

1. Connect one Host PC and DSLAM directly or on local LAN by switch.

If you use VigorAccess Master, please make sure you use G5 or G6 to connect Host PC. That means G5 or G6 are set to uplink and status on.

2. Prerequisite.

Prepare one DHCP Server and TFTP Server on Host PC. I download them from <http://www.weird-solutions.com/>. The trial version of DHCP Turbo and TFTP Turbo can be used on limited session.

You also can choice other DHCP and TFTP Server. But to download firmware from network successfully, the correct configuration of DHCP is crucial. I recommend you use the DHCP Turbo and follow my step. You can use other TFTP Server as you like.

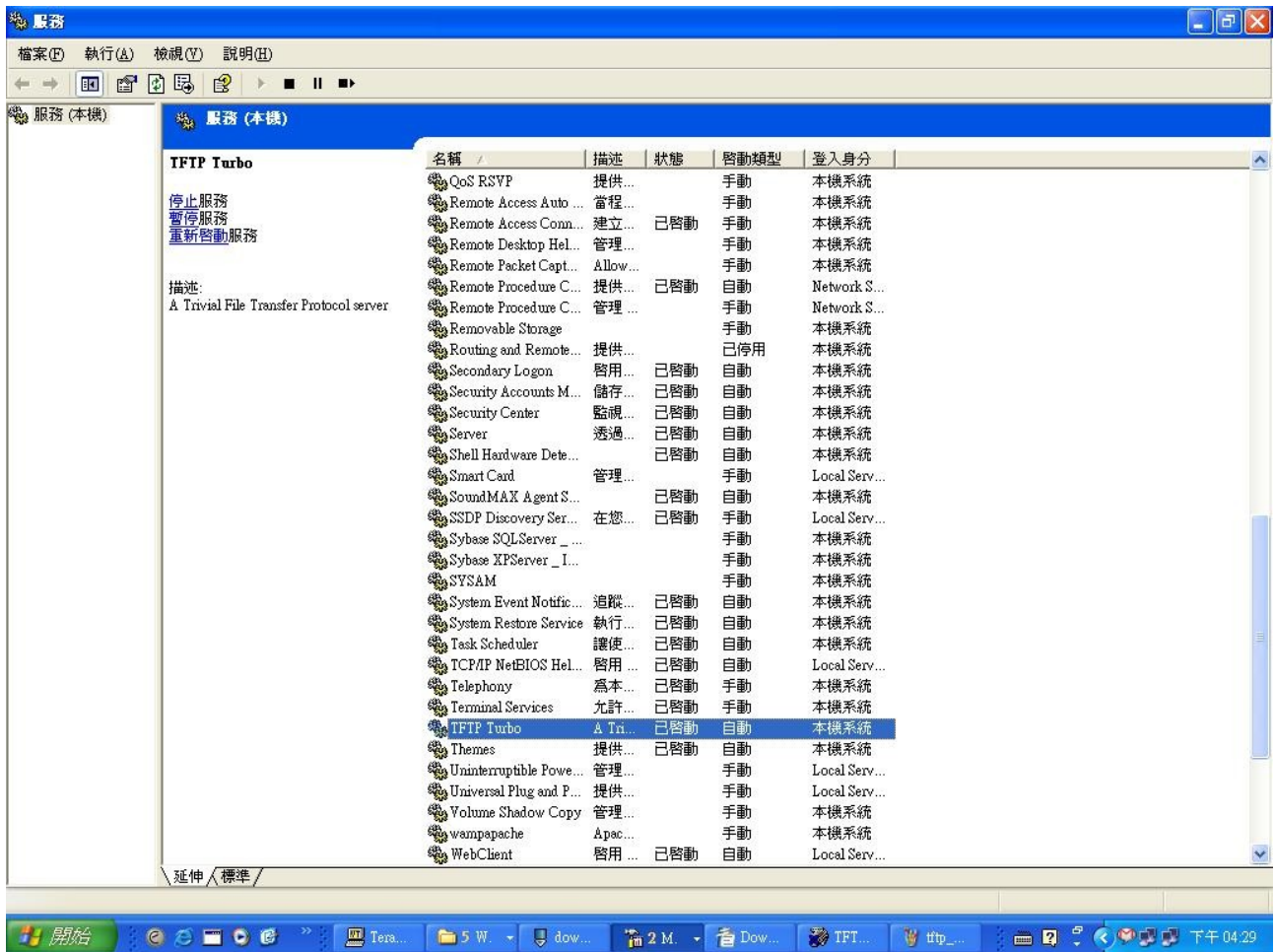
After downloading them, please install them like normal Windows application (always click next step on install) on Host PC.

