PXNplus CPU Board Firmware

Upgrade Instructions

Introduction

These are the *PXNplus CPU Board Firmware Upgrade Instructions* (460638001R) for the following GE Security documents:

- *M5 Controller Installation Manual* (460130002G)
- *Micro/PX-2000, Micro/PXN-2000, and Micro2000PXNplus Installation Manual* (460419001M)
- *Micro/PX-2000, Micro/PXN-2000, and Micro2000PXNplus Quick Installation Instructions* (460435001N)
- *M3000 Controller Installation Manual* (460630001D)

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Verify your PXNplus firmware build

1. In the browser Address field, enter the IP address of the controller.
2. At the Integrated Configuration Tool password screen, log on.
3. Select **Micro Info**. Use the following table:

Table 1. Build versions

If this build is installed...	The following displays...
R114	Build Version - PXNP_DIST_R114
	PP Version - PP_VER_122
	SP Version - SP_VER_7514
R113	Build Version - PXNP_DIST_R113
	PP Version - PP_VER_121
	SP Version - SP_VER_7013
R112	Build Version - PXNP_DIST_R112
	PP Version - PP_VER_120
	SP Version - SP_VER_7012
R111	Build version: PXNP_DIST_R111
	PP version: PP_VER_119
	SP version: SP_VER_7111
R110	Build version: PXNP_DIST_R110
	PP version: PP_VER_118
	SP version: SP_VER_6118
R106	Build version: PXNP_DIST_R106
	PP version: PP_VER_114
	SP version: SP_VER_6114
R105	Build version: PXNP_DIST_R105
	PP version: PP_VER_113
	SP version: SP_VER_6113

Upgrade instructions

Upgrade instructions to PXNP_DIST_R114/PP_VER_122/SP_VER_7514

From PXNP_DIST_R111/PP_VER_121/SP_VER_7013 or later

Using the Integrated Configuration Tool: Allocate 15 to 20 minutes per controller.

CAUTION: DO NOT reset or restart the controller in the middle of the flash process or the controller will become non-functional.

1. In the browser **Address** field, enter the IP address of the controller.
2. At the Integrated Configuration Tool password screen, log on.
3. Click **Flash Micro** and browse to the `PXNP7514.efl` file.
4. Wait for the file to load. After the upload is complete, you should see a message `Uploaded file processed correctly`. When you click OK for the message, an alert will pop up asking if it can close the window. Select **NO,** and click on **Restart Controller** to reboot the controller.
5. Wait for 8 to 10 minutes for the controller to complete its boot sequence and install updates. During this time, DS7 and DS8 alternate ON while the image is being copied and when the controller is installing the updates for kernel, web-server, and application. This sequence is repeated three times while rebooting, once after each update. The normal start of this LED sequence is DS3 solid ON for several seconds and DS7 solid ON for 30 to 40 seconds.

   Once the flash update is complete, the following sequence will occur:

   - Picture Perfect - DS4 flashes once per second and DS1 turns solid ON.
   - Secure Perfect/FCWnx - DS4 flashes twice per second and DS1 turns solid ON.
   - The controller will then come online with the host.
6. Browse back into the controller and verify the build version is PXNP_DIST_R114/PP_VER_122/SP_VER_7514.

Using eFlash through the Secure Perfect or Picture Perfect host: Allocate about 20 minutes for upgrading each controller. Refer to *eFlash instructions* on page 8 and your host user manual for more information on eFlash.

1. eFlash the `PXNP7514.efl` file.
2. The controller will reboot automatically after the file is uploaded. Since the controller is going through the complete boot sequence and installing updates, it will need at least 8 minutes to connect back to the host.
3. To verify the build upgrade, refer to *Verify your PXNplus firmware build* on page 2.

Upgrade instructions to PXNP_DIST_R113/PP_VER_121/SP_VER_7013

From PXNP_DIST_R111/PP_VER_119/SP_VER_7011 or later

Using the Integrated Configuration Tool: Allocate 15 to 20 minutes per controller.

CAUTION: DO NOT reset or restart the controller in the middle of the flash process or the controller will become non-functional.

1. In the browser **Address** field, enter the IP address of the controller.
2. At the Integrated Configuration Tool password screen, log on.
3. Click **Flash Micro** and browse to the `PXNP7013.efl` file.
4. Wait for the file to load. After the upload is complete, you should see a message `Uploaded file processed correctly`. When you click OK for the message, an alert will pop up asking if it can close the window. Select **NO,** and click on **Restart Controller** to reboot the controller.
5. Wait for 8 to 10 minutes for the controller to complete its boot sequence and install updates. During this time, DS7 and DS8 alternate ON while the image is being copied and when the controller is installing the updates for kernel, web-server, and application. This sequence is repeated three times while rebooting, once after each update. The normal start of this LED sequence is DS3 solid ON for several seconds and DS7 solid ON for 30 to 40 seconds.

