

Using TFTP Server to Update DeviceMaster firmware

Disable the DeviceMaster drivers in the PC as this will prevent conflicts between the driver and this procedure. In Driver Management Console right click the DeviceMaster and select 'Disable' from the pop-up menu

Required Files

Download from Control the Firmware files needed or as recommended by Control Tech Support.

PortVision DX

ftp://ftp.control.com/dev_mstr/portvision_dx (portvivison_dx_x.xx.msi)

Bootloader:

ftp://ftp.control.com/dev_mstr/rts/software/bootloader/ (bootloader-x.xx.cmtl)

SocketServer firmware for socket communications:

ftp://ftp.control.com/dev_mstr/rts/software/socketserver/ (socketserver-x.xx.cmtl)

Please note: SocketServer and NS-Link have been incorporated into a single file with the new extension of .cmtl. By default, once loaded, the file will show SocketServer in both the web page and PortVision DX until a driver begins communication with this particular DeviceMaster. Once a driver establishes communications, the firmware will immediately indicate that it is NS-Link without the driver having to upload that firmware to the DeviceMaster or the DeviceMaster being rebooted as in the past. If SocketServer does not change to NS-Link, then a driver loaded in the PC is NOT in communication with the DeviceMaster.

Download from Control the appropriate version of the Tftpdxx server:

32bit system: ftp://ftp.control.com/contribs/utilities/3rd_party_utils_free/tftp_server/tftpd32.400.zip

64bit system: ftp://ftp.control.com/contribs/utilities/3rd_party_utils_free/tftp_server/tftpd64.400.zip

You may use another TFTP server or software should you already have one These instructions will use a freeware version that for your convenience are available from the Control site or from the vendor at:

http://tftpd32.jounin.net/tftpd32_download.html

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Chapter 2 (page3): [Install and Setup the TFTP Server](#)

Chapter 3 (page4): [Set the BootLoader Timeout](#)

Chapter 4 (page6): [Upload the Firmware](#)

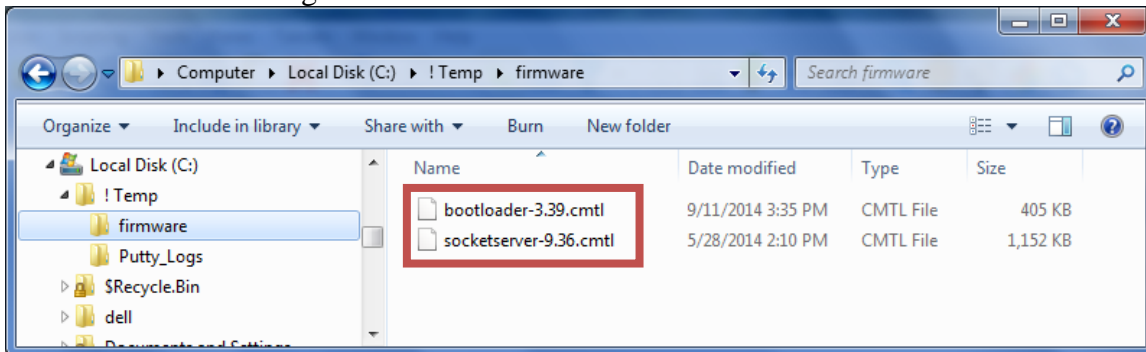
Chapter 5 (page8): [Confirm the success of the update](#)

Chapter 6 (page9): [Reset the BootLoader Timeout Value](#)

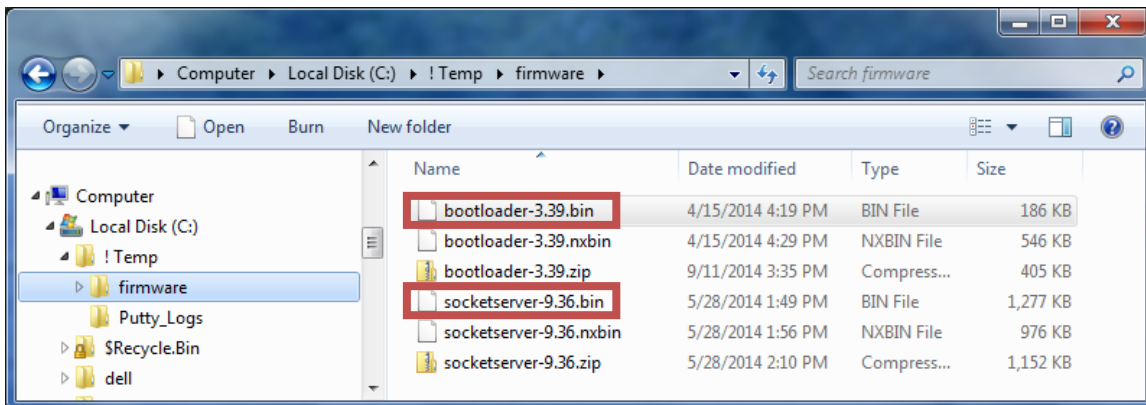
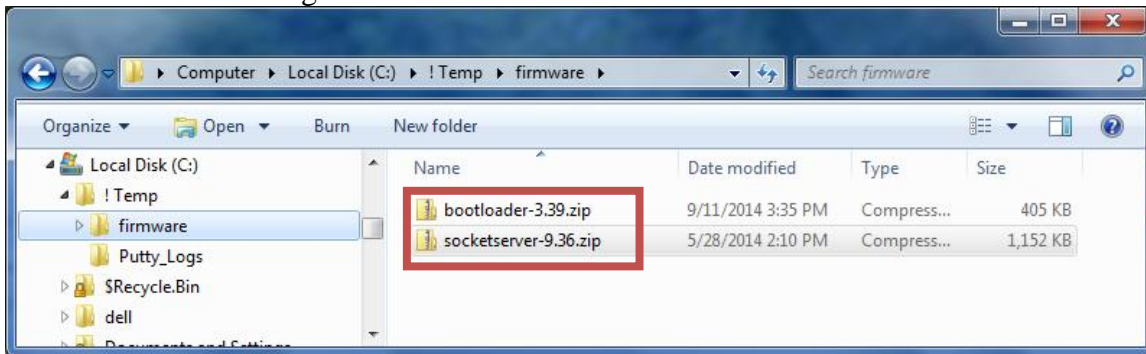
Rename and Extract the SocketServer and Bootloader Firmware.