3. Configure TFTP Server.

The configuration of TFTP Server is simple. You just need to make sure you TFTP server is running and put the correct firmware on the TFTP directory. You need to put CP.bin.gz, DP.bin.gz, FD.cfg, Manuf.txt, and TEImage-A24-W-XYZ-Version.bin.gz. W on file name can be A or B. A means AnnexA and B means AnnexB. XYZ on filename can be 1GE or 2FE. 1GE means Giga Interface on uplink and 2FE means Ethernet interface on uplink. You might get CP-A24-W-XYZ-Version.bin.gz rather CP.bin.gz. Please copy and rename it to CP.bin.gz. Please make sure your VigorAccess type and put the correct files. For instance, you need to put all these files on <TFTP Turbo Install Dir>\tftp_root if using TFTP Turbo for AnnexB and 1GE VigorAccess.

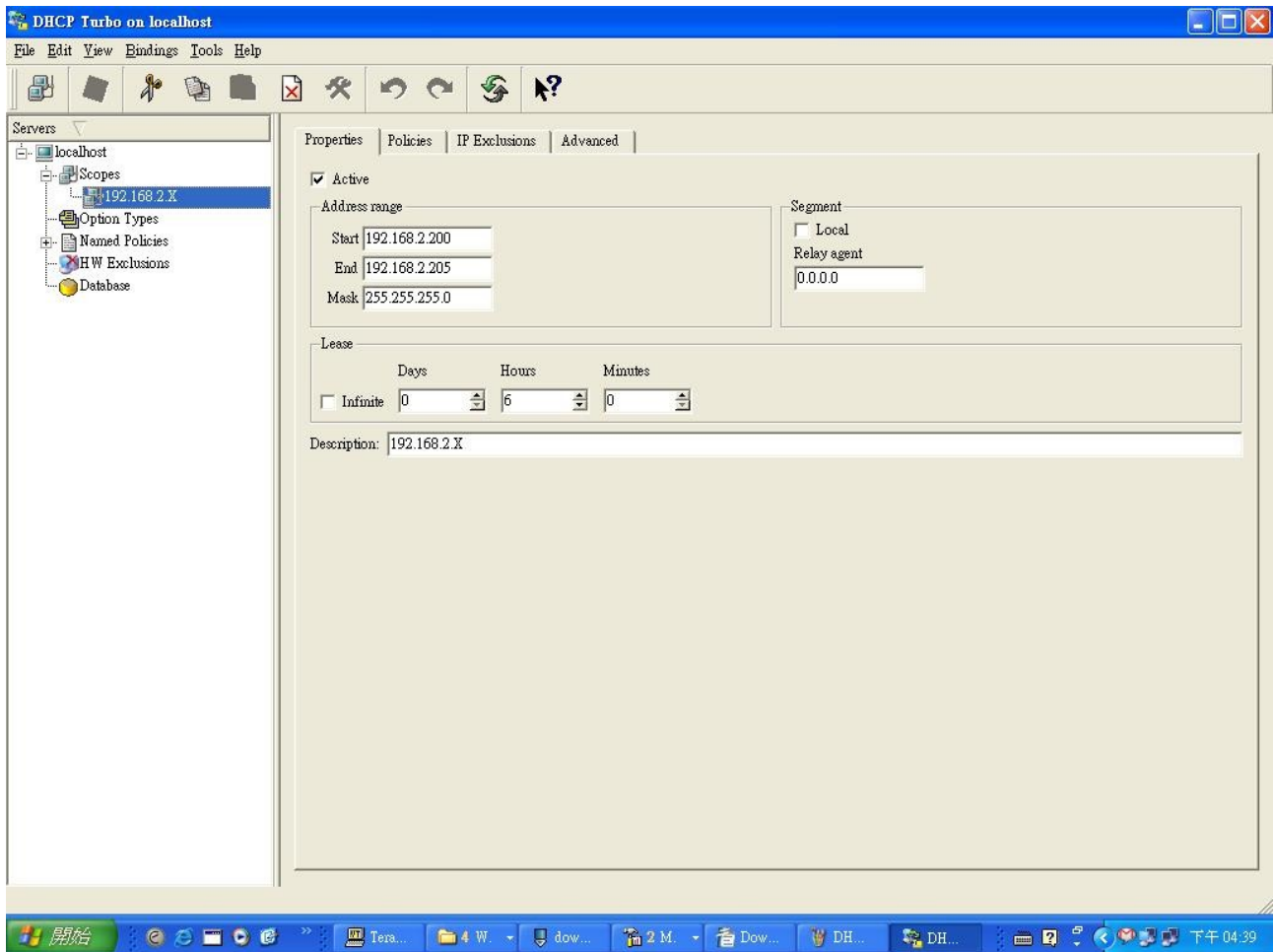


After put files, make sure the TFTP Turbo is running.

