

Updated Product Change Notification Software Release Notice

mPower™ Edge Intelligence Software mPower 5.3.0

MultiConnect® rCell 100 Series Cellular Routers



Date: February 11, 2021

Product Change Notification (PCN) Number
PCN 12142020-002 (mPower - MTR)

I. Overview

MultiTech announces updated firmware for the MultiConnect® rCell 100 Series cellular router devices.

The purpose of this Software Release Notice is to alert customers that updated code is available for evaluation and to provide customers important information on this new release.

New mPower Version: mPower MTR 5.3.0

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II. Suggested Action Plan

To help accelerate the acceptance of mPower 5.3.0 and understand any impact on custom applications, we recommend that the following actions be taken.

Upcoming mPower Versions

- MTR 5.3.0 (MultiConnect rCell 100 Series)

Customers

- Please review the information in this PCN and forward to others within your organization who are actively involved with the development of the MultiConnect rCell.

Firmware Schedule

- Review the [Ordering Part Numbers Impacted](#) to understand how mPower 5.3.0 impacts the devices you are using
- Consider downloading mPower 5.3.0 firmware prior to the transition
- Technical inquiries: email support@multitech.com
- Sales inquiries: email sales@multitech.com

Distributors

- Forward this announcement to others within your organization who are actively involved in the sale or support of cellular routers
- Notify existing customers of this upcoming change and encourage them to evaluate the new firmware

III. mPower 5.3.0 Overview

New Features (MTR 5.3.0):

mPower 5.3.0 will include the following new features:

1. Upgrade to OpenSSL 1.1 [GP-39]
 - mPower version 5.2.X supports OpenSSL 1.0.2k
2. Upgrade Cipher Suite to TLS 1.3 [GP-382]
 - mPower version 5.2.X supports configurable TLS 1.0, 1.1, and 1.2.
 - The benefits of TLS 1.3 are:
 - Increased speed of encrypted connections
 - Improved security due to the removal of obsolete and insecure features from TLS 1.2
 - Greater browser support
 - Increased SSL server support
3. mPower 5.3 firmware supports updates using differential updates [GP-445]
 - Firmware releases following mPower 5.3.0 can be made using a differential update image.
 - When new mPower firmware versions are released, customers can update their devices using the full firmware image (today's solution) or using a differential update image.
 - The differential update image only contains updates to the firmware code that has changed.
 - The differential update image can be uploaded to the device faster than the full firmware image, reducing bandwidth and using less cellular data.

4. Package management and updates added to administrative settings [GP-57] [CP-19]
 - Using Device HQ and mPower version 5.3 or later, customers can perform a package-based upgrade
 - Useful for delivering any security patches without rolling out a new firmware image

Feature Enhancements (MTR 5.3.0):

mPower 5.3.0 versions include the following enhancements to features announced in earlier mPower versions:

1. Cellular radio firmware upgrades added for the following cellular radios [GP-615, GP-397].
 - MTR-LNA7 (Quectel EG95-NA)
 - MTR-LEU7 (Quectel EG95-E)

There are two types of radio firmware upgrades:

- Full Firmware Image Upgrade: When applied, the full firmware update replaces the current firmware image with the new image of the new version
 - Delta Firmware Upgrade: When applied, the current firmware image is updated with the differences between it and the new version, and effectively becomes the new version of firmware.
2. Cellular radio status updated to include additional details [GP-310]. Updates reported in Web UI and Device HQ.
 - RSRP – LTE Signal Strength. Average power received from a single reference signal.
 - RSRQ – LTE Signal Quality. Signal-to-noise ratio for a given signal
 - RSSI – Relative Received Signal Strength. Power level received by the cellular radio after the antenna and possible cable loss.
 - Service Domain – CS domain (video/voice service) and PS domain (data service) available

Known Behaviors (MTR 5.3.0)

1. Change in OpenSSL certificate validation and TLS 1.3 [GP-843]
 - Changes have been made to the factory reset and upgrade/migration so that TLS 1.3 is not automatically enabled (disabled by default on both factory reset and upgrade).
 - This change will prevent the issue where a user has an expired certificate, TLS 1.3 is automatically enabled, and the device becomes inaccessible through the Web UI.
2. OpenVPN - Encryption Cipher Configuration Issue [GP-846]
 - OpenVPN configuration allows users to configure the Encryption Cipher (--cipher alg) parameter, but this setting is ignored by OpenVPN. The OpenVPN v2.6 documentation says that this parameter is deprecated and is ignored in v.2.6.
 - OpenVPN v.2.6 has another setting for data channel encryption, which is Negotiable Crypto Parameter (NCP). Now it is not configurable in the Web UI, and it always uses the default ciphers: AES_256_GCM and AES-128-GCM.
 - This issue does not affect the OpenVPN tunnel connection.

