

Release Notes for Raritan PX Firmware Version 3.0.4

Version: PX2 3.0.4 Build 41800 Release Notes, Version 1

Date: October 28, 2014

Effective: Immediately.

Applicability:

This release contains some critical security fixes found after the OpenSSL (CVE-2014-0160 – the Heartbleed vulnerability was found- which was fixed in PX2.5.30; details below in the [Release 3.0.4 contains all enhancements and fixes section](#)). It contains fixes for the Poodle and SRTP vulnerabilities. Therefore, ALL customers are recommended to upgrade to this release immediately.

The Raritan PX2.x and 3.x firmware releases are NOT vulnerable to the Shellshock - BASH bugs (multiple CVEs).

This firmware release is for General Availability (“GA”) on all existing Raritan PXE, PX2- and PX3- models, Transfer switches (models PX3TS-1875R and PX3TS-1876R) and BCM-24xx units. Use the User Guide for PX3.0.0. See note# 31 about support for PXE models in the [Release 3.0.4 contains all enhancements and fixes which are listed below](#).

Some custom engineered models are not be supported by this release. Please check the [Not Supported in This Release](#) and the [Release compatibility information](#) sections below. Or, contact Raritan Support if you are unsure of the model number of your unit; it is typically viewable from the GUI *Device Information* page, and is printed on a label on the side of the PDU.

Please do NOT upgrade ANY other Raritan PX model(s) to PX 3.0.4 because the unit may have been built after this release entered System Test, and it may result in the unit becoming non-functional.

Please do NOT downgrade your new PX2/PX3 firmware based models to any prior release, as these models may not be supported in previous firmware versions.

Caution: Only Power IQ releases 4.2 and higher are compatible with PX3.0.4.

Due to significant internal enhancements in PX 3.0.4, you cannot downgrade from Release 3.0.4 build 41800 to ANY prior release. Please contact Raritan Support with any questions.

Release Status: General Availability (GA) - see [Release compatibility information](#) section below.

Release 3.0.4 contains all enhancements and fixes which are listed below:

- 1) Added Single IP address cascading-where one IP address is used for up to eight (8) USB cascaded iPDUs (exception: the USB cascading feature is not supportable on PXE units), or other supported devices that can run PX2-3.0.4 firmware. See the PX3.0.0 User Guide for details. [52887]
- 2) Support has been added for an Android application Raritan PDView, with limited functionality, with a USB connection. See the Google Play store for the application, which is released as a Beta.

<https://play.google.com/store/apps/details?id=com.raritan.android.pdview>

PDView provides a rich display interface for your Raritan PX2, PX3, PX3TS or BCM on your Android phone or tablet. Easily access all power measurements, device status, and network settings.

Please note that this application requires Android device support for USB 'On-The-Go' (OTG), an appropriate OTG adapter cable and PX2 firmware v3.0.0 (or higher).

Connect your mobile device to the port labeled 'USB-B' on your Raritan unit, using a standard USB OTG cable/adaptor.

Please note that an IOS 7.1 PDView application was first supported in PX2.5.30. [56223]

Support for IOS8.x will be provided in an upcoming release in the next few months.

- 3) Enhanced support for single IP address cascading via USB – feature now supports simultaneous dual-stack IPV4 and IPV6 modes.[56145]
- 4) Switching of outlets from the front-panel (feature added in PX2.5.30 and Enabled by default) is now Disabled by factory default. Users requiring this feature can enable it from the GUI. Also, see related issue/restriction (below) in Known Issues section.
- 5) Security fixes: ALL of the post-Heartbleed OpenSSL bugs listed below are fixed with an OpenSSL update to 1.0.1h in this release. [56981]

See security advisory (below) for details on these CVE's:
https://www.openssl.org/news/secadv_20140605.txt

- a) SSL/TLS MITM vulnerability (CVE-2014-0224)
 - b) SSL_MODE_RELEASE_BUFFERS NULL pointer dereference (CVE-2014-0198)
 - c) DTLS invalid fragment vulnerability (CVE-2014-0195)
 - d) DTLS recursion flaw (CVE-2014-0221)
 - e) SSL_MODE_RELEASE_BUFFERS session injection or denial of service (CVE-2010-5298)
 - f) Anonymous ECDH denial of service (CVE-2014-3470)
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- 6) This firmware release has been tested with Cisco EnergyWise. EnergyWise Specification: (rel2_8_1) 1.2.48 [51731]
 - 7) According to industry standards set by the Certification Authority/Browser (CA/B) Forum, certificates issued after January 1, 2014 must be at least 2048 bits. Some browser SSL implementations may reject keys less than 2048 bits after January 1, 2014. Additionally, some SSL certificate vendors may revoke certificates less than 2048 bits issued before January 1, 2014. To comply with this standard, please note that Raritan has REMOVED the 1024-bit option in this firmware release. Advanced notice of this change was provided in April 2014 in the PX2.5.30 release notes. [54719, 54664]
 - 8) Products with a PX3 prefix in the part number have an RJ45 Feature port. Do NOT plug in the Ethernet cable from an Ethernet switch/router into this port as it can potentially damage the hardware in the PX3 PDU, and the PX3 PDU will not boot-up. This is because the Raritan Feature port carries power on one of the pins that is used to power certain sensors like the Raritan AMS. The connectors are color-coded to minimize the chance of this happening. This applies only to units shipped before July 8 2014; units shipped after this date have a hardware fix for this issue. [53930]
 - 9) USB webcam images can now be stored on CIFS storage.
 - 10) The following Error "Not Writable" response when trying to set Asset Strip LED mode is now fixed. [56679]
 - 11) Support for DX-PD2C5 sensor has been added. However, this sensor is not available yet.
 - 12) For security reasons, RC4 support/option has been removed. [52343]
 - 13) Support has been added for a swappable controller in PX3 models.