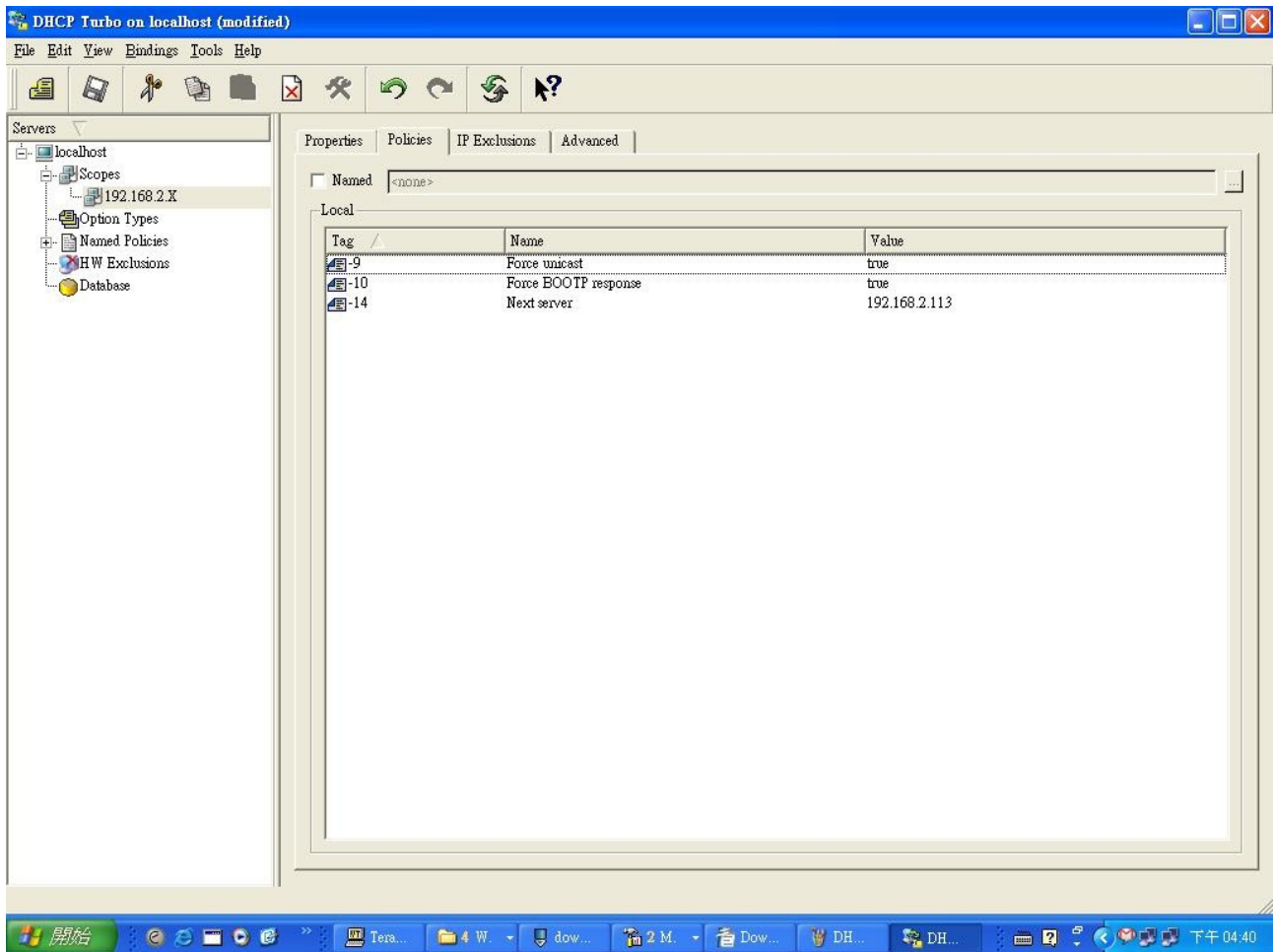


4. Configure DHCP Server.