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Once downloaded change the extension of the SocketServer and Bootloader files from .cmtl to .zip



Once downloaded change the extension of the SocketServer and Bootloader files from .cmtl to .zip



Unzip the renamed files.

You will have 2 SocketServer files and 2 Bootloader files unzipped - Note the extensions of .bin and .nxbin. The .bin file will be used with RTS, SerialHub and PRO DeviceMaster's. The .nxbin file will be used with ONLY the DeviceMaster LT16 model of the DeviceMaster.

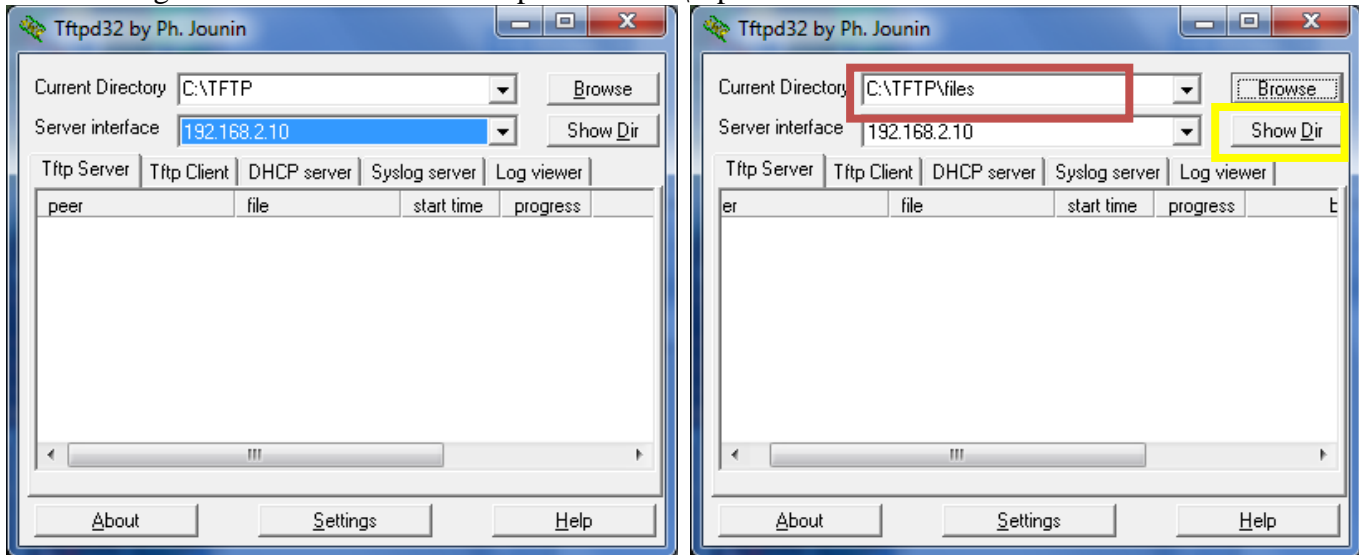
Install and Setup the TFTP Server

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Create a directory to extract the tftpdxx.400.zip to.

In this example we will create a directory in the 'C' drive root called TFTP. In the TFTP folder create a sub folder called 'files'.

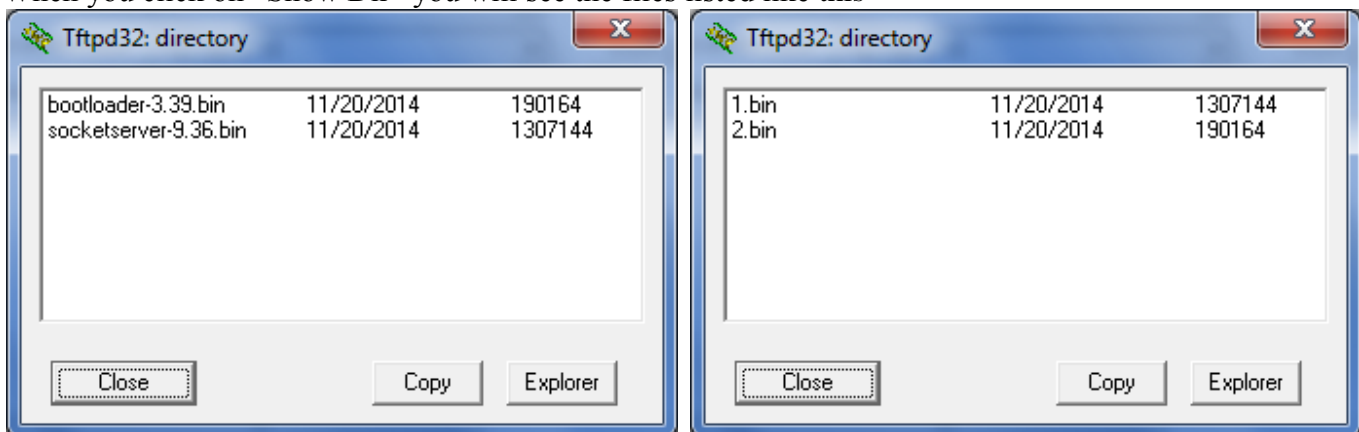
Extract the tftpdxx.400.zip to this directory. There is no install or setup to run. Once extracted, run the tftp32(64).exe file. It should look something like this showing the directory that it is running from and the IP address assigned to the PC. In this example that is C:\tftp and the Server interface 192.168.2.10.



Click on the Browse button and browse to the 'files' sub folder created earlier.

Copy the SocketServer and Bootloader bin files to the *C:\TFTP\files* directory.

When you click on "Show Dir" you will see the files listed like this



Close the window and go to Windows Explorer to rename the files.

For simplicity, rename the SocketServer file to 1.bin to save some effort typing the command line later.