API Command Changes (MTR 5.3.0):

The MultiConnect rCell 100 Series Router uses the RESTful JSON API for managing configurations, polling statistics, and issuing commands. mPower MTR 5.3.0 versions include a number of API changes.

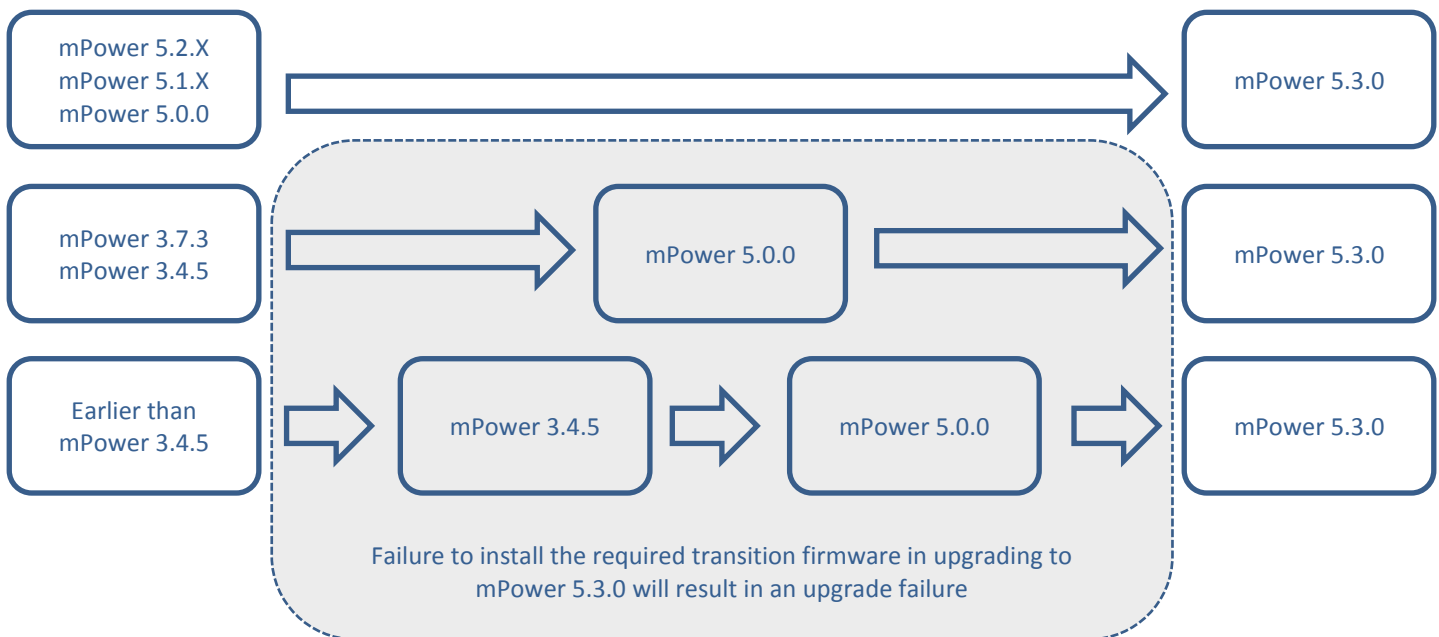
API Reference: <http://www.multitech.net/developer/software/mtr-api-reference/>

Changes from mPower 5.2.x to mPower 5.3.0:

<http://www.multitech.net/developer/software/mtr-software/mtr-api-reference/api-changes/>

Minimum System Requirements (MTR 5.3.0)

To install mPower 5.3.0, the MultiConnect rCell 100 Series must be upgraded to MTR 5.0.0 or higher. Customers that are running earlier versions of mPower should use the following upgrade process:



IV. Schedule

There are multiple versions of mPower Edge Intelligence firmware available for customer evaluation and final release.

