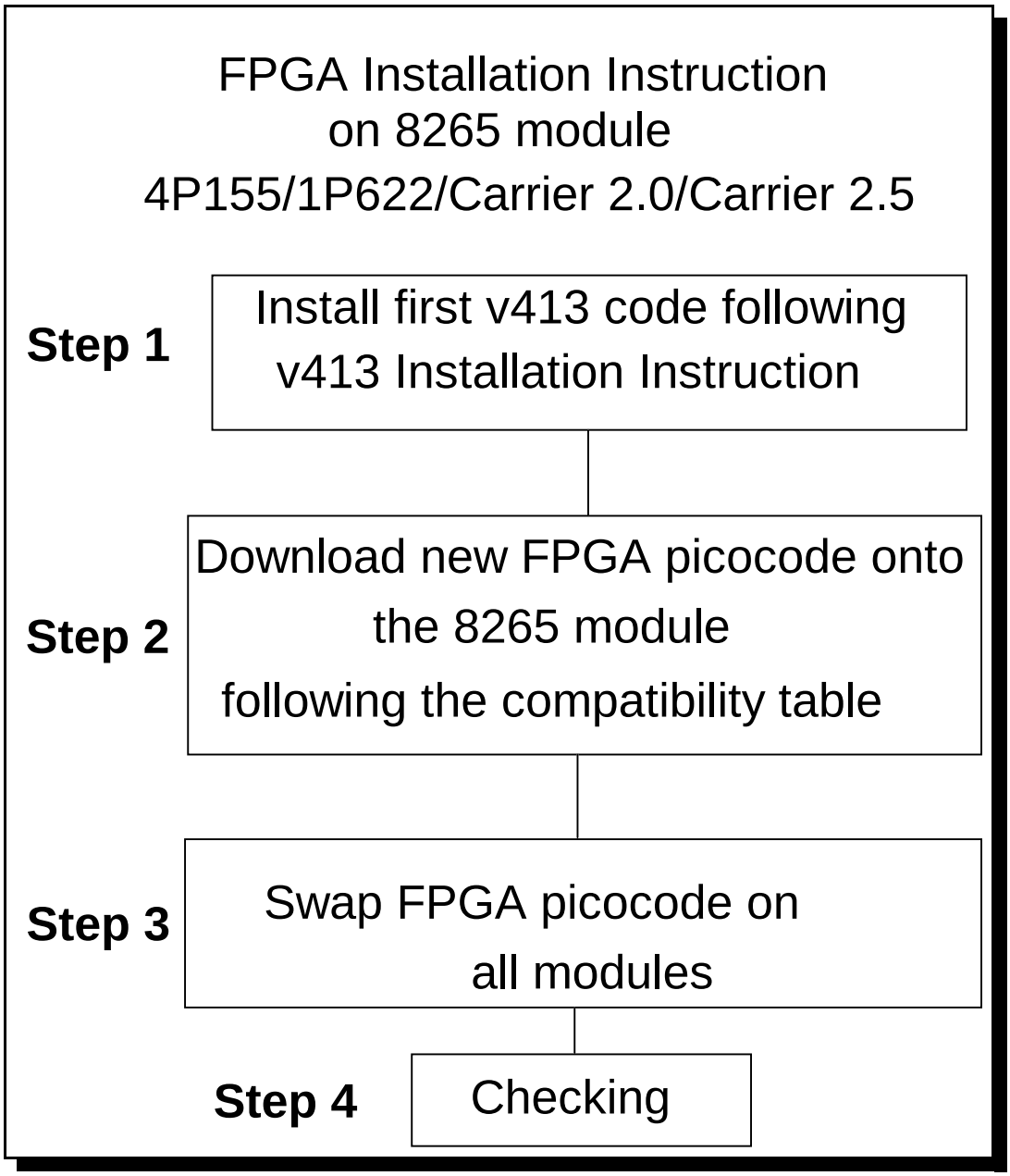
# 1 Upgrade synopsis



# 2 Code Download Method

## 2.1 Download the 8265 package files on your workstation

After the download of the files, 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 1D24.ENC***

***Enter: chmod a+r 2D05.ENC***

***Enter: chmod a+r 3D05.ENC***

***Enter: chmod a+r 2D15.ENC***

## 2.2 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 TFTP server by entering a PING command for each active 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 8265.
  2. You must configure the Ethernet or Token Ring LAN-Emulation Client on your 8265.
  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 8265 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.