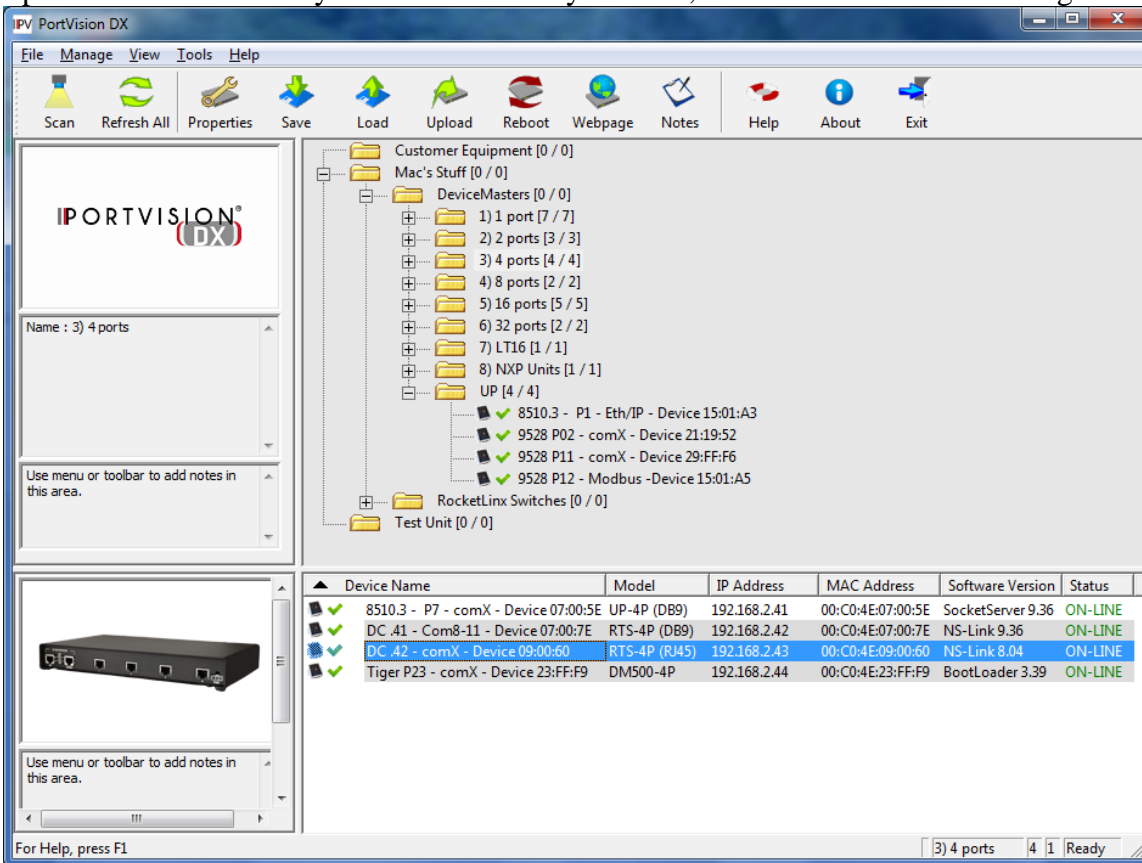
For simplicity, rename the Bootloader file to 2.bin to save some effort typing the command line later.

Here you can see the SocketServer-x.xx.bin file has been renamed to 1.bin. The Bootloader file has been renamed to 2.bin as seen here using the "Show Dir" button in TFTP.

Set the BootLoader Timeout

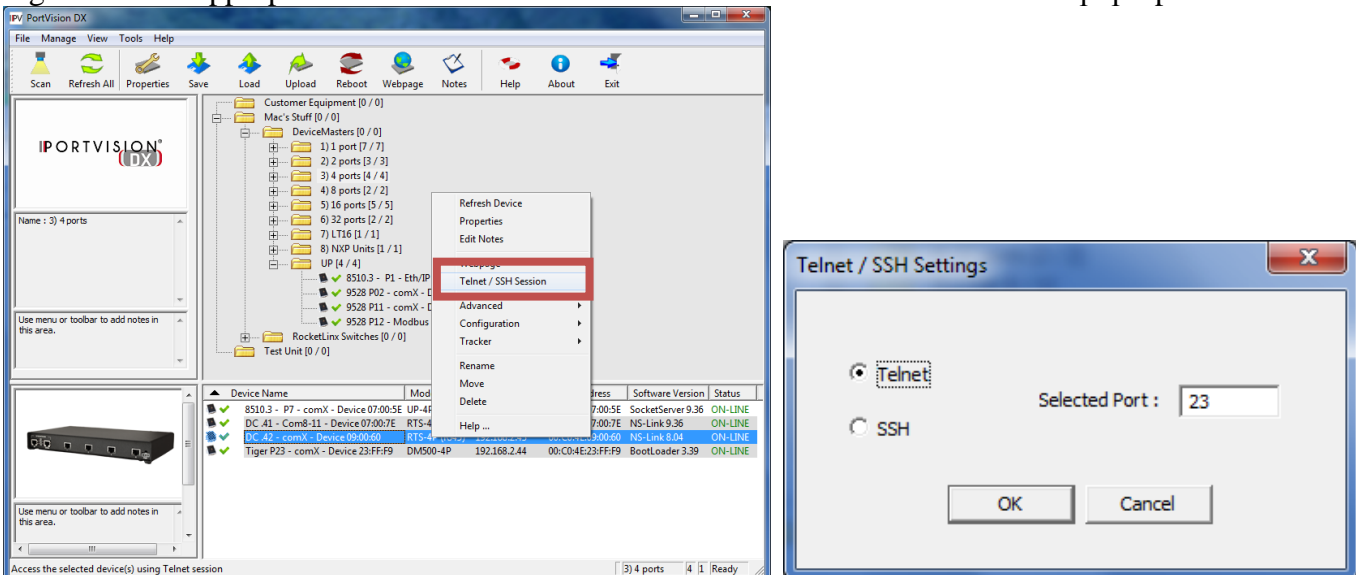
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Open PortVision DX. If you have not already done so, add the DeviceMaster listing to PortVision DX.