- Manufacturing
 - MTR 5.3.0 Availability: April 2021
 - Select devices with a Date of Manufacture (DOM) after mid-April 2021 will include mPower 5.3.
 - See [Ordering Numbers Impacted](#) for details
- DeviceHQ®
 - Cloud-based IoT Device Management
 - MTR 5.3.0 Availability: October 2020
 - DeviceHQ login: https://www.devicehq.com/sign_in
 - Instructions: [Upgrading Firmware Using DeviceHQ](#)
- Downloadable Versions
 - mPower MTR 5.3.0: October 2020
 - 1. Visit <https://www.multitech.com/brands/multiconnect-rcell-100-series>
 - 2. Locate and select the correct model number from the Product Listing
 - 3. Visit DOWNLOADS tab and select mPower 5.2 from the list of available firmware downloads
 - Instructions: [Upgrading Firmware Using Device Web Interface](#)

V. Upgrading Firmware

At any time in the upgrade process, customers can send an email to support@multitech.com or call +1(763) 717-5863.

Upgrading Using DeviceHQ

DeviceHQ can update the firmware running on any supported device. Since devices have no live connection to DeviceHQ, firmware updates are made the next time a device checks into DeviceHQ.

Instructions:

1. Visit <https://www.devicehq.com>
2. Sign in to your account using your **email address** and **password**.
3. Click **Devices**. The device list page opens.
4. Click the name of the device you want to update. You can update firmware on filtered devices or selected devices.
 - If you select individual devices, you update firmware on selected devices or the filtered devices.
 - If you do not select devices you update the firmware on the filtered devices.
5. Click **Schedule** and select **Upgrade Firmware**. From the list of firmware that appears, select the name of the firmware file. A confirmation message appears, informing you that the new firmware is to be applied to the device when the device next checks in.
6. To confirm that you want to update the firmware click **OK**.

NOTE: To schedule multiple devices at once, see help file within DeviceHQ

Upgrading Using the Web Interface

At any time in the upgrade process, customers can send an email to support@multitech.com or call +1 (763) 717-5863.

It is recommended that customers backup their configuration before performing an upgrade.

- If the firmware upgrade fails, or it does not show the login page again, wait an additional 10 minutes.
- Power off and on the hardware and log in using the web interface to check the version.
- If the version does not show the latest, then the upgrade was not successful.
- Try to perform the firmware upgrade again by repeating all the steps.

Instructions:

1. Before upgrading, reboot the device.
2. Visit <https://www.multitech.com/brands/multiconnect-rcell-100-series>
3. Locate and select the model number from the product listing
4. For the model number selected, open the DOWNLOADS menu
5. Select the latest firmware version and download it to a known location
6. Open the device web interface
 - a. Select **Administration > Firmware Upgrade**. The Administration: Firmware Upgrade pane opens
 - b. Click **Choose Firmware Upgrade File** button:
 - i. Click **Browse** to find where the firmware file resides that you want to apply
 - ii. Select the file and click **Open**. The file name appears next to the **Choose Firmware Upgrade File** button. Make sure you select the correct BIN file; otherwise, your device can become inoperable.
 - c. Click **Start Upgrade**.
 - d. A message about time needed to upgrade appears. Click **OK**. A progress bar appears indicating the status of the upgrade. When upgrade is completed, your device reboots.
 - e. After the firmware upgrade is complete, verify your configuration to make sure it is what you expected.

Notes:

- The new firmware is written into flash memory.
- It may take up to 10 minutes to upgrade the firmware. Do not interfere with the device power or press the reset button during this time.

VI. Ordering Part Numbers Impacted

The following ordering part numbers are impacted by these updates:

