

VERTIV™

RPC2™ Communications Module

Release Notes

FIRMWARE VERSION 13.0.0.3_00245, FEBRUARY 19, 2018

Release Notes Section Outline

- 1 Version and Compatibility Information
- 2 Features and Enhancements
- 3 Upgrade Instructions
- 4 Known Issues

1 Version and Compatibility Information

This release contains firmware version RPC2_13.0.0.3_00245 (supersedes release RPC2_12.0.0.5_00109) and is compatible with the following devices and software:

- Vertiv™ RPC2™ rack PDU (power distribution unit) communication card. The following communication protocols are supported with the RPC2™ communication card:
 - HTTP/HTTPS
 - Liebert® Velocity Protocol
 - Email
 - SMS
 - Vertiv™ Command Line Interface (CLI)
 - SNMP v1, v2c, v3
- Vertiv™ MPH2™ power distribution unit (PDU)
- Liebert® MPH™ power distribution unit (PDU)
- Liebert® MPX™ power distribution unit (PDU)
- Avocent® MergePoint Unity™ KVM over IP and serial console switch
- Avocent® ACS advanced console servers
- Avocent® Universal Management Gateway appliance
- Avocent® DSView™ management software
- Avocent® Rack Power Manager software
- *Trellis*™ real-time infrastructure optimization platform
- Nform™ software
- SiteScan™ software

Browser Compatibility Table

SUPPORTED BROWSERS	VERSION
Microsoft® Internet Explorer®	IE10, IE11
Mozilla® Firefox®	28.0
Google Chrome™	34.0.1847.116m
Safari® (MacBook®)	6.1.1
Safari® (iPad®)	7.1

2 Features and Enhancements

Release Features Table

FEATURES / ENHANCEMENTS	DESCRIPTION
VERTIV™ MPH2™ PDU	<p>For three-phase wye-configured models, the line LED illuminates orange, indicating which phase you should connect the next device to in order to achieve a balanced loading condition. For example, if the L1 LED is lit orange, connect the next device load to the L1-N phased receptacle on Branch A or Branch D, if available.</p> <p>For three-phase delta-configured models, one or two line LEDs illuminate orange, indicating which phase to connect the next device load to in order to help achieve a balanced loading condition. For example, if L2 and L3 LEDs are lit orange, connect the next device load to the L2-L3 phased receptacle at Branch B or Branch E, if available. Or, if L1 is lit orange, then connect the next device load to either L1-L2 at Branch A or D (if available) or L3-L1 at Branch C or F (if available).</p> <p>For CE-marked models, the LCD alternately displays voltage and current measurements.</p>
VERTIV™ RPCBDM-1000	<p>When two or more units are in array, the aggregated line current, total real power and total energy values can be displayed by holding down the scan switch for a few seconds. A sigma character is alternately displayed in normal and inverse graphics mode when in aggregation mode (for example: $MP\Sigma$ at the usual left position).</p> <p>The aggregation mode persists until the backlight automatically turns off, either after five minutes of scan switch inactivity or if the user presses the scan switch to revert to normal menu operation. A first key press will restore the backlight and a second key press will resume normal menu operation.</p> <p>When the module or receptacle configuration or warning/alarm condition change occurs, it reverts to normal menu operation.</p> <p>The aggregation of current RMS is an acceptable approximation for this use case.</p>

FEATURES / ENHANCEMENTS	DESCRIPTION
	The bar graph's dashed line is the over current alarm threshold and is redrawn per phase display. Ideally, for 2N redundancy, this threshold should be configured the same for both rack PDUs.
	For aggregation mode, if rack PDUs are a mix of single, two and three-phase, the selected unit determines the scope of current bar graphs displayed.
	If energy exceeds 99,999kWh, then it's displayed in 0.1MWh units.
	A link symbol is displayed when the RPC PDU is communicating with it. While fetching the branch data for a new selection, there may be a delay of 20 seconds or more before the screen is refreshed. This delay is because the branch's receptacle data is also fetched.

WEB INTERFACE
The web interface is updated to reflect Vertiv™ and new icons.
A new Sensor Explorer tab is added for more intuitive sensor management.
An added icon down arrow badge helps to quickly locate a source causing a warning and alarm status.
USB port enable/disable configuration is added.

Release Fixes Table

FEATURE FIX	DESCRIPTION
WEB INTERFACE	Changed colors and graphics to the Vertiv™ brand.
	Fixed issues preventing firmware update (after previous attempt had aborted) and completion of device reboot sequence that forces exit from bootloader mode.
	Improved firmware update reliability for array configurations, including prevention of a scheduled web session timeout to cause it to abort.
	Fixed the issue where a Config choice for the Vertiv™ MPH2™ PDU is incorrectly displaying when used together with a Liebert® MPX™ PDU in an array.
	Fixed issue with Reset Energy behavior of checkbox selections and false notification for models having non-metered receptacles.
	Fixed invalid pop-up messages for Backup/Restore.
	Fixed Device Explorer Config table fill-down issues.
	The web interface now checks for an invalid username not starting with a letter or underscore.