- 14) Support has been added for a dot-matrix LCD display on PX3 models.
- 15) CE marked (international) PX3 PDU models shipped after July 1, 2014 are rated to +60 degrees Celsius. Most models shipped prior to this date were rated to 50C. UL listed models remain rated to +60C.
- 16) Support has been added for the Logitech C920 USB webcam. [42842]
- 17) For models with residual current monitor any RCM alarm will be immediately and permanently indicated in the display. The display will not allow the user to leave the RCM details screen until the alarm condition is resolved. [57083]
- 18) EAP communication is now verified against an uploaded CA certificate. [56921]
- 19) Initial support for the DX-PIR sensor has been added. [55487]
- 20) Dot Matrix display shows the Firmware as well as slave board firmware update progress with messages:
 - a. Updating main controller with percentage
 - b. Updating slave "1 (to x-1)" of "total number of slaves(x)"
- 21) In PX2 Release 3.0.0, on the 7-segment display the Sensor LED, this is supposed to be lit when a sensor is plugged in, did not light up. Please note that sensors plugged into the Sensor port will function normally. This issue has been fixed. [57422]
- 22) In PX2 3.0.0, the 2-port asset strip was not recognized by PX2/PX3 – the second composite asset strip was not recognized by PX3 when connected in a daisy chain. However, when asset tags were plugged into the 2nd strip it worked fine. This has been fixed. [57453]
- 23) Phantom SNMP INFORMS on PX2-4961XU-K1 were reported in PX2 2.5.30 with >64 Assets; this has been fixed. [56906, 56526]
- 24) JSON-RPC URI for PXE's ADE controller was not working in PX2 3.0.0, this has been fixed.[57361]
- 25) USB Cascading can be used to connect a large number of strips (up to 100) with only one Ethernet connection, with certain limitations and restrictions. Please contact Raritan Support if you need to cascade (“daisy-chain”) more than eight (8) strips with one Ethernet connection.
- 26) Under certain circumstances with PX3.0.2 releases it was possible that the user might not be able to login via CLI using USB-B or the GUI, this has been fixed. Users running any older revision of 3.0.2 Build 41550 should upgrade to this GA build to prevent the possibility of this occurring. [57705]

- 27) In prior releases USB-A to USB-B cable might not be recognized by Zterm when consoling using Macbook Pro Retina, this has been addressed. [57654]
- 28) In the MIB the unitSensorResetValue object only applies to multi-inlet PX2/3 models. This is as designed. [57681]
- 29) A potential race-condition affecting external sensors during upgrades in the sensor framework has been found and fixed. [57721]
- 30) USB serial driver compatibility with Windows platforms has been improved since PX2-3.0 firmware. [57588]
- 31) PXE models did not report Active Energy in PX2-3.0.0 and PX2-3.0.2-build 41478, therefore these models were not officially supported in these releases. This limitation has been fixed in PX3.0.2 and 3.0.4.
- 32) The input parameters of certain CGI scripts were not properly checked, leaving a potential vulnerability. This has been fixed. [58413]
- 33) Command injection was possible in some modules, leaving a potential vulnerability. This has been fixed. [58412]
- 34) Fixed OpenSSL CVEs: CVE-2014-3566 and CVE-2014-3513 by Disabling SSLv3 and allowing only TLS (CVE-2014-3566). [58802]
- 35) Fixed issue with CB status for model PX3-1528-M5P1. [58913]

Caution: Only Power IQ releases 4.2 and higher are compatible with PX3.0.4.

Support for new or revised models; see [Release compatibility information](#) section below.

Consult the PX3.0.0 User Guide for more information on these firmware features: <http://www.raritan.com/support/dominion-px2/>

Raritan PX Documentation:

The online User Guide for PX 3.0.0 should be used with this release. [A PDF version is available only upon request from Raritan Support.](#) The SNMP MIBs-PDU, Asset Management Sensor (AMS) - are retrievable from the unit itself. An updated USB serial driver (v2.0) is posted on the Raritan website under *Support-Other Files* (scroll down to see the *Other Files*): <http://www.raritan.com/support/dominion-px2/>

Not Supported with PX 3.0.4:

Except for some recent Engineered to Order (ETO) models, all units/models that can run PX2 firmware can be upgraded to this release. If you are unsure that your model is supported by this firmware, please contact Raritan Support.

