

Software Release Notes

mPower® Edge Intelligence Software

Includes mPower 6.3.2

Models Impacted:

MultiTech Conduit® AP 300 Series (MTCAP3)



Overview

This document includes the release notes and cumulative changelog for mPower Edge Intelligence embedded software. Detailed information is listed in reverse chronological order, starting with the latest mPower release.

The latest version includes new features and enhancements to the DeviceHQ interface, cellular hardware support, Modbus protocols, user interface, and networking and security features.

Updated mPower 6.x.x release notes are available [< here >](#)

Downloadable Versions:

- mPower 6.3.2 Availability: January 2024
- mPower 6.3.1 Availability: November 2023
- Visit <http://www.multitech.net/developer/downloads/>

mPower™ Edge Intelligence is MultiTech's embedded software offering delivering network flexibility and 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.

Contents

mPower 6.3.2	(January 2024)
mPower 6.3.1	(November 2023)
mPower 6.3.0	(May 2023)
mPower Overview	
Operating System Overview	
Revision History	

mPower 6.3.2 Changelog and Overview

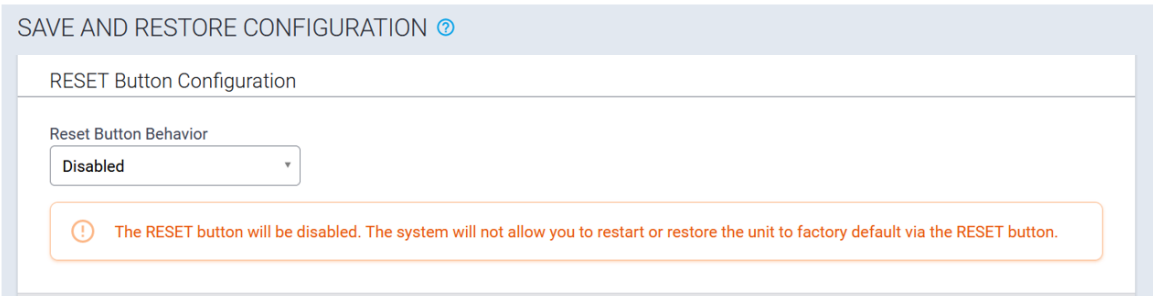
Released: January 2024

Status: Downloadable

Updates in mPower 6.3.2, from [mPower 6.3.1](#)

New Features & Enhancements	Operating System	Networking & Security	Bug Fixes	Known Behaviors	Deprecations	Schedule	Models Impacted	Upgrade Process
-------------------------------------------------	----------------------------------	-------------------------------------------	---------------------------	---------------------------------	------------------------------	--------------------------	---------------------------------	---------------------------------

New Features & Enhancements (mPower 6.3.2)

Hardware Support	
<p>RESET Button Configuration</p> <p>In the User Interface, the Save and Restore Configuration page has been updated to include a new RESET Button Configuration. The following option is available:</p> <ul style="list-style-type: none"> Disabled – The system will not allow you to restart or restore the unit to factory default via the RESET button 	<p>Enhancement GP-2207 TS-5116215</p>

Bug Fixes (mPower 6.3.2)

<p>LoRa Basic Station</p> <ul style="list-style-type: none"> In previous versions of mPower, Actility station configuration was not working as expected <p>In mPower 6.3.2, this issue has been resolved</p>	-
<p>LoRa Packet Forwarder</p> <ul style="list-style-type: none"> In mPower 6.3.2, when two different LoRa Gateway Accessory Cards are installed, the gateway will select the accessory card that matches the channel plan selected in the Network Server Configuration Example: <ul style="list-style-type: none"> US915 channel plan is selected One MTAC-LORA-H-915 and one MTAC-LORA-H-868 are installed in the gateway LoRa traffic will be directed through the MTAC-LORA-H-915 accessory card In previous versions of mPower, both accessory cards were being used, even though only one matched the selected channel plan 	-
<p>Cloud Connector</p> <ul style="list-style-type: none"> In previous versions of mPower, HTTP protocol uplinks were blocked on MQTT lock In mPower 6.3.2, this issue has been resolved 	-

Known Behaviors (mPower 6.3.2)