FEATURE FIX	DESCRIPTION
VERTIV™ MPH2™ PDU	Fixed CLI branch measurement reporting for the MPHR1621 PDU.
LIEBERT® MPH™ PDU	Fixed web user interface display data for the MPH-NBV24NOXI30 PDU.
LIEBERT® MPX™ PDU	Fixed device acknowledgement notification when array size changed. Fixed CLI reporting of branch measurements when MPXB RM ordering is changed.
AUTHENTICATION	When adding new user, the name must start with a letter or underscore. A single space character is now accepted as a password.
NOTIFICATION	The 301 ALARM Branch Overcurrent Protection event is now generated when SWOCP is enabled and alarm threshold is breached.
COMMAND LINE INTERFACE (CLI)	Fixed issue with network configuration requiring a reset to factory default first before changes are made. Fixed issue when displaying information for receptacle group 64 for the receptaclegroup CLI command. Receptacle group 63 was incorrectly displayed before. Fixed issue that occurs when no sensor is installed. In this case, the response for the CLI command "sensor address <pdu#>" is a blank line. The expected response is now: <i>Error: Sensor Absent.</i> Corrected spelling and formatting errors.
CONFIGURATION	Fixed numerous issues with configuration backup/restore for local/ftp/USB memory stick methods not saving certain configuration data (including network settings, sensor order, Avocent® DSView™ software server IP addresses, email/SMS connection type, authentication, username and password).
NETWORK	Fixed issue with DHCPv4 not responding to assigned IP address after the Vertiv™ RPC2™ PDU is temporarily disconnected from the network or the DHCP server is stopped and restarted.

FEATURE FIX	DESCRIPTION
	Static IP addresses from 192.168.1.1 to 192.168.1.14 can no longer be assigned because they are reserved for array communications.
PROTOCOL	A reboot commanded via web, SNMP or CLI now will cause the rack PDU controller to reboot too.
	Fixed issue with invalid pop-up message when configuring FTP for datalog.
SECURITY	Contact Vertiv™ technical support for details.
SENSORS	Fixed issue with reporting incorrect Sensor ID after reboot.
SNMP	Fixed issue saving SNMPV3 access changes.
	Cold start trap is no longer sent when settings are saved and only sent at restart if LGP MIB enabled.
	Fixed issue assigning default UDP port number 161 to another value.
	Patched net-snmp-5.7.3 memory leak affecting SNMPV3 stability.
EMAIL / SMS	Fixed false verification message reporting for correctly configured Email if SMS is incorrectly configured.
SWOTP	Fixed issue occurring when the sensor string is disconnected and power cycle/ reboot occurs. If it is reconnected after, all receptacles with SWOTP enabled are inadvertently switched off.

3 Upgrade Instructions

The Vertiv™ RPC2™ rack PDU communications card/module may be updated to this firmware using the web-based firmware update feature described in Section 4.8.4 (*System Tab- Firmware Update*) of the RPC2™ Communications Module Installer/User Guide (590-1380-501A).

4 Known Issues

FEATURE	DESCRIPTION	WORKAROUND
WEB INTERFACE		
	Older browser versions may not correctly render certain graphical features.	Use only compatible browsers' versions advised above.
	A non-maximized window may hide some tabs.	For the best experience, the recommended minimum horizontal resolution is 1200px. For display resolution lower than 900px, zoom out to view the full content.
	If Adware/virus in the host PC, accessing it may cause reboots.	Not available now.
	Login does not accept credentials or various pages do not show expected information or new feature support.	Delete browser cache, close browser and log in again. A reminder message is now displayed at the log in screen.
	IE9 does not display percentage complete for upload phase of firmware update.	Not available now.
SENSORS		
	Prior to the Vertiv™ RPC2™ card Rev4 hardware assembly, for the Liebert® SN prefix family of modular sensors' configurations having greater than three modular SN-2D and SN-3C sensors on the same string, the sensor discovery process can become unstable depending upon the sensor cabling proximity to noisy power cabling. The symptoms may include occasional Absent Sensor events or the inability to discover one or more sensors.	Please refer to the RPC2™ card Liebert® SN™ Modular Sensors Discovery Process Technical Bulletin for more detail.
	Prior to Vertiv™ RPC2™ PDU card Rev3 hardware assembly, the Liebert® SN Leak Detection Sensor (SN-L) is not supported.	Please refer to RPC2™ card Support for Liebert® SN™ Leak Detection Sensor Technical Bulletin for more detail.
SNMP		
	No validation of logical consistency for threshold settings.	Not available now.
	IgpConditionAcknowledged OID is not supported.	Not available now.
	IgpPduRbEntryClearLossOfLoads OID needs corresponding trap and means to clear active alarm state.	Not available now.