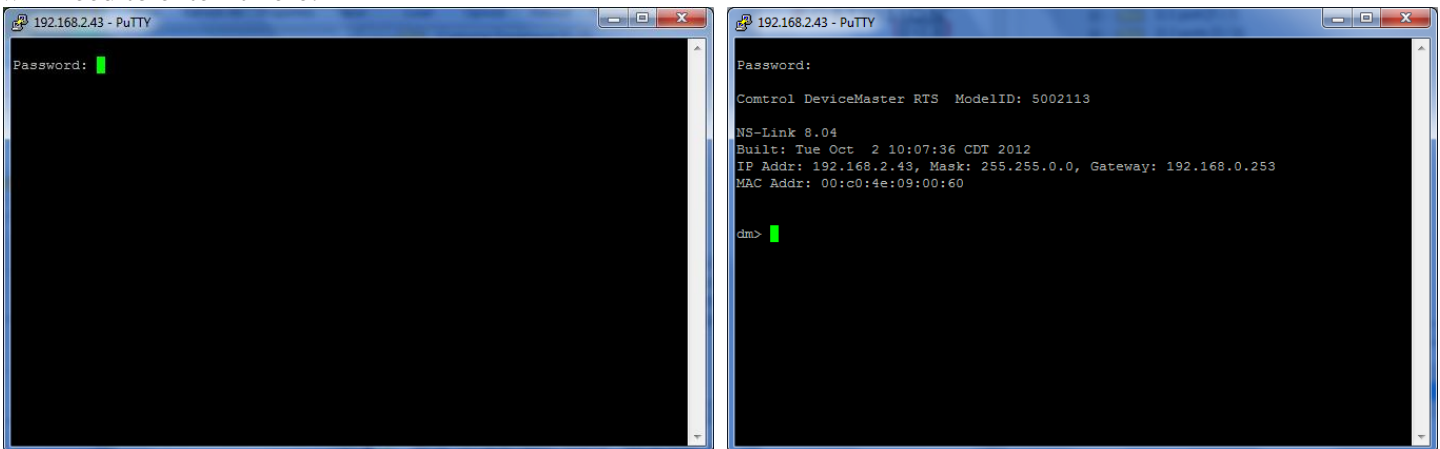
Here you can see that some units have already been updated. We will be updating the highlighted unit.

Right click the appropriate DeviceMaster and select "Telnet/SSH Session" from the pop-up menu

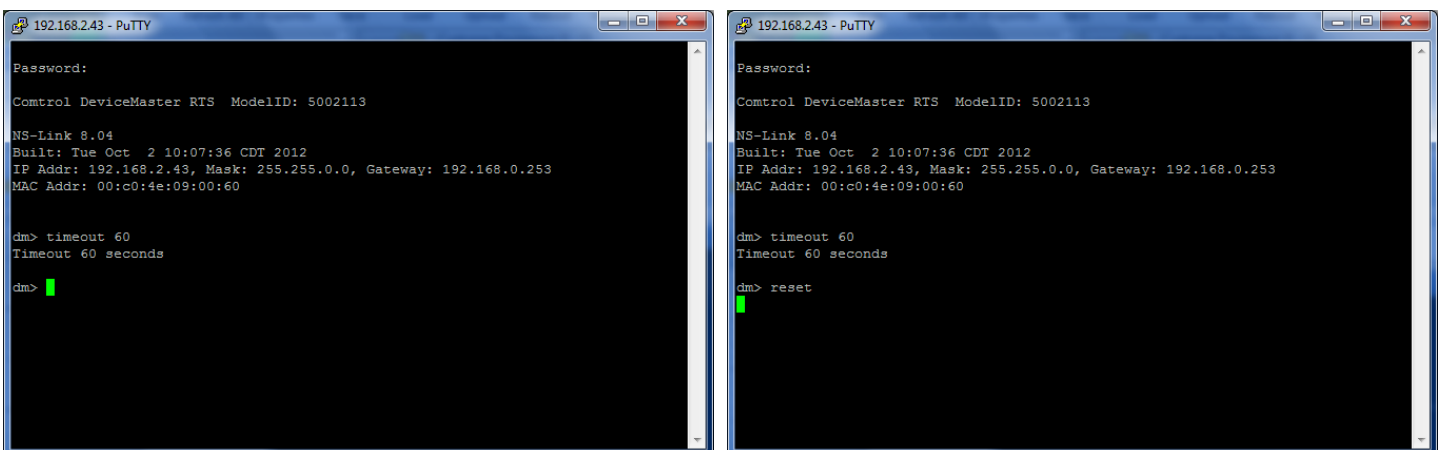


Leave the defaults and click OK

Press enter at the Password: prompt. There is no password by default, but if you have created a password, you will need to enter it here.



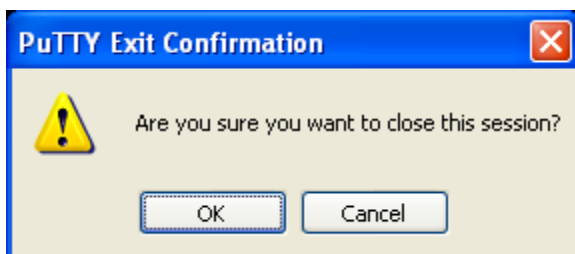
You will be shown the current version of firmware installed. In this case we are updating SocketServer from the shown version of 8.04 to 9.36. You will be given a dm> prompt.



At the prompt enter “timeout 60” (without quotes) and press Enter

At the prompt enter “reset” (without quotes) and press Enter

The DeviceMaster will now be rebooting. Close the Putty window.