The following custom models, all without a display, are NOT supported in this release. These will be supported in an upcoming release PX3.0.10.

PX2-2070LER
PX2-4260PR-F5N1A0
PX2-4261PR-F5N1A0
PX2-4292PR-N1A0
PX2-4293PR-F5N1A0
PX2-4850PR-F5N1A0
PX2-4869PR-N1A0

Caution: Only Power IQ releases 4.2 and higher are compatible with PX3.0.4.

Upgrade Matrix (path for upgrades):

This release is intended for factory shipments firmware upgrades on all of the following series/models: PXE, PX3TS models, BCM-24xx, PX2- and PX3-models in the field.

The following custom models, all without a display, are NOT supported in this release. These will be supported in an upcoming release PX3.0.10.

PX2-2070LER
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PX2-4261PR-F5N1A0
PX2-4292PR-N1A0
PX2-4293PR-F5N1A0
PX2-4850PR-F5N1A0
PX2-4869PR-N1A0

Release compatibility information:

Support for some new models, or hardware revisions to existing models, has been added.

The following custom models, all without a display, are NOT supported in this release. These will be supported in an upcoming release PX3.0.10.

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PX2-2070LER
PX2-4260PR-F5N1A0
PX2-4261PR-F5N1A0
PX2-4292PR-N1A0
PX2-4293PR-F5N1A0
PX2-4850PR-F5N1A0
PX2-4869PR-N1A0

Important Notes and Information:

Enable Javascript in your browser before logging into the unit to start the upgrade process.

Known Issues with this Release:

Caution: Only Power IQ releases 4.2 and higher are compatible with PX3.0.4.

- 1) The range for the power sensors of the metered outlets are calculated using the ranges of the current and voltage ranges, although the user can enter up to 35000W/VA, which is incorrect. [55449]
- 2) Unacknowledged Alarms are not persistent in the Alarms section on the Dashboard page, they are not retained after a unit reset, hardware reset, or power cycle is performed on any unit running PX2 firmware. [55395]
- 3) This firmware is not intended to be used with Schroff LHX20/40 and SHX30 water coolers-unless specifically recommended by Schroff. Please contact Schroff Support.[55204]
- 4) Products with a PX3 prefix in the part number have an RJ45 Feature port. Do NOT plug in the Ethernet cable from an Ethernet switch/router into this port as it can potentially damage the hardware in the PX3 PDU, and the PX3 PDU will not boot-up. This is because the Raritan Feature port carries power on one of the pins that is used to power certain sensors like the Raritan AMS. The connectors are color-coded to minimize the chance of this happening. This applies only to units shipped before July 1, 2014; units shipped after this date have a hardware fix for this issue. [53930]
- 5) After factory defaults user cannot set the "frontPanelSwitching" to true from SNMP. [57250]

Workaround:

- a. Login to the Web GUI of the PDU.
- b. Go to DeviceSettings -> security->frontPanelSwitching

- c. Check the checkbox of "frontPanelSwitching" and click OK.
Now the user can change the settings of "frontPanelSwitching" via SNMP successfully.
- 6) PX2 uses the IETF Standard RADIUS Attribute Filter-ID so user/group on RADIUS can be assigned this attribute name with appropriate matching role name (case sensitive) to achieve authorization. In the next major release (in Q4/2014) we will provide additional documentation for configuring RADIUS. [57123]
`Filter-ID = Raritan:G{Matching_Role_on_PX}`
- 7) For dual-inlet units only: PDU active power is total of both (dual) inlets of the PDU- even when one of the inlets is disabled. When inlet is disabled all the sensors of the inlet are flagged as unavailable except the active energy. This is intended, because the original reason for implementing the feature to disable an inlet was to ensure that there are no alarms if that inlet has no power (because the customer decided not to turn on the second power circuit).[57059]
- 8) The RJ12 (label as 2) on DX-D2C6 sensor does not work. This feature has not been implemented yet. [55556]
- 9) Ensure that internal STP is isolated from external networking:
 - a. all devices in a cascade should use the same firmware
 - b. the master unit should be updated first [56831]
- 10) A maximum of 19 characters are displayed on the dot-matrix LCD display, while a maximum of 64 characters are supported in the device name. [56824]

Release Package Details:

The Release 3.0.4 package has the following components. It is a GA (General Availability) release, and will be posted on the Raritan website.

Some releases ("LA", for limited availability, meaning not tested on all products like GA releases are) are **not** posted on the website, and are intended for specific old or new models only. If posted, the binary file is zipped and must be unzipped before it can be installed on the Raritan unit:

"PX2ReleaseNotes3_0_4v1" – this file
A firmware release (binary):
pdu-px2-3.0.4.5.41800.bin

Firmware Upgrade Pre-requisites:

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Please read the entire instructions (this document) before proceeding.

If you have any questions, or cannot follow the instructions in the User Guide, please STOP and contact Raritan Technical Support for further instructions.

General Upgrade Instructions (standalone upgrade from the browser based user interface): Follow instructions in the User Guide.

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