Vertiv™ Geist™ Upgradeable Rack Power Distribution Unit (PDU) and Rack Transfer Switch (RTS)

Firmware Release Notes

VERSION 6.1.2, APRIL 30, 2024

Release Notes Section Outline

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1. Features and Enhancements

The Vertiv™ Geist™ Upgradeable Rack PDU and RTS version 6.1.2 firmware release is compatible with Vertiv™ Geist™ Upgradeable Rack PDUs and RTS units equipped with Vertiv™ Geist™ 3E, 3E-G, 3E-S, 03E, 03E-G and 03E-S models of Upgradeable Interchangeable Monitoring Devices (IMDs) which are currently running firmware versions 5.0 and later, and IMD-5M models currently running firmware version 6.0 and later. This release includes the following features and enhancements which were first made available with 6.1.1 firmware:

- New web interface style.

- The web interface Utilities menu is now a top-level menu and no longer resides in the System menu.

- The Guest user (which provides unauthenticated read-only access) can now be disabled during first-time web interface login to new or factory-defaulted devices.

- SNMP protocol is now disabled in new or factory-defaulted devices and can be enabled during first-time web interface login to new or factory-defaulted devices.

- Administrative access rights are now required to view web interface SNMP community names.

- There are no longer any default SNMP community names.

- Added ability to read configured alarm thresholds using SNMP.

- The HTTP web interface can now be set to "enabled" or "redirected to HTTPS". When redirected to HTTPS and the HTTPS interface is disabled, device connection will only be possible using SSH.

- Added HSTS (HTTP Strict Transport Security).

- Added an "x-content-type-options nosniff" HTTP header.

- Extended network disconnections now result in a web interface user being logged out.

- Added ability to display, log and alarm upon accumulated CO2 and rate of CO2 use. CO2 is calculated using a user-specified emission-factor; for further emission-factor information, see https://www.carbonfootprint.com/international_electricity_factors.html.

- Added IMD-5M secure boot using cryptographically signed firmware and a hardware trust anchor to assure firmware authenticity.

- Added IMD-5M controller redundant power availability and current power source reporting.

2. Fixes

This release fixed an error which resulted in rack PDU settings reverting to default values upon update from 5.x or 6.0.x firmware to 6.1.1 firmware. The following fixes were first made available with 6.1.1 firmware:

- Fixed provisioner ability to discover large numbers of devices (more than approximately 150).
- Fixed provisioner ability to configure an initial admin user with new or factory-defaulted devices.
  NOTE: This requires the target devices to be using 6.1.1 or later firmware.
- Fixed provisioner ability to update firmware when a target device has HTTP disabled.
- Fixed web session inactivity timeout not deleting session tokens.
- Closed unused network ports 319 and 320.
- Updated embedded TLS and SSH certificate expiration dates.

3. Known Limitations and Notes

NOTE: Known limitations (*) will be addressed by a future firmware update.

The following limitations and notes were first published with 6.1.1 firmware:

- General notes and limitations:
  - Power readings may not be available for up to 30 seconds after device power on.
  - * A page titled "undefined [menu.blank]" may display after a successful update from 5.x firmware to 6.1.x firmware. Select one of the displayed icons to continue.
  - * The web interface continues to show accounts as locked after the lock period expires. Logging in to the account corrects the erroneous locked indication.
  - * Downloading the data log fails with a 1001 error when the Guest user account is disabled.
  - * The "[state.lossOfLoadDetected]" message is displayed instead of a *Loss of load detected* message when mousing over the Circuit Loss of Load icon in the web interface.
  - * Selecting *Reboot I/O Boards* logs the user out of the web interface after performing the action.
  - The RTAFHD3 temperature, airflow, humidity, and dewpoint sensor will display an airflow value of '- -' whilst calibrating for first 30 seconds after sensor connection or device power on.
- Network notes and limitations:
  - When DHCP is enabled but a DHCP server is not available, a 169.254.0.0/16 network IPv4 link local address will be assigned to the port.
  - DHCP address assignments and reservations might change when updating from 5.10.4 or 5.10.8 to 6.1.x firmware. This is due to a correction to an erroneous DHCP client-id setting present in 5.10.4 and 5.10.8 firmware.
  - * While it is possible to prevent the use of HTTP by redirecting all HTTP requests to HTTPS, it is not possible to completely disable HTTP unless HTTPS is also disabled.
  - * Some IMD-3x network configuration changes (DNS configuration, for example) can take 20 seconds or more and may result in a *Network Connectivity Has Been Disrupted* error message followed by the display of a partially populated web page. However, the requested configuration change is correctly performed, and you should re-authenticate after refreshing the web page.
  - * Available SSIDs are not listed when configuring a Wi-Fi network connection. However, if the desired SSID is known, it can be entered manually.
- Provisioner notes and limitations:
  - * The provisioner may not operate correctly when the target device Guest user account is disabled.
  - The provisioner can configure the initial admin user only with target devices running 6.1.x firmware.
  - The HTTPS web-server protocol must be enabled and use the default port number for provisioner to operate correctly.
- IMD-5M notes and limitations:
  - * The IMD-5M display does not display 3-phase-delta line currents.

- * IMD-5M configuration cannot be backed up or restored using USB storage.

- * The IMD-5M touchscreen cannot be used to restore default settings; however, pressing and holding the IMD-5M reset button for 15-20 seconds (until the LED indicator flashes rapidly) will restore default settings.

- * IMD-5M touchscreen does not indicate whether a firmware update is in progress.

- * IMD-5M touchscreen operation while running the provisioner feature to update firmware or device configuration may result in the touchscreen temporarily locking up and the provisioner not completing the requested operation. To avoid this issue, do not touch the touchscreen while the provisioner is running a configuration or firmware update.

- IMD-5M redundant power will operate correctly only when using two outlet-switched and/or outlet-monitored rack PDUs. Using an inlet-only monitored rack PDU is likely not to operate correctly and the web user interface may misreport power status.

- IMD-5M redundant power is turned on nine (9) seconds after device power on, resulting in this feature not operating if power fails within 9 seconds of power on.

- Vertiv™ Intelligence Director notes and limitations:

  - Enhanced system security requirements resulted in Vertiv™ Intelligence Director (aggregation) support for IMD models 02XV, 02XH, 02EH, and 02EV array devices being withdrawn when using an array controller with 6.1.1 or later firmware. Attempting to onboard an IMD-02x rack PDU will result in an *Unknown Device* error. However, existing previously onboarded IMD-02x rack PDU array devices will continue to operate normally. Upgrading these rack PDUs to an IMD-03x or IMD-5M IMD will remove this restriction.

  - Existing Vertiv™ Intelligence Director (aggregation) array devices using IMD-02x controllers must be updated to 3.4.0 firmware when the array controller has 6.1.1 firmware.

  - Vertiv™ Intelligence Director (aggregation) IMD-3x array controllers must be updated to 6.1.1 or later firmware to be able to manage IMD-5M array devices.

  - * Alarm-controlled switched rack PDU outlets which form part of a Vertiv™ Intelligence Director (aggregation) outlet group do not change state when the group outlet state is changed.

  - If a Vertiv™ Intelligence Director device web server HTTP protocol setting is changed from Redirected to Enabled, the web browser cache must be refreshed to enable the redirection link on the Devices page to work.

4. Additional Notes

- It is not possible to upload and install an older version of firmware once version 6.1.2 firmware is installed.

- IMPORTANT NOTE: Immediately following system startup, this firmware may update the internal rack PDU and/or RTS components, which can take up to thirty (30) minutes to complete, depending on the device model and prior firmware version. During this time, a *Component Update in Progress* message displays. Please ensure the rack PDU or RTS is not reset or powered off during this process. If the PDU or RTS is powered off during the process, the firmware update must be reinstalled to re-run the component update.