- *A-CPSW RJ45 Ethernet Port*

## 2.3 Out of Band Download method

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

# 3 Upgrading the 8265

## 3.1 Step 1 : Upgrading 8265 CPSW microcode to v413

Update first the 8265 CPSW to the latest microcode level, following the V4.13 Installation Instructions.

## 3.2 Step 2 : Download Inband the FPGA picocode on each 8265 module

According to the following 8265 module compatibility table, upgrade each 8265 module.
**(refer to the according command and screen capture on next page).**

| **Module** | **Feature Code** | **Faceplate** | Oldest FPGA level | **Latest FPGA Code** |
|---|---|---|---|---|
| **155 Mbps 4P Flex module** | 6543 | A4-MB155 | 1D03/DD03/1D23<br>2D03/2D23/2D04<br>3D04 | **1D24 (1)**<br>**2D05 (2)**<br>**3D05 (3)** |
| **155 Mbps 4P MMF Integrated module** | 6540 | A4-MF155 | 1D03/DD03/1D23<br>2D03/2D23/2D04<br>3D04 | **1D24 (1)**<br>**2D05 (2)**<br>**3D05 (3)** |
| **622 Mbps 1P MMF module** | 6511 | A1-MF622 | 2D03/2D23/2D04<br>3D04 | **2D05 (2)**<br>**3D05 (3)** |
| **622 Mbps 1P SMF Module** | 6512<br>6513<br>6514 | A1-SF622 | 2D03/2D23/2D04<br>3D04 | **2D05 (2)**<br>**3D05 (3)** |
| **Carrier 2.0 module** | 6558 | A-CMU2 | 2D03/2D23/2D04<br>3D04 | **2D05 (2)**<br>**3D05 (3)** |
| **Carrier 2.5 module** | 6559<br>6560<br>6561 | A-CMU2.5S<br>A-CMU2.5A<br>A-WAN2.5 | 2D14<br>2D14<br>2D14 | **2D15 (4)**<br>**2D15 (4)**<br>**2D15 (4)** |

8265 modules have three implementations involving different families of Xilinx chips. Before downloading FPGA code to an 8265 module, perform a "show module x verbose" and note the current FPGA code level. Apply FPGA code as follows:

1. For 4P155 Mbps modules currently running FPGA 1D03, DD03 or 1D23 upgrade with FPGA **1D24**
2. For 4P155/1P622 and carrier 2.0 modules currently running FPGA 2D03, 2D23 or 2D04 upgrade with FPGA **2D05**
3. For 4P155/1P622 and carrier 2.0 modules currently running FPGA 3D04, upgrade with FPGA **3D05**
4. For carrier 2.5 module currently running FPGA 2D14, upgrade with FPGA **2D15**