   Once the flash update is complete, the following sequence will occur:

   - Picture Perfect - DS4 flashes once per second and DS1 turns solid ON.
   - Secure Perfect/FCWnx - DS4 flashes twice per second and DS1 turns solid ON.
   - The controller will then come online with the host.
6. Browse back into the controller and verify the build version is PXNP_DIST_R113/PP_VER_121/SP_VER_7013.

Using eFlash through the Secure Perfect or Picture Perfect host: Allocate about 20 minutes for upgrading each controller. Refer to *eFlash instructions* on page 8 and your host user manual for more information on eFlash.

1. eFlash the `PXNP7013.efl` file.
2. The controller will reboot automatically after the file is uploaded. Since the controller is going through the complete boot sequence and installing updates, it will need at least 8 minutes to connect back to the host.
3. To verify the build upgrade, refer to *Verify your PXNplus firmware build* on page 2.

***ATTENTION**: The following information pertains to build versions PXNP_DIST_R112 and earlier.*

Upgrade to PXNP_DIST_R112/PP_VER_120/SP_VER_7012

From PXNP_DIST_R111/PP_VER_119/SP_VER_7011

Using the Integrated Configuration Tool: Allocate about 10 minutes for upgrading each controller.

1. In the browser Address field, enter the IP address of the controller.
2. At the Integrated Configuration Tool password screen, log on.
3. From the **Flash Controller** menu, select **Flash Controller**.
4. Browse to the `PXNP7012.efl` and click **Save**.
5. The upgrade is complete when the status bar displays `Done`.

   Note: The controller may reboot several times during this process.

Using the eFlash through the Facility Commander Wnx, Secure Perfect or Picture Perfect host: Allocate about 20 to 45 minutes for upgrading each controller. Refer to *eFlash instructions* on page 8 and your host user manual for more information on eFlash.

1. eFlash the `PXNP7012.efl` file.
2. The controller reboots automatically once the upgrade is successful.

   Note: The controller may reboot several times as the kernel, web server, and application are updated.
3. To verify the build upgrade, refer to *Verify your PXNplus firmware build* on page 2.

From versions prior to PXNP_DIST_R111/PP_VER_119/SP_VER_7011

The upgrade to R112 from versions *prior* to R111 should be done only through the host software eFlash. Do NOT use the Integrated Configuration Tool!

Using the Integrated Configuration Tool: Not supported.

Using eFlash through the Facility Commander Wnx, Secure Perfect, or Picture Perfect host: Allocate about 20 to 45 minutes for upgrading each controller. Refer to *eFlash instructions* on page 8 and your host user manual for more information on eFlash.

1. eFlash the `PXNP7012.efl` file.
2. The controller reboots automatically once the upgrade is successful.

   Note: The controller may reboot several times as the kernel, web server, and application are updated.
3. To verify the build upgrade, refer to *Verify your PXNplus firmware build* on page 2.

Upgrade to PXNP_DIST_R111/PXNP7111 from any previous version

The upgrade to R111 should be done only through the host software eFlash. Do NOT use the Integrated Configuration Tool!

Using the Integrated Configuration Tool: Not supported.

Using eFlash through the Secure Perfect or Picture Perfect host:
Allocate about 20 to 45 minutes for upgrading each controller. Refer to *eFlash instructions* on page 8 and your host user manual for more information on eFlash.

1. eFlash the `PXNP7111.efl` file.
2. The controller reboots automatically once the upgrade is successful.

   Note: The controller may reboot several times as the kernel, web server, and application are updated.
3. To verify the build upgrade, refer to *Verify your PXNplus firmware build* on page 2.

Upgrade to PXNP_DIST_R110/PXNP6118 from PXNP_DIST_R106/PXNP6114

Using the Integrated Configuration Tool:
Allocate about 5 to 7 minutes for upgrading each controller. Refer to your controller installation manual for more information about the Integrated Configuration Tool.

1. In the browser Address field, enter the IP address of the controller.
2. At the Integrated Configuration Tool password screen, log on.
3. Click **Flash Micro** and browse to the `PXNP6118.efl` file.
4. Wait for the file to load. The message `Updated file processed correctly` displays.
5. Click **Flash Micro** and browse to the `PXNPK6118.efl` file.
   The status bar on the browser should say `Done.`
6. Reboot the controller manually by shorting JP6 on the PXNplus CPU board.
7. Log in to the Integrated Configuration Tool again.
8. Click **Flash Micro** and browse to the `PXNPH6118.efl` file.
9. Wait for the file to load. The message `Updated file processed correctly` displays. The controller reboots automatically.
10. Clear the cache of your Internet Browser. If using Microsoft Internet Explorer, select **Tools > Internet Options**.
    - In the *Temporary Internet* files section, click **Delete Cookies**, then **OK** to confirm.
    - In the same section, click **Delete Files.** At the *Delete Files* dialog, select **Delete all offline content**, then click **OK**.
    - In the *History* section, click **Clear History,** then **Yes** to confirm.
    - Click **OK** to close the *Internet Options* dialog box.
11. To verify the build upgrade, refer to *Verify your PXNplus firmware build* on page 2.