Model Name Ordering Part Numbers		
MultiConnect® rCell 100 Cellular Routers		
Status: Active ⁽²⁾	Status: Active ⁽²⁾	Status: NEOL ⁽³⁾
MTR-LNA7-B07 ⁽²⁾ MTR-LNA7-B07-HZ ⁽²⁾ MTR-LNA7-B07-US ⁽²⁾ MTR-LNA7-B10 ⁽²⁾ MTR-LNA7-B10-HZ ⁽²⁾ MTR-LNA7-B10-US ⁽²⁾ MTR-MNG2-B07 ⁽²⁾ MTR-MNG2-B07-WW ⁽²⁾ MTR-MNG2-B10 ⁽²⁾ MTR-MNG2-B10-WW ⁽²⁾	MTR-LEU7-B07 ⁽²⁾ MTR-LEU7-B07-EU-GB ⁽²⁾ MTR-LEU7-B07-HZ ⁽²⁾ MTR-LEU7-B10 ⁽²⁾ MTR-LEU7-B10-EU-GB ⁽²⁾ MTR-LEU7-B10-HZ ⁽²⁾	MTR-H5-B07 ⁽³⁾ MTR-H5-B07-EU ⁽³⁾ MTR-H5-B07-GB ⁽³⁾ MTR-H5-B07-US ⁽³⁾ MTR-H5-B07-US-EU-GB ⁽³⁾ MTR-H5-B08 ⁽³⁾ MTR-H5-B08-US ⁽³⁾ MTR-H5-B08-US-EU-GB ⁽³⁾ MTR-H5-B09 ⁽³⁾ MTR-H5-B09-EU ⁽³⁾ MTR-H5-B09-GB ⁽³⁾ MTR-H5-B09-US ⁽³⁾ MTR-H5-B09-US-EU-GB ⁽³⁾ MTR-H5-B10 ⁽³⁾ MTR-H5-B10-US ⁽³⁾ MTR-H5-B10-US-EU-GB ⁽³⁾ MTR-H6-B16 ⁽³⁾ MTR-H6-B16-EU ⁽³⁾ MTR-H6-B16-EU-GB ⁽³⁾ MTR-H6-B16-GB ⁽³⁾ MTR-H6-B18 ⁽³⁾ MTR-H6-B18-EU ⁽³⁾ MTR-H6-B18-EU-GB ⁽³⁾ MTR-H6-B18-GB ⁽³⁾ MTR-H6-B19 ⁽³⁾

Footnotes:

	Hardware Status	Manufacturing Updates	Comments
(1)	New	October 2020	<ul style="list-style-type: none"> New device that is shipping for the first time Some customers may be testing devices with an earlier version of mPower firmware or a beta version of mPower firmware MultiTech recommends that customers update this hardware to mPower 5.3.0 firmware
(2)	Active	April 2021	<ul style="list-style-type: none"> Active devices continue to ship with earlier mPower versions Customers are encouraged to evaluate mPower 5.3.0 firmware prior to this transition
(3)	NEOL	n/a	<ul style="list-style-type: none"> NEOL devices continue to ship with earlier mPower versions Devices can be individually updated by customers

VII. mPower™ Edge Intelligence

mPower™ Edge Intelligence is MultiTech's embedded software offering, building on the popular application enablement platform, to deliver programmability, network flexibility, enhanced security and manageability for scalable Industrial Internet of Things (IIoT) solutions.

mPower Edge Intelligence simplifies integration with a variety of popular upstream IoT platforms to streamline edge-to-cloud data management and analytics, while also providing the programmability and processing capability to execute critical tasks at the edge of the network to reduce latency, control network and cloud services costs, and ensure core functionality – even in instances when network connectivity may not be available.

In response to evolving customer security requirements, mPower Edge Intelligence incorporates a host of security features including signed firmware validation, enhanced firewall and VPN settings, secure authentication and more.

VIII. MultiConnect® rCell® 100 Series Intelligent Cellular Routers

The MultiConnect rCell is a compact, intelligent and fully-featured communications platform that provides cellular capabilities for fixed and mobile applications. It is intended for use in settings such as:

- Remotely monitoring solar micro-inverters, tanks, pipelines, meters, pumps and valves in any energy, utility, or industrial application.
- The MultiConnect rCell 100 series family has also been successfully deployed by professionals in emergency services, vending, remote patient monitoring, renewable energy systems, process automation and mobile applications (truck, rail, and boat).

The MultiConnect rCell 100 series (MTR-xx) of cellular routers are a part of the MultiTech comprehensive portfolio of cellular connectivity products optimized for M2M (machine-to-machine). The MultiConnect rCell comes with no cost access to DeviceHQ® which is MultiTech's cloud platform service to monitor and manage deployed MultiConnect rCell cellular routers in the field.

IX. Additional Information

If you have any questions regarding this Product Change Notification/Software Release Notice, please contact your MultiTech sales representative or visit the technical resources listed below:

World Headquarters – USA

+1 (763) 785-3500 | sales@multitech.com

EMEA Headquarters – UK

+(44) 118 959 7774 | sales@multitech.co.uk

MultiTech Developer Resources:

www.multitech.net

An open environment where you can ask development related questions and hear back from MultiTech engineering or a member of this community.

Knowledge Base:

<http://www.multitech.com/kb.go>

Immediate access to support information and resolutions for all MultiTech products.

MultiTech Support Portal:

<https://support.multitech.com/support/login.html>

Create an account and submit a support case directly to our technical support team.

MultiTech Website:

www.multitech.com