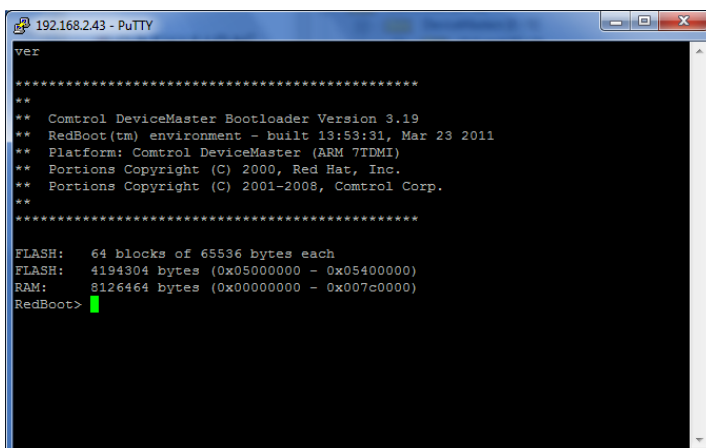
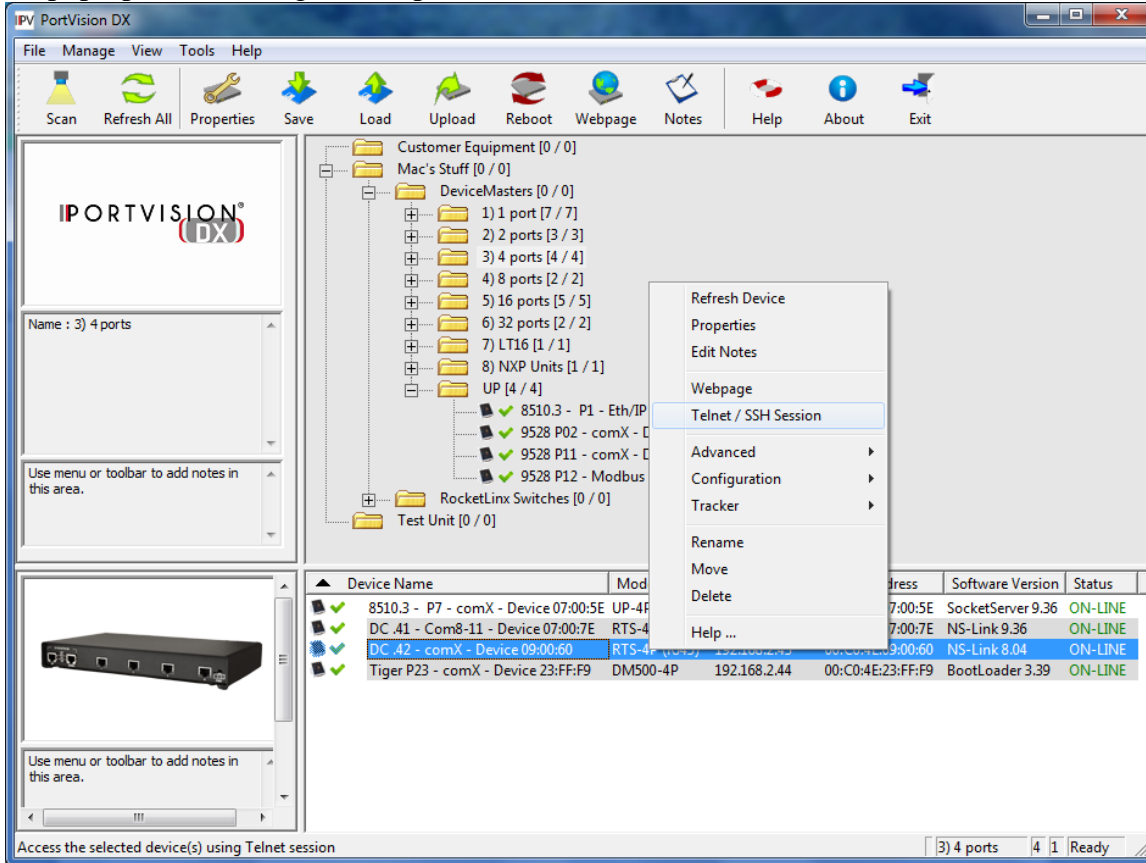


Click OK

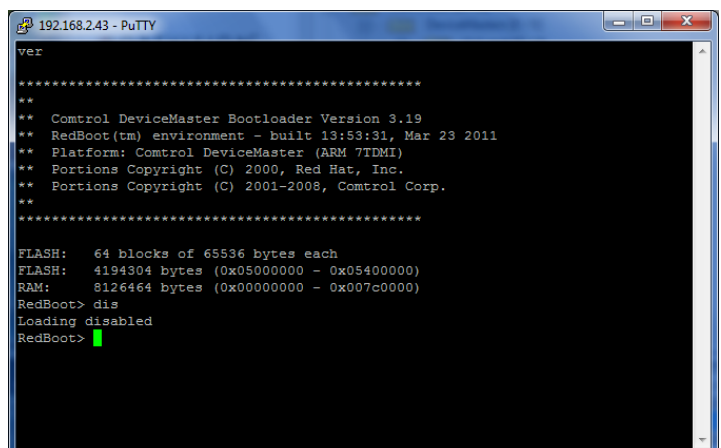
Upload the Firmware

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Return to PortVision DX and Right click the appropriate DeviceMaster and select “Telnet / SSH Session” from the pop-up menu and again accept the defaults and click on “OK”.



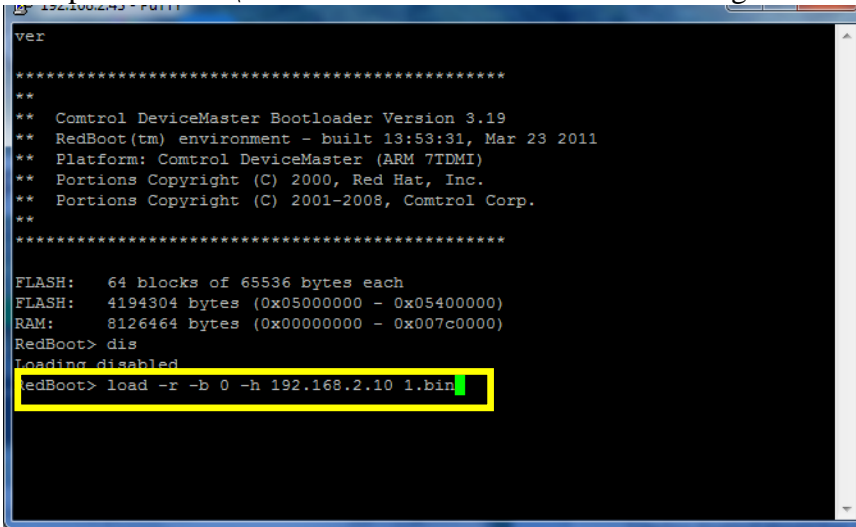
The Bootloader revision should now be seen.
If not, then reboot and try again.