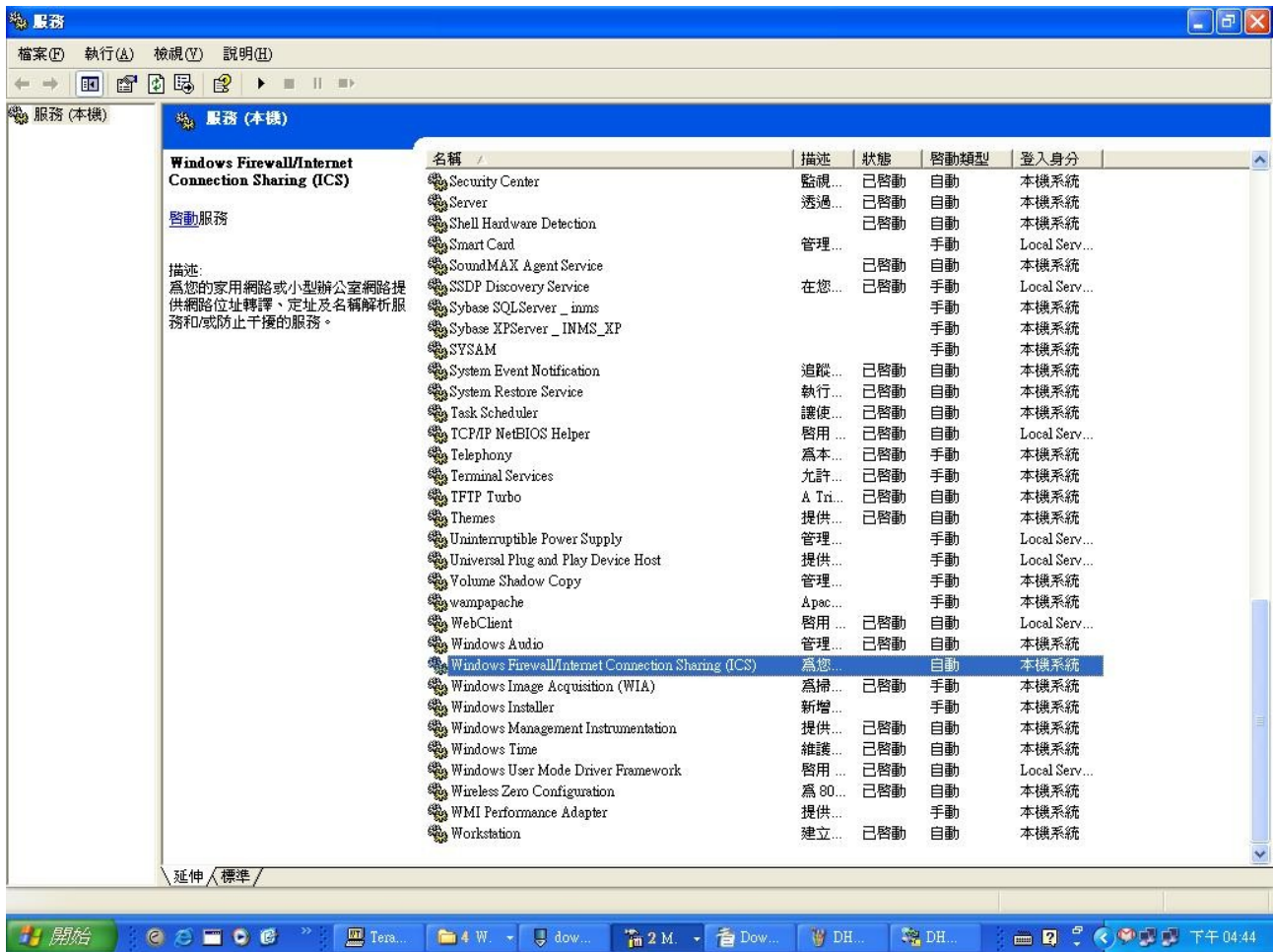
You need to add a new scope and configure the range IP address.