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

*• SET TFTP FILE_TYPE FPGA*

*•SET TFTP TARGET_MODULE n* **(n is the module slot number)**

*• SET TFTP FILE_NAME*

*• Download inband*

*• Type the full path name of the FPGA picocode file when prompted (its actual name is indicated in the Readme file).* **This operation must be repeated for each 8265 module, FPGA download duration needs around 3mn.** Find here after a screen capture**.**

```
8265ATM> set tftp server_ip_address 9.100.68.99
TFTP server set.
8265ATM>
8265ATM> set tftp file_type fpga
File type set
8265ATM>
8265ATM> set tftp file_name
Enter file name:
c:\FPGA\3D05.enc
File name set
8265ATM>
8265ATM> set tftp target_module 1

8265ATM> show tftp

TFTP Parameters:
Server IP address    : 9.100.68.99.
File Name            : c:\FPGA\3D05.enc.
File type            : FPGA version.
Target module        : 1.
Last Transfer Date   : 1 June 1999.
Last Transfer Result : This file has not been transferred yet.

8265ATM> download inband
You are about to download a new version.
Are you sure ? (Y/N) Y
Erasing flash memory.
Opening file c:\w412\3D05.enc on server 192.168.69.99.
Receiving TFTP packets (typing Ctrl+C terminates the transfer)
File length: 196608 bytes.
195584.....
  Data write terminated, checking underway.
Download successful.
```

```
8265ATM> show module 1 verbose

Slot Install Connect Operation General Information
-------------------------------------------------------------------------------
 1     Y       Y       Y     8265 ATM 4 ports 155 Mbps Module


status: connected / hardware okay
        enable  / Normal
P/N:02L3472 EC level:F12520 Manufacture: 930
Operational FPGA version : 3D04
    Backup FPGA version : 3D05

     Type Mode     Status
-------------------------------------------------------------------------------
1.01: UNI enabled  UP
1.02: UNI enabled  UP
1.03: UNI enabled  UP
1.04: UNI enabled  UP
```

## 3.3 Step 3 : Swap FPGA picocode

This operation should be done after the FPGA has been uploaded on all impacted 8265 modules.

Enter the following commands:

• *Swap FPGA_picocode 1 13* **(i.e where 1 and 13 are the module slot number on which the new FPGA code has been downloaded), if 14 modules have been upgraded,** *swap_FPGA_picocode 1 2 3 4 5 6 7 8 12 13 14 15 16 17* **command must be issued.*(see following sample screen capture).***

When prompted, type "Y" to confirm.

Wait for successful termination of the swap operation. Note that the swap is done sequentially, one module at a time, may take up to thirty (30) seconds per module**.** The message *Swap completed* is displayed after each swap.

```
8265ATM> swap fpga_picocode 1 13
You are about to change operational FPGA version..
Are you sure ? (Y/N) Y
Processing slot  1 ... Swap completed.
Processing slot 13 ... Swap completed.
```

## 3.4 Step 4 : Checking

- *8265 CPSW code checking*
  - *Show device*
  - *Show module n verbose (where **n** is 9 or 11)*

| Component | FPGA version | Flash EEPROM version | Boot EEPROM Version |
|---|---|---|---|
| A-CPSW FC6501 | **1D13** | **v4.1.3** | **v4.1.3** |
| A-CPSW FC6502 | **2D13** | **v4.1.3** | **v4.1.3** |

- *8265 FPGA module picocode checking*
  - *Show module all verbose (refer to the following screen capture example).*

```
8265ATM> show module 1 verbose

Slot Install Connect Operation General Information
-------------------------------------------------------------------------------
 1    Y         Y          Y       8265 ATM 4 ports 155 Mbps Module
status: connected / hardware okay
       disable / Normal
P/N:02L3071 EC level:E46641 Manufacture: 930
Operational FPGA version : 1D24
    Backup FPGA version : 1D23

        Type  Mode       Status
-------------------------------------------------------------------------------
 1.01: UNI enabled      UP
 1.02: UNI enabled      UP
 1.03: UNI enabled      UP
 1.04: UNI enabled      UP

8265ATM> show module 13 verbose
Slot Install Connect Operation General Information
-------------------------------------------------------------------------------
 13    Y       Y       Y    8265 ATM 4 ports 155 Mbps Module
status: connected / hardware okay
       enable  / Normal
P/N:02L3472 EC level:F12520 Manufacture: 930
Operational FPGA version : 3D05
    Backup FPGA version  : 3D04
        Type  Mode     Status
-------------------------------------------------------------------------------
13.01: UNI enabled  UP
13.02: UNI enabled  UP
13.03: UNI enabled  UP
13.04: UNI enabled  UP
```

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