



PVIQ Firmware Upgrade Procedures (Standalone)

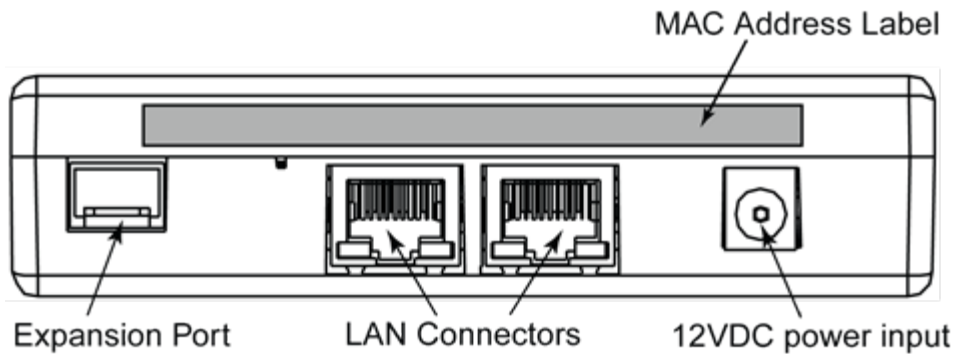
Applies to:	SmartZone PVIQ Panels
Objective:	This Technical Reference describes the procedure to upgrade the firmware of PVIQ Panels that are operating in a standalone (i.e., without SmartZone software) environment.
Pre-Requisites:	<ul style="list-style-type: none"> • Ensure that 3COM TFTP Server(s) are installed (3COM TFTP Servers are required to ensure 30 concurrent downloads can be achieved) • Setup 1 TFTP server for every 30 PMs • The TFTP server must be connected to the same subnet as the PMs. • Allocate time for visual inspection (see step 1 below for detailed instructions) • Allocate time for the firmware downloads to start • It will be necessary to telnet into all PMs and enter commands

Performing the Procedure

1. Visually inspect each PM Ethernet chain.

- Verify that all PMs are installed in PVIQ[™] Panels. The PMs **must** be in PVIQ Panels so that panel wing board firmware can be upgraded along with the PMs. Visually inspect the panels and verify that each displays a solid green “SYS” LED. Failure to follow this step may result in unexpected runtime errors.
- Ensure that the first PM has a link to the network.
- Ensure that each PM is connected to the next PM in the chain. The last PM must have only one connection.

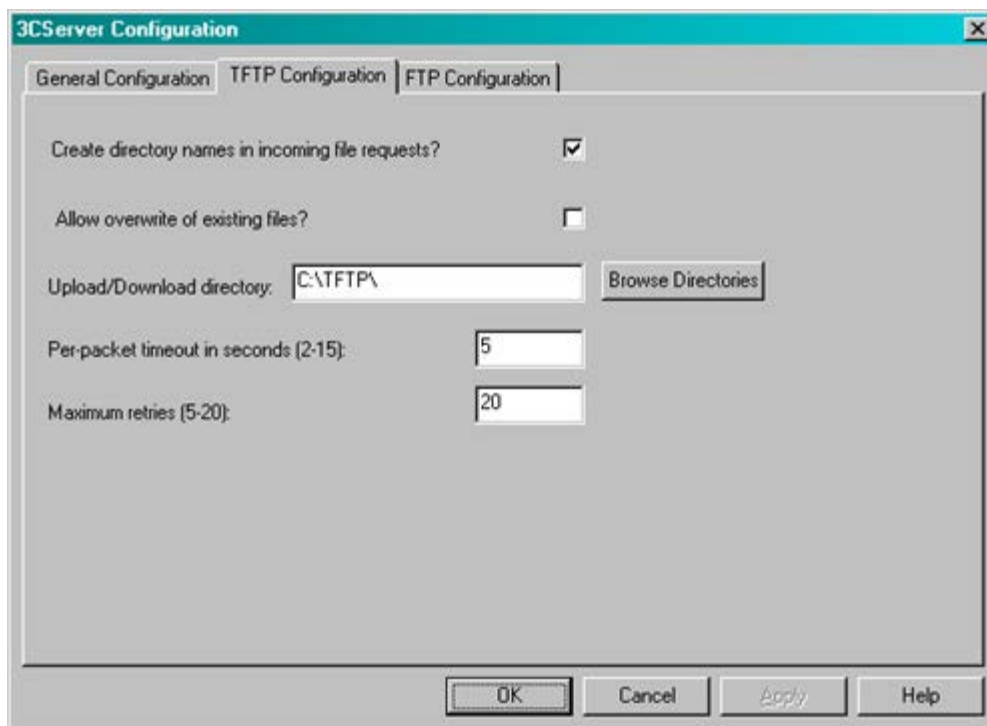
NOTE: IF A NETWORK LOOP EXISTS THE YELLOW LIGHTS ON THE PM LAN CONNECTOR WILL BE SOLID YELLOW. IF THIS OCCURS, REPAIR THE LOOP! DO NOT CONTINUE, OTHERWISE PANEL DAMAGE WILL OCCUR!