FEATURE	DESCRIPTION	WORKAROUND																																																																
	No support for clearing active Loss of Loads event.	Use OBWI to clear active event at <i>System-Device Change-Active Events</i> .																																																																
COMMAND LINE INTERFACE (CLI)																																																																		
	When using CLI to control the power or set thresholds values, a three second delay is required before the updated values or states can be read back correctly.	Not available now.																																																																
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	<p>The following notifications are missing when executing the notification command:</p> <table border="1" data-bbox="500 856 1019 1816"> <tbody> <tr><td>513</td><td>ALARM</td><td>Sensor</td><td>Over Differential Pressure</td></tr> <tr><td>514</td><td>WARNING</td><td>Sensor</td><td>Over Differential Pressure</td></tr> <tr><td>515</td><td>ALARM</td><td>Sensor</td><td>Under Differential Pressure</td></tr> <tr><td>516</td><td>WARNING</td><td>Sensor</td><td>Under Differential Pressure</td></tr> <tr><td>208</td><td>ALARM</td><td>PDU</td><td>Neutral Voltage Fault</td></tr> <tr><td>306</td><td>ALARM</td><td>Branch</td><td>Loss of Load</td></tr> <tr><td>307</td><td>ALARM</td><td>Branch</td><td>Hardware Fault</td></tr> <tr><td>408</td><td>ALARM</td><td>Receptacle</td><td>Hardware Fault</td></tr> <tr><td>115</td><td>ALARM</td><td>System</td><td>Too Many Sensors</td></tr> <tr><td>111</td><td>ALARM</td><td>System</td><td>Device Change Acknowledge Pending</td></tr> <tr><td>106</td><td>NOTIFICATION</td><td>System</td><td>PDU Power on Reset Event</td></tr> <tr><td>209</td><td>ALARM</td><td>PDU</td><td>Over Current Residual</td></tr> <tr><td>210</td><td>NOTIFICATION</td><td>PDU</td><td>Reset Energy occurred</td></tr> <tr><td>308</td><td>NOTIFICATION</td><td>Branch</td><td>Reset Energy occurred</td></tr> <tr><td>409</td><td>NOTIFICATION</td><td>Receptacle</td><td>Reset Energy occurred</td></tr> <tr><td>211</td><td>ALARM</td><td>PDU</td><td>Over Current Protection</td></tr> </tbody> </table>	513	ALARM	Sensor	Over Differential Pressure	514	WARNING	Sensor	Over Differential Pressure	515	ALARM	Sensor	Under Differential Pressure	516	WARNING	Sensor	Under Differential Pressure	208	ALARM	PDU	Neutral Voltage Fault	306	ALARM	Branch	Loss of Load	307	ALARM	Branch	Hardware Fault	408	ALARM	Receptacle	Hardware Fault	115	ALARM	System	Too Many Sensors	111	ALARM	System	Device Change Acknowledge Pending	106	NOTIFICATION	System	PDU Power on Reset Event	209	ALARM	PDU	Over Current Residual	210	NOTIFICATION	PDU	Reset Energy occurred	308	NOTIFICATION	Branch	Reset Energy occurred	409	NOTIFICATION	Receptacle	Reset Energy occurred	211	ALARM	PDU	Over Current Protection	<p>Not available now.</p>
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FEATURE	DESCRIPTION	WORKAROUND
AVOCENT® DSVIEW™ SOFTWARE AVOCENT® RACK POWER MANAGER SOFTWARE		
	Avocent® DSView™ software and Avocent® Rack Power Manager software servers fail to discover Vertiv™ MPH2™ rack PDUs using IPv6 subnet range.	For the Add Appliance Wizard, select the <i>Add one or more appliances by IP address</i> option instead.
	Upgrade Firmware is not supported in Https mode.	Click <i>Network-Access Control</i> in navigation tree, select <i>Http</i> under Web Server drop down list box, click <i>Save</i> , and then try <i>Upgrade Firmware</i> again. Alternatively, perform firmware update via the RPC2™ OBWI directly.
NETWORK		
	The Network operates in “Auto (1000 Mbs/Full Duplex)” mode regardless of Speed/Duplex setting.	Not available now.
AUTHENTICATION		
	Assigning a remote username with a preceding space character or as an operator prevents successful authentication.	Must use a letter or underscore as first character in username.
CONFIGURATION		
	Unable to restore user and group names from backup.	Not available now.
RACK PDU ARRAY		
	If using DHCP, the rack PDU array does not reestablish full communication again after a special power cycle sequence. To recreate the issue: <ol style="list-style-type: none"> 1. Establish a working rack PDU array using DHCP. 2. Disconnect the network cable to the first RPC2™ PDU. 3. Turn off all rack PDUs; wait a minute. 4. Turn on all rack PDU while the network cable is still disconnected. 5. Wait ten minutes, then reconnect the network cable to the first RPC2™ PDU. 6. The first RPC2™ PDU will get an IP address after a short delay from the DHCP server. 7. The other RPC2™ PDUs will not reestablish communication to the first RPC2™ PDU. 	Disconnect the communication cabling between the two RPC2™ PDUs, wait for 30 seconds, then reconnect. No power cycling is required.

FEATURE	DESCRIPTION	WORKAROUND
NETWORK TIME (SNTP)		

For Liebert® MPH™ and MPX™ PDUs, if the local setting is selected for the time source, the date and time are reset after a reboot. The Vertiv™ MPH2™ PDU date and time are unaffected by a reboot.

This is a design limitation. After a reboot the Liebert® MPH™ and MPX™ PDUs local date and time must be re-entered.