Besides the regular configuration of DHCP Server, you need to add three options on DHCP Server. First, option -9 of Force unicast is true. Second, option -10 of Force BOOTP response is true. Finally, option -14 of Next server is IP address of your TFTP Server. Please refer to the attached diagram about those setting on DHCP Turbo.



5. If you have two NIC on Host PC. Please turn off the NIC which is not connecting to DSLAM temporarily in case that DHCP Turbo and TFTP Turbo use the wrong NIC.
6. Finally, do not forget to turn off Windows firewall. This is very important. Windows firewall will ban the DHCP packet. You will find nothing happened if you forget to disable the Windows firewall. Now you can power on the device to start download firmware from network.



7. If you see the following result on your console, the firmware is downloaded from network successfully.

```
*****
Welcome to IP DSLAM
*****
```

Software Release: A24-A-1GE-2.10.2.11.4 Date: Aug 10 2007

```
$
Thu Jan 01 00:00:15 1970 : STATUS ALARM : System Up
```

Unfortunately, the firmware is only on RAM not on Flash. As a result, you have to do the firmware upgrade. Since firmware from network can be many kinds of situations as I met, I suggest to use TEImage will be the most easy way. The procedure goes follows:

```
$mac show
```

This command will show the mac address of the device. TEImage will erase everything on flash. Please remember your mac address first.

```
$reboot config safe
```

This device will reboot on safe mode. Please keep your DHCP and TFTP server. The device will need to download the needed file again.

```
$create ethernet intf ifname eth-0 ip <IP Address> mask <MASK>
```

After reboot, the device start up on safe mode. The first thing is to create a network interface to communicate with Host PC. The subnet must be the same as Host PC.

\$download src TEImage-A24-B-1GE-2.10.2.11.4.bin.gz dest /nvram/image/ ip <TFTP Server IP>
Really download the TEImage right now.
\$reboot
After downloaded TEImage, reboot the device again.
\$mac burnin <MAC ADDRESS>

The following is an example of a AnnexA 1GE VigorAccess.
You saw the console with the following message:

```
*****  
IP DSLAM BootStrap  
*****
```

```
Initializing Columbia Memories..... Success  
Press F1 to enter Interactive Mode, 'Enter' to skip .... 5 seconds left  
Transferring Control to BootTftp binary
```

```
Flash Present In System.....
```

```
.....  
CP is not active  
Primary Ethernet Interface for TFTP :- eth-0  
No Secondary Ethernet Interface specified for TFTP  
Primary Ethernet interface had a problem, no valid secondary ethernet interface  
specified
```

```
System shall retry to TFTP from the primary ethernet interface  
Primary Ethernet interface had a problem, no valid secondary ethernet interface  
specified
```

It looks like CP is gone. The only way to recovery by network boot.

Host PC is 192.168.2.113. TFTP Turbo and DHCP Turbo are installed and configured like the previous description.

The result on Vigor Access:

```
*****  
IP DSLAM BootStrap  
*****
```

```
Initializing Columbia Memories..... Success  
Press F1 to enter Interactive Mode, 'Enter' to skip .... 5 seconds left  
Transferring Control to BootTftp binary
```

```
Flash Present In System.....
```

```
.....
```

CP is not active
Primary Ethernet Interface for TFTP :- eth-0
No Secondary Ethernet Interface specified for TFTP
TFTPping Columbia Package Binary...

Package not found
Package not found
Package not found
Package not found
Package not found
TFTP error packets received in succession
Primary Ethernet interface had a problem, no valid secondary ethernet interface specified

System shall retry to TFTP from the primary ethernet interface
TFTPping Columbia Package Binary...

Package not found
Package not found
Package not found
Package not found
Package not found
TFTP error packets received in succession
Primary Ethernet interface had a problem, no valid secondary ethernet interface specified

System shall retry to TFTP from the primary ethernet interface
TFTPping Columbia Package Binary...