At the prompt, enter “dis” and press enter
to disable loading of SocketServer
Loading disabled should then be displayed

You must be at a “RedBoot” prompt for the remaining steps.

Enter the command `load -r -b 0 -h <TFTP-Server_IP_Addr> <Downloaded_File_Name>` where `<TFTP-Server_IP_Addr>` is the IP address of the PC running the TFTP32 Server and where `<Downloaded_File_Name>` is the name of the firmware copied to the directory shown on the status bar. (In this example that is `C:\TFTP` and the file name has been changed to be `1.bin`)



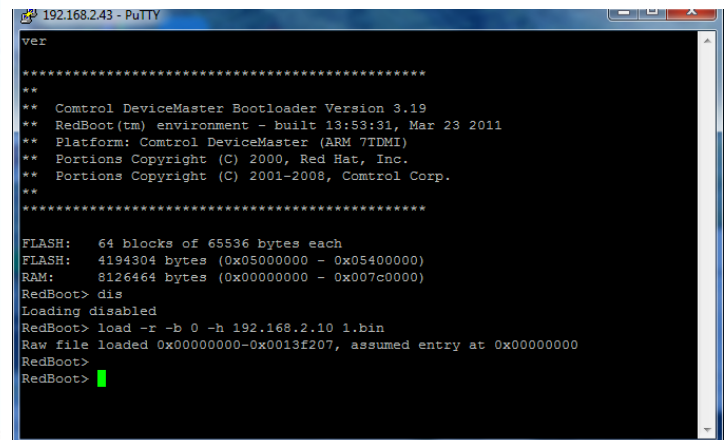
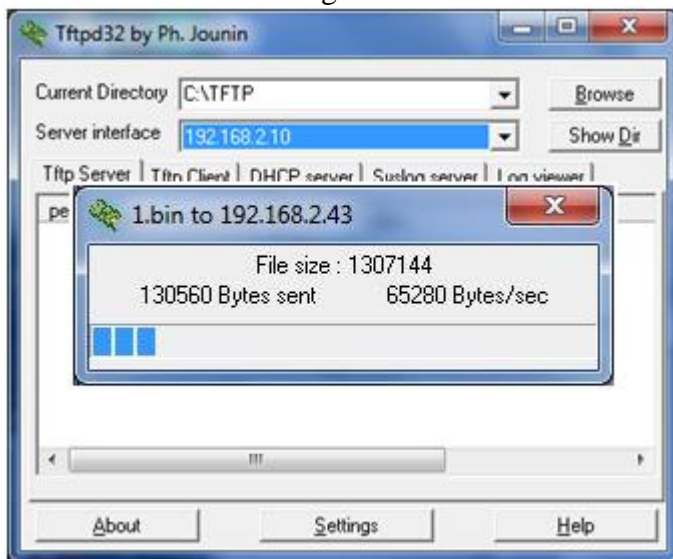
```
ver
*****
**
**  Comtrol DeviceMaster Bootloader Version 3.19
**  RedBoot(tm) environment - built 13:53:31, Mar 23 2011
**  Platform: Comtrol DeviceMaster (ARM 7TDMI)
**  Portions Copyright (C) 2000, Red Hat, Inc.
**  Portions Copyright (C) 2001-2008, Comtrol Corp.
**
*****

FLASH:  64 blocks of 65536 bytes each
FLASH:  4194304 bytes (0x05000000 - 0x05400000)
RAM:    8126464 bytes (0x00000000 - 0x007c0000)
RedBoot> dis
Loading disabled
RedBoot> load -r -b 0 -h 192.168.2.10 1.bin
```

In this example the command will be “`load -r -b 0 -h 192.168.2.10 1.bin`” (that is a numeric zero in the load string – NOT the alpha oO)

Press enter to begin the loading.

You should see something like this in TFTP32:

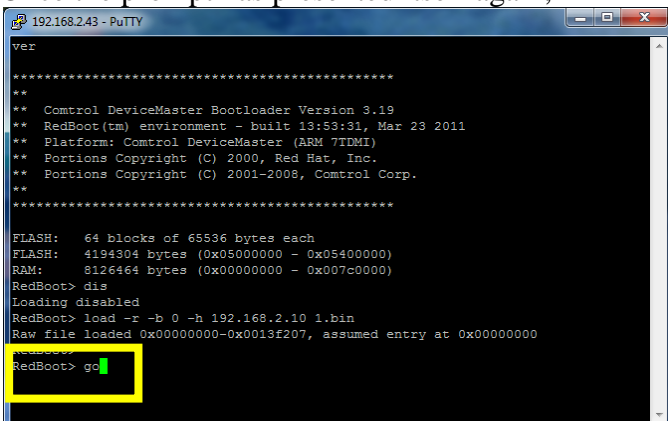


```
ver
*****
**
**  Comtrol DeviceMaster Bootloader Version 3.19
**  RedBoot(tm) environment - built 13:53:31, Mar 23 2011
**  Platform: Comtrol DeviceMaster (ARM 7TDMI)
**  Portions Copyright (C) 2000, Red Hat, Inc.
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**
*****

FLASH:  64 blocks of 65536 bytes each
FLASH:  4194304 bytes (0x05000000 - 0x05400000)
RAM:    8126464 bytes (0x00000000 - 0x007c0000)
RedBoot> dis
Loading disabled
RedBoot> load -r -b 0 -h 192.168.2.10 1.bin
Raw file loaded 0x00000000-0x0013f207, assumed entry at 0x00000000
RedBoot>
RedBoot>
```

As long as the *Raw file loaded* message appears, all should be well.