DeviceHQ® Cloud-Based Device Management <ul style="list-style-type: none"> For devices that have been shipped with or upgraded to mPower 6.3.2, DeviceHQ reports the mPower version as mPower 6.3.7 	-
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---

Schedule (mPower 6.3.2)

- Downloadable Versions
 - mPower 6.3.2 Availability: January 2024
 - Visit <http://www.multitech.net/developer/downloads/>
 - DeviceHQ: January 2024

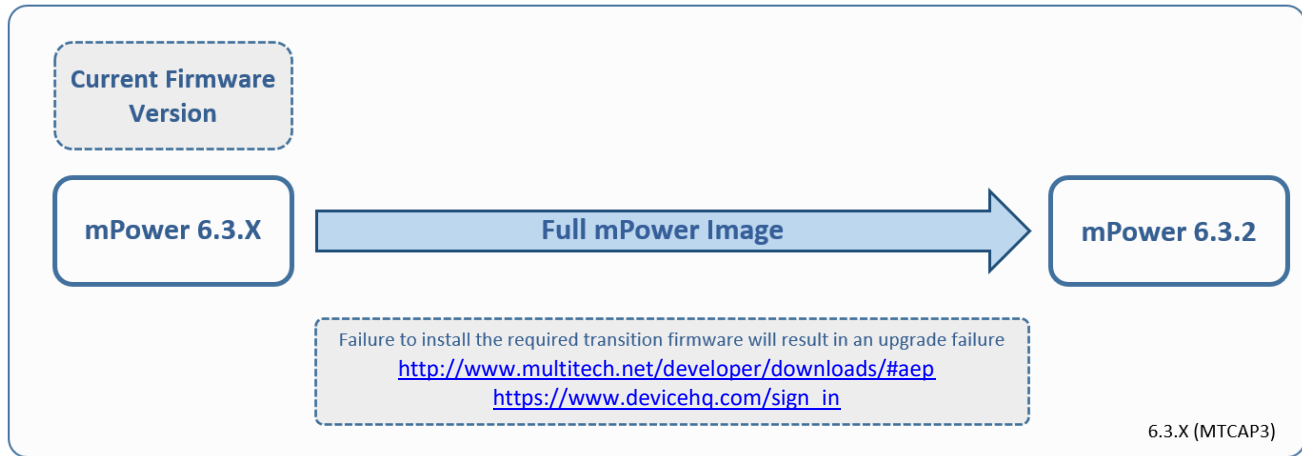
Models Impacted (mPower 6.3.2)

- MultiTech Conduit® AP 300 Series models

Model Number	Description
MTCAP3-EN-A23UEA-LWM	Ethernet-only, 915 MHz w/external LoRa antenna (Canada, United States)
MTCAP3-EN-A23UEA-LWM-BAC	Ethernet Only, BACnet 915 MHz w/external LoRa antenna (Canada, United States)
MTCAP3-EN-A23UEA-DWM	Ethernet-only, 915 MHz w/internal LoRa antenna (Canada, United States)
MTCAP3-EN-A23EEA-LEM	Ethernet-only 868 MHz w/external LoRa antenna (European Union, United Kingdom)
MTCAP3-EN-A23EEA-LEM-BAC	Ethernet Only, BACnet 8-channel, 868 MHz w/external LoRa antenna (European Union, United Kingdom)
MTCAP3-EN-A23EEA-DEM	Ethernet-only, 868 MHz w/internal LoRa antenna and Accessory Kit (European Union, United Kingdom)
MTCAP3-LNA7D-A23UEA-LUM	LTE Category 4, 915 MHz w/external LoRa antenna and Accessory Kit (Canada, United States, AT&T, Verizon)
MTCAP3-LNA7D-A23UEA-DUM	LTE Category 4, 915 MHz w/internal LoRa antenna (Canada, United States, AT&T, Verizon)
MTCAP3-LEU7-A23EEA-LEM	LTE Category 4, 868 MHz w/external LoRa antenna (European Union, United Kingdom)
MTCAP3-LEU7-A23EEA-LEM-BAC	LTE Category 4, BACnet 868 MHz w/external LoRa (European Union, United Kingdom)
MTCAP3-LEU7-A23EEA-DEM	LTE Category 4, 868 MHz w/internal LoRa antenna (European Union, United Kingdom)

Upgrade Process (mPower 6.3.2)

Customers that are running earlier versions of mPower should use the following upgrade process.