- If more than 5 PMs are in the chain, the TFTP retry parameters must be increased (see Step 3 below)

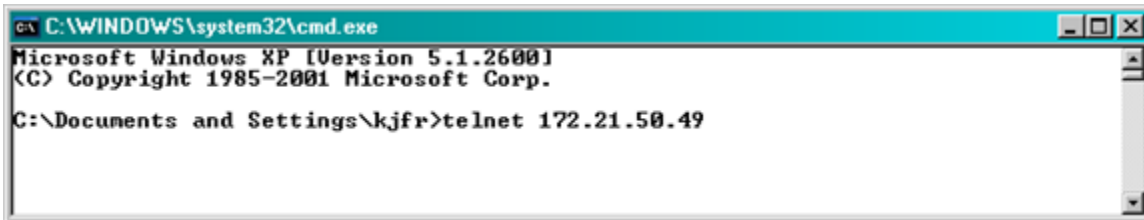
2. Setup the 3COM TFTP Server.

- Set the TFTP server parameters to 20 retries after 5 seconds.
- Set the TFTP server to serve files from the folder containing the firmware



3. Copy the firmware file to the TFTP Server directory.
4. Run the pvqutil utility on all subnets, and save the output for reference. (Note that you must physically plug in to each subnet on your system to achieve this).

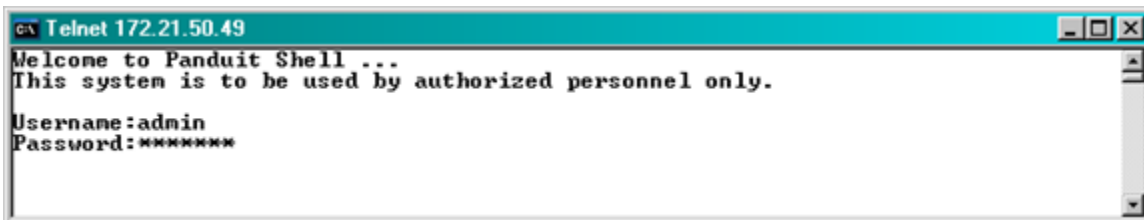
- Telnet into the PViQ device (for example, “telnet 172.21.50.49”).



- At the login prompt, use the following to bring up the welcome screen.

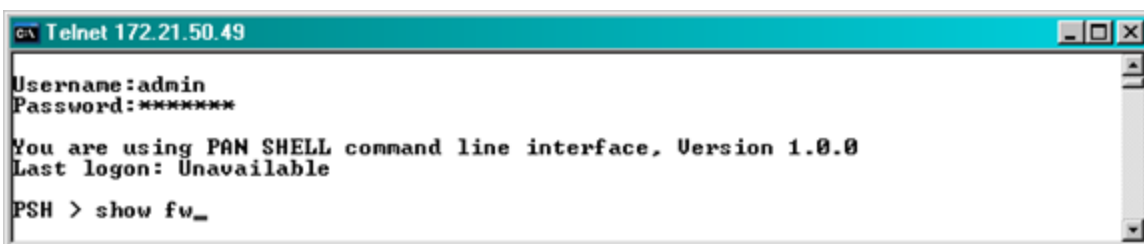
login: admin

password: panduit



- At the PSH> prompt, enter:

show fw



The screen will display information pertaining to your firmware.

```

Telnet 172.21.50.49
PSH > show fw
Firmware Updates: Total:0002 Last: IP-172.21.51.157, File-puiq_fw_01_22_06
-----
FLASH Images
PMM (bootloader):
  MBL v0.4 (07Oct2007)
PMM (application):
  Nov 12 2009 09:48:53 #PUIQ:FW Version 01.22.06 (01Nov2009) Serpentine #[FAC
-01.14.04]
PEPIC:
  Aug 19 2009 09:48:25:0x400f0000:001.006!
  Aug 19 2009 09:48:25:0x400f0000:001.006!
MBPIC:
  Nov 04 2009 18:11:27:0x40110100:000.087:0999099
PPPIC:
  Nov 04 2009 18:14:28:0x40140280:000.021!
-----
Running Images
PP:
<01: > HW:90 BL:000.002 AP:000.021
PE:
<01:..> HW:00 BL:000.007 AP:001.006
<02:..> HW:02 BL:000.007 AP:001.006
<03:..> HW:02 BL:000.007 AP:001.006
<04:..> HW:02 BL:000.007 AP:001.006
MB:
<01:01> HW:99 BL:000.017 AP:000.087
<01:02> HW:99 BL:000.017 AP:000.087
<01:03> HW:99 BL:000.017 AP:000.087
<01:04> HW:09 BL:000.017 AP:000.087
<01:05> HW:09 BL:000.017 AP:000.087
<01:06> HW:09 BL:000.017 AP:000.087
<02:01> HW:99 BL:000.017 AP:000.087
<02:02> HW:99 BL:000.017 AP:000.087
    
```

8. At the PSH> prompt, enter:

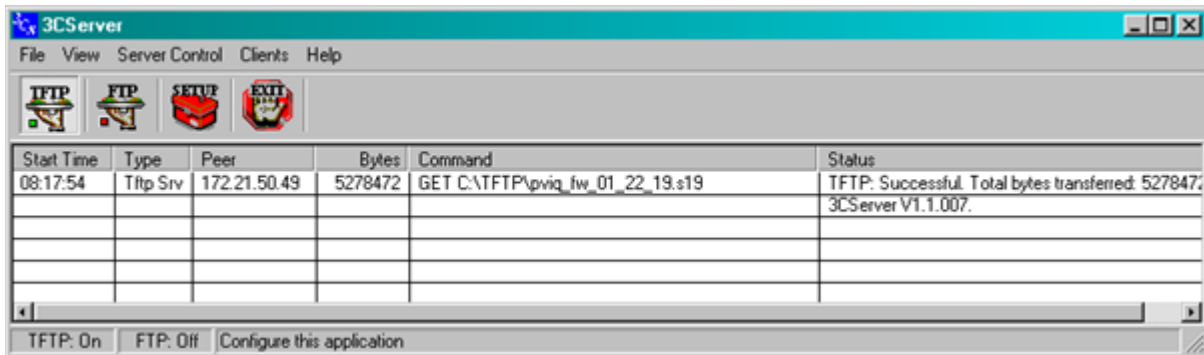
```
start fwupdate [TFTP Server IP ADDRESS] [FIRMWARE FILENAME]
```

NOTE: During the firmware update process, the telnet session to the PM will terminate. This is normal behavior. You will be able to telnet back into the PM after the firmware update has completed.

NOTE: If the TFTP Server and FTP Server are running at the same time, communication errors may occur. If you experience communication errors during this step, ensure that the FTP Server is disabled (indicated by the red box on FTP button, as shown below).



- Check to see that the Firmware update has been sent by the TFTP server. When the file transfer is complete, you will see a window similar to the following:



NOTE: The TFTP server process takes approximately 5 minutes, followed by an additional 30 minutes for the panel to be updated. During this time, it is common for the panel to experience various LED flashes and audible beeps from the panel.

DO NOT POWER CYCLE PM DURING THIS PERIOD! SEVERE DAMAGE TO THE PANEL MAY OCCUR, REQUIRING FACTORY REPAIR!

- Repeat steps 5 - 9 for each PM discovered by the pviquitil command in step 4.
- Verify that all PMs have completed updating.
 - Visually check the panels and verify that only the “sys” LED is on and solid green.
- Verify that each PM is now running the correct firmware versions by repeating steps 5 – 7 for each PM discovered in step 4.

Under certain error conditions, a PM may revert to the factory default firmware revision. If the pviquitil utility reports an older firmware version for a PM, rerun the firmware upgrade for that PM.