Package not found
Package not found
Package not found
Package not found
Package not found
TFTP error packets received in succession
Primary Ethernet interface had a problem, no valid secondary ethernet interface specified

System shall retry to TFTP from the primary ethernet interface
TFTPping Columbia Package Binary...

Package not found
Package not found
Package not found
Package not found
Package not found
TFTP error packets received in succession

Primary Ethernet interface had a problem, no valid secondary ethernet interface specified

System shall retry to TFTP from the primary ethernet interface

Primary Ethernet Interface for TFTP :- eth-0
No Secondary Ethernet Interface specified for TFTP
TFTPing Control Plane Binary...

#####

All the files have been successfully received.....
An active copy of Control Plane was found in SDRAM
Unzipping the Control Plane.....

.....

Transferring Control to Ctrl Plane Binary

Free Memory available in SDRAM-A is 0x35a780
System coming up in normal mode...

Locking Control Plane Text Start: 0x4923000 End: 0x4e69d30
Allocatiing System Memory fom SDRAM-E
total memory Free in SDRAM E = 196608
total memory Free in SDRAM D = 0

total memory Free in SDRAM B = 3280
Flash scanning in progress

.....

FLASH program starts at ADDR 60000

#####

CdbNvm:- Configuration Size is 1345340
CdbNvm:- NVM CFG1 size 262032
CdbNvm:- NVM CFG2 size 262032

The uncompress location for data plane is 0x400b000
Cin:- DataPlane present in NVRAM

Cin- Uncompressing Dataplane
Uncompressing "DP.bin.gz" (382933->848776) Done

Locking Text Area DP Text Start: 0x4818000 CP Text End : 0x4e69d30
CfgInit: System Coming up from Last Configuration

Uncompress:- UnZipLen: 59201, ZipLen: 5151
Initializing DataPlane
DataPlane Initialized successfully
Updating System Version.....
Block 31 erase in progress
.....Flash block 31 erase successful...

FLASH program starts at ADDR 3e0000

#####

Uncompress:- UnZipLen: 59201, ZipLen: 5151The DSL binary file to be opened is ds
l_10_330000003C00000D.bin.gz

The DSL bin size is 254160

Loading The system.....

Loading system over.....

Initializing system.....

Initializing system over.....

Welcome to IP DSLAM

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\$

Thu Jan 01 00:01:04 1970 : STATUS ALARM : System Up

\$mac show

MAC ADDR1 00:BB:CC:DD:EE:FF

\$reboot config safe

Block 31 erase in progress

.....Flash block 31 erase successful...

FLASH program starts at ADDR 3e0000

#####

Rebooting.....?

IP DSLAM BootStrap

Initializing Columbia Memories..... Success

Press F1 to enter Interactive Mode, 'Enter' to skip 5 seconds left

Transferring Control to BootTftp binary

Flash Present In System.....

.....

CP is not active

Primary Ethernet Interface for TFTP :- eth-0

No Secondary Ethernet Interface specified for TFTP

TFTPing Columbia Package Binary...

Package not found

Package not found

Package not found

Package not found
Package not found
TFTP error packets received in succession
Primary Ethernet interface had a problem, no valid secondary ethernet interface specified

System shall retry to TFTP from the primary ethernet interface
TFTPing Columbia Package Binary...

Package not found
Package not found
Package not found
Package not found
Package not found
TFTP error packets received in succession
Primary Ethernet interface had a problem, no valid secondary ethernet interface specified

System shall retry to TFTP from the primary ethernet interface
TFTPing Columbia Package Binary...

Package not found
Package not found
Package not found
Package not found
Package not found
TFTP error packets received in succession
Primary Ethernet interface had a problem, no valid secondary ethernet interface specified

System shall retry to TFTP from the primary ethernet interface
TFTPing Columbia Package Binary...

Package not found
Package not found
Package not found
Package not found
Package not found
TFTP error packets received in succession
Primary Ethernet interface had a problem, no valid secondary ethernet interface specified

System shall retry to TFTP from the primary ethernet interface

Primary Ethernet Interface for TFTP :- eth-0
No Secondary Ethernet Interface specified for TFTP
TFTPing Control Plane Binary...