Using eFlash through the Secure Perfect or Picture Perfect host:
Allocate about 20 to 25 minutes for upgrading each controller. Refer to *eFlash instructions* on page 8 and your host user manual for more information on eFlash.

1. eFlash the `PXNP6118.efl` file.
2. The application restarts automatically after the file is flashed successfully.
3. eFlash the `PXNPK6118.efl` file.
4. Reboot the controller manually by shorting JP6 on the PXNplus CPU board.
5. eFlash the `PXNPH6118.efl` file.
6. The controller reboots automatically after the file is flashed successfully.
7. To verify the build upgrade, refer to *Verify your PXNplus firmware build* on page 2.

Upgrade to PXNP_DIST_R106/PXNP6114 from PXNP_DIST_R105/PXNP6113

Using the Integrated Configuration Tool:
Allocate about 5 to 7 minutes for upgrading each controller. Refer to your controller installation manual for more information about the Integrated Configuration Tool.

1. In the browser Address field, enter the IP address of the controller.
2. At the Integrated Configuration Tool password screen, log on.
3. Click **Flash Micro** and browse to the `PXNPK6114.efl` file.
   The status bar on the browser should say `Done` and the controller should reboot automatically.
4. Log onto the Integrated Configuration Tool again.
5. Click **Flash Micro** and browse to the `PXNPH6114.efl` file.
6. Wait for the file to load. The message `Updated file processed correctly` displays.
7. Reboot the controller manually by shorting JP6 on the PXNplus CPU board.
8. Log onto the Integrated Configuration Tool again.
9. Click **Flash Micro** and browse to the `PXNP6114.efl` file.
10. Wait for the file to load. The message `Updated file processed correctly` displays.
11. To verify the build upgrade, refer to *Verify your PXNplus firmware build* on page 2.

Using eFlash through the Secure Perfect or Picture Perfect host:
Allocate about 20 to 25 minutes for upgrading each controller. Refer to *eFlash instructions* on page 8 and your host user manual for more information on eFlash.

1. eFlash the `PXNPK6114.efl` file.
2. The controller reboots automatically after the file is flashed successfully.
3. eFlash the `PXNPH6114.efl` file.
4. Reboot the controller manually by shorting JP6 on the PXNplus CPU board.
5. eFlash the `PXNP6114.efl` file.
6. To verify the build upgrade, refer to *Verify your PXNplus firmware build* on page 2.

eFlash instructions

Upgrading to build R112, R113, or R114:

- **If the controller is at R111 or later, upgrading to R112, R113, or R114 can be done using the host software eFlash or the Integrated Configuration Tool.**
- **If the controller is at R105, R106, or R110, upgrading to R112, R113, or R114 MUST be done using the host software eFlash. Do NOT use the Integrated Configuration Tool.**

For Picture Perfect users

- **For Picture Perfect 4.0 SP2/Picture Perfect 2.0 SP1 users and controller versions later than R111:** When selecting the firmware `.efl` file to update a PXNplus-based controller, select the `.efl` file for PXNplus. There is no need to select the Direct and Network files.

  For all other Picture Perfect users and controller versions prior to R111: When selecting the firmware `.efl` file to update a PXNplus-based controller, select both **Direct Micro File** and **Network Micro File** regardless of the actual physical communications being used. This means you should select both **Direct Micro File** and **Network Micro File** whether you have a direct-connect, dial-up or network-based PXNplus controller.
- Because of the existing filter on the file name, the file name `PXNPxxxx.efl` is not displayed in the selection list. Manually enter the path to the file on Picture Perfect 2.0 and later versions.
- In order to prevent a Flash Timeout Failure (indicated by a red icon), the system administrator needs to edit the `/cas/log/.eflashrc` file and enter the following minimum values:

  ```
  timeout = 60

  flashwait = 1440
  ```

  Note: For build R111, flashwait should be set to 2880.

  Some networks may require higher values for these parameters.
- When the line of controllers has a combination of PXNplus and PX CPU boards, the whole line cannot be flashed at one time. When flashing PXNplus boards, select `PXNPxxxx.efl` as the **Direct Micro File**. When flashing PX boards, select `m5nxxx.hex` as the **Direct Micro File**.
- For downstream controllers when the head-of-line controller is Network + Dialup, disable the dial-up option *before* starting the eFlash process. Then, eFlash the first downstream controller, then the second and continue down the line until the process is complete.

  For example: If this is the controller line: Head-of-Line Controller Controller A Controller B Controller C

  Then flash in this order:

  a. eFlash head-of-line controller first. (If the controller is Network + Dial-up, disable the dial-up option *before* beginning the eFlash.)

  b. eFlash Controller A.

  c. eFlash Controller B.

  d. eFlash Controller C.

For Secure Perfect users

When flashing a line of controllers with a PXNplus controller as the head-of-line controller, only two downstream controllers should be selected at a time.