Using an old configuration file on new Conduit devices may result in the new devices becoming non-functional. To successfully update new Conduit devices, create separate configuration templates for each type of Conduit device:

- Cellular radio (-LNA7, -LEU7, -EN)
- mPower version (mPower 6.3.0, mPower 6.3.1)

When upgrading a device fleet:

1. Upgrade the mPower version on one device
2. Modify the user-specific configuration settings
3. Perform in-house testing and adjust settings if necessary
4. Use the newly developed configuration file as part of field updates when the new version of mPower is widely deployed

mPower 6.3.1 Changelog and Overview

Released: November 2023

Status: Shipping

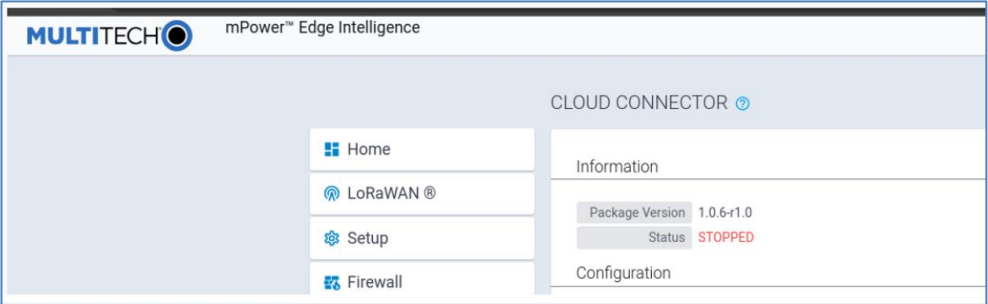
Updates in mPower 6.3.1, from [mPower 6.3.0](#)

New Features & Enhancements	Operating System	Networking & Security	Bug Fixes	Known Behaviors	Deprecations	Schedule	Models Impacted	Upgrade Process
-------------------------------------------------	----------------------------------	-------------------------------------------	---------------------------	---------------------------------	------------------------------	--------------------------	---------------------------------	---------------------------------

New Features & Enhancements (mPower 6.3.1)

Software & Services - Payload Data Manager																					
BACnet AV (analog value) and BV (binary value) Support <ul style="list-style-type: none"> mPower 6.3.1 has been updated to include support for BACnet objects AV and BV. mPower 6.3.1 supports the following BACnet object types: <ul style="list-style-type: none"> Analog Input Analog Value (new) Binary Input Binary Value (new) Positive Integer Value Integer Value Character String Value The BACnet object type depends on the type of the sensor property. The table below lists sensor property types and corresponding BACnet object types. <table border="1"> <thead> <tr> <th>Property Type</th><th>Recommended BACnet Object Type</th></tr> </thead> <tbody> <tr> <td>uint8</td><td>Analog Input, Analog Value, Positive Integer Value</td></tr> <tr> <td>uint16</td><td>Analog Input, Analog Value, Positive Integer Value</td></tr> <tr> <td>uint32</td><td>Positive Integer Value</td></tr> <tr> <td>int8</td><td>Analog Input, Analog Value, Integer Value</td></tr> <tr> <td>int16</td><td>Analog Input, Analog Value, Integer Value</td></tr> <tr> <td>int32</td><td>Integer Value</td></tr> <tr> <td>float</td><td>Analog Input, Analog Value</td></tr> <tr> <td>bool</td><td>Binary Input, Binary Value</td></tr> <tr> <td>string</td><td>Character String Value</td></tr> </tbody> </table> Models Impacted: <ul style="list-style-type: none"> MTCAP3-LEU7-A23EEA-LEM-BAC MTCAP3-EN-A23EEA-LEM-BAC, MTCAP3-EN-A23UEA-LWM-BAC 	Property Type	Recommended BACnet Object Type	uint8	Analog Input, Analog Value, Positive Integer Value	uint16	Analog Input, Analog Value, Positive Integer Value	uint32	Positive Integer Value	int8	Analog Input, Analog Value, Integer Value	int16	Analog Input, Analog Value, Integer Value	int32	Integer Value	float	Analog Input, Analog Value	bool	Binary Input, Binary Value	string	Character String Value	New Feature GP-2037 MTX-5011
Property Type	Recommended BACnet Object Type																				
uint8	