#####

All the files have been successfully received.....
An active copy of Control Plane was found in SDRAM
Unzipping the Control Plane.....

.....
.....

Transferring Control to Ctrl Plane Binary

Free Memory available in SDRAM-A is 0x35a780
System coming up in normal mode...

Locking Control Plane Text Start: 0x4923000 End: 0x4e69d30
Allocatiing System Memory fom SDRAM-E
total memory Free in SDRAM E = 196608
total memory Free in SDRAM D = 0

total memory Free in SDRAM B = 3280
Flash scanning in progress

.....
CdbNvm:- Configuration Size is 1345340
CdbNvm:- NVM CFG1 size 262032
CdbNvm:- NVM CFG2 size 262032

CfgInit: System Coming up from Safe Configuration

Welcome to IP DSLAM

Software Release: A24-A-1GE-2.10.2.11.4 Date: Aug 10 2007

\$
Thu Jan 01 00:00:07 1970 : STATUS ALARM : System Up

\$create ethernet intf ifname eth-0 ip 192.168.2.1 mask 255.255.255.0

Entry Created

Warning: Entry created with default values for some specified parameters

\$
Thu Jan 01 00:00:14 1970 : STATUS ALARM : ETHER Interface Up : Interface - eth-0

\$download src TEImage-A24-A-1GE-2.10.2.11.4.bin.gz dest /nvram/image/ ip 192.168
.2.113

Downloading the File...

.....
.....
.....
.....

Mxu shall come up in normal mode
All the files have been successfully received.....
Active copy of Ctrl Plane Bin was found in flash
Unzipping the Control Plane.....

.....
.....
Transferring Control to Ctrl Plane Binary...

Free Memory available in SDRAM-A is 0x35a780
System coming up in normal mode...

Locking Control Plane Text Start: 0x4923000 End: 0x4e69d30
Allocatiing System Memory fom SDRAM-E
total memory Free in SDRAM E = 196608
total memory Free in SDRAM D = 0

total memory Free in SDRAM B = 3280
Flash scanning in progress

.....
Init Crash Device
Block 31 erase in progress
.....Flash block 31 erase successful...

FLASH program starts at ADDR 3e0000

Repairing CrashInfo Device.....Success

FLASH program starts at ADDR 360000
#####

FLASH program starts at ADDR 380000
#####

FLASH program starts at ADDR 3a0000
#####

FLASH program starts at ADDR 3c0000
#####

No space available in flash for requested device size

The device won't be used

CdbNvm:- Configuration Size is 1345340
CdbNvm:- NVM CFG1 size 262032
CdbNvm:- NVM CFG2 size 262032
NVM_DEV_LOGS open fails

The uncompress location for data plane is 0x400b000
Cin:- DataPlane present in NVRAM

Cin- Uncompressing Dataplane
Uncompressing "DP.bin.gz" (382933->848776) Done

Locking Text Area DP Text Start: 0x4818000 CP Text End : 0x4e69d30
CfgInit: System Coming up from Default Configuration

Initializing DataPlane
DataPlane Initialized successfully
Updating System Version.....
Block 31 erase in progress
.....Flash block 31 erase successful...

FLASH program starts at ADDR 3e0000

Cin:- Factory Default File received from NVRAM
The DSL binary file to be opened is dsl_10_330000003C00000D.bin.gz
The DSL bin size is 260800
Loading The system.....
Loading system over.....
Initializing system.....
Initializing system over.....

Welcome to IP DSLAM

Software Release: A24-A-1GE-2.10.2.11.4 Date: Aug 10 2007

\$
Thu Jan 01 00:01:03 1970 : STATUS ALARM : System Up

\$mac burnin 00:BB:CC:DD:EE:FF
Burnin Mac Address: 00:BB:CC:DD:EE:FF for MAC1
MAC Burnin OK
\$\$do change system mac port 0 macaddr 00:BB:CC:DD:EE:FF

Unlocking the bootloader blocks....
Unlocking Flash....
Locking BootTftp binary blocks....
Block 1 locked
Block 2 locked

Block 0 erase in progress
.....Flash block 0 erase successful...
Boot Config Patching in progress....

FLASH program starts at ADDR 0
#####Locking Bootloader block(s)....
Block 0 locked
\$exit
\$