Once the prompt has presented itself again,



```
ver
*****
**
**  Comtrol DeviceMaster Bootloader Version 3.19
**  RedBoot(tm) environment - built 13:53:31, Mar 23 2011
**  Platform: Comtrol DeviceMaster (ARM 7TDMI)
**  Portions Copyright (C) 2000, Red Hat, Inc.
**  Portions Copyright (C) 2001-2008, Comtrol Corp.
**
*****

FLASH:  64 blocks of 65536 bytes each
FLASH:  4194304 bytes (0x05000000 - 0x05400000)
RAM:    8126464 bytes (0x00000000 - 0x007c0000)
RedBoot> dis
Loading disabled
RedBoot> load -r -b 0 -h 192.168.2.10 1.bin
Raw file loaded 0x00000000-0x0013f207, assumed entry at 0x00000000
RedBoot> go
```

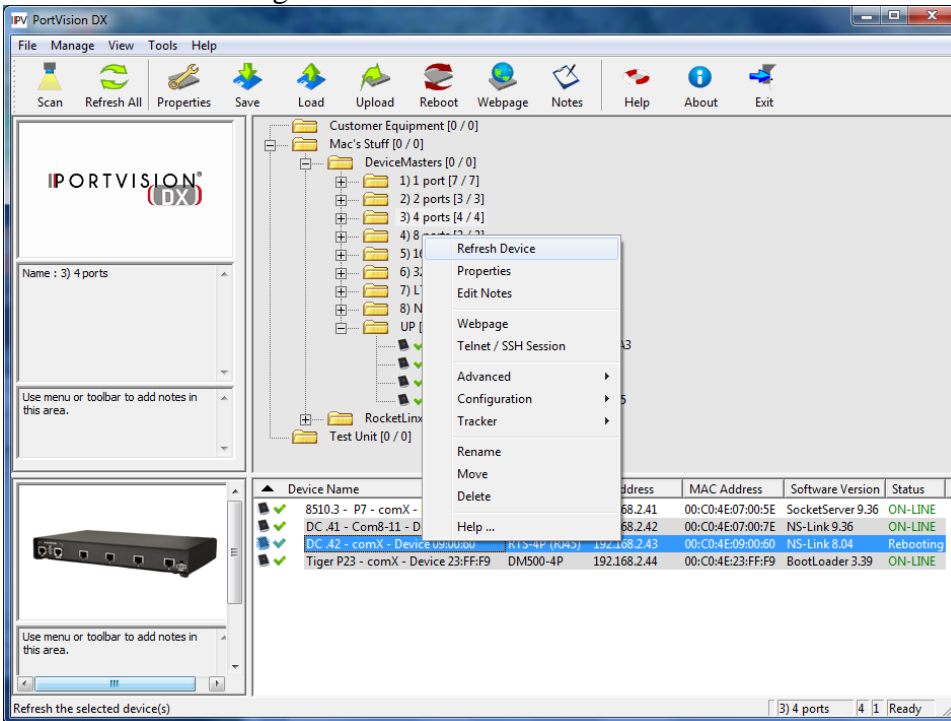
Enter “`go`” (without quotes) and press enter. The DeviceMaster will now reboot.

Close the Putty window.

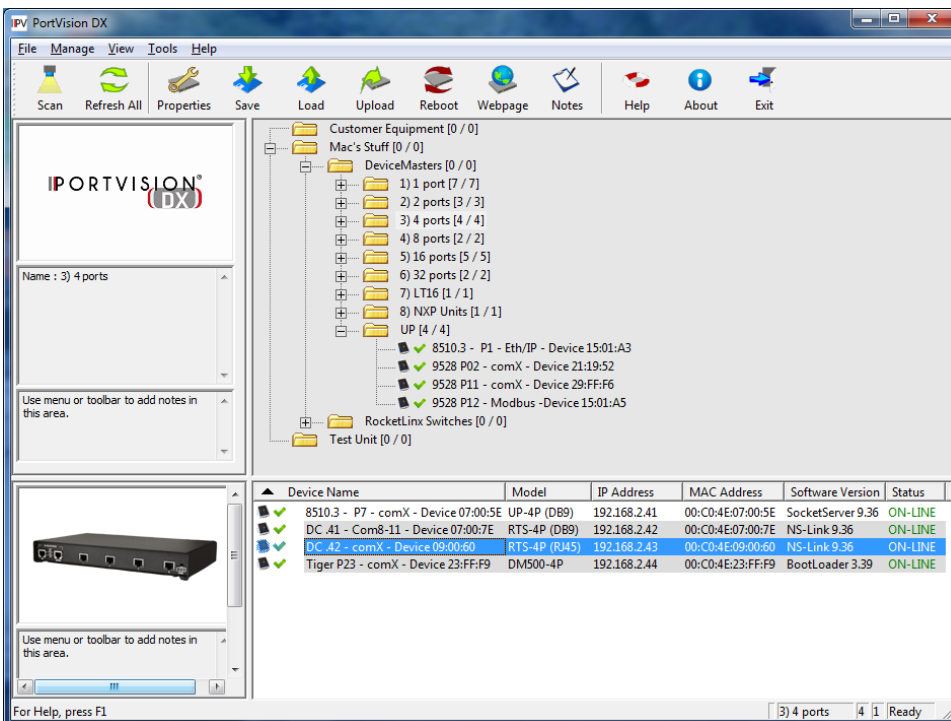
Confirm the success of the update

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In PortVision DX Right Click and select Refresh Device



You may need to do this more than once until you see the correct Software Version displayed



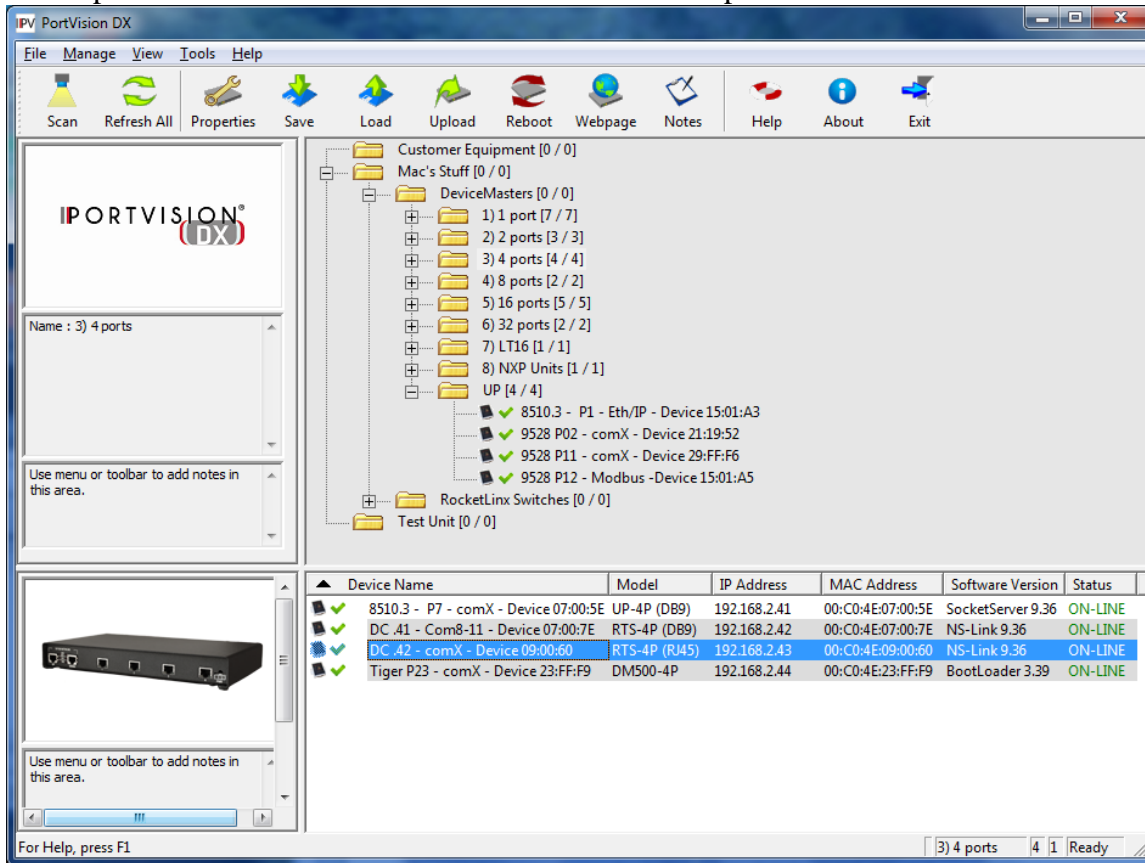
The correct version will now be shown. If not, the update was not successful in which case you may want to call Control Technical Support.

This has now been a successful firmware update. You may return to page 6 and repeat, selecting the 2.bin (Bootloader) firmware. Repeat for additional DeviceMasters as necessary.

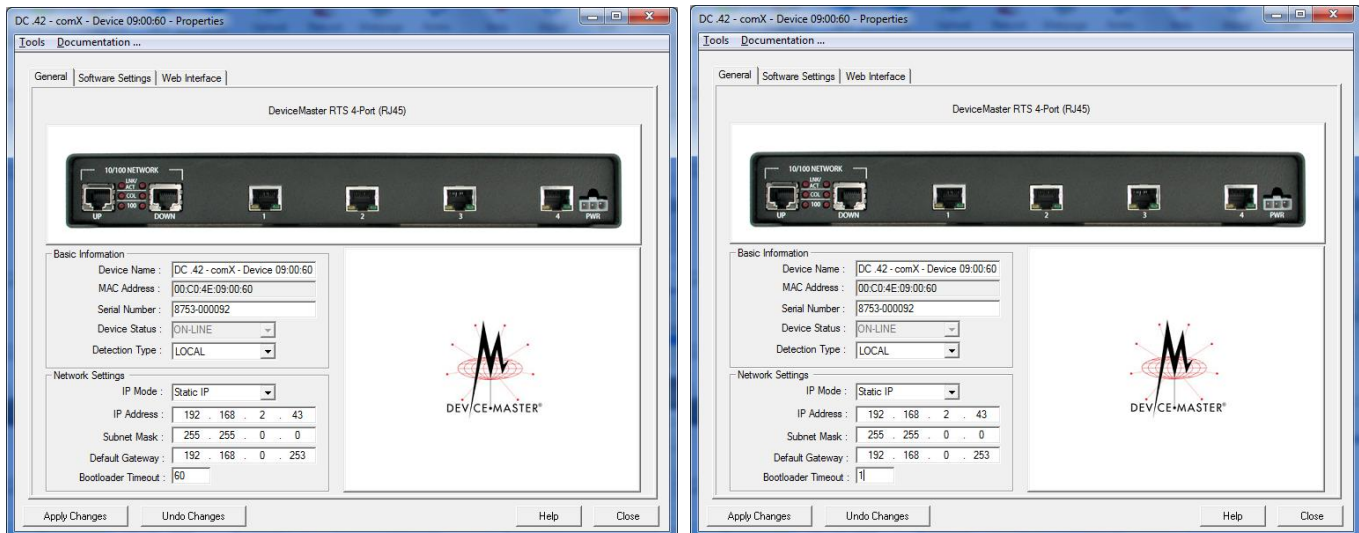
Reset the BootLoader Timeout Value

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Once updates of SocketServer and Bootloader have completed



Double Click on the DeviceMaster to open the Properties dialog.



Change the BootLoader Timeout back to the default of 15 or 1 and lick on the Apply Changes and Close buttons.

Return to page 4 and repeat for additional DeviceMaster units. When completed, close the Tftpd32 Server.

If you experience any difficulty, stop and call Comtrol technical support at 763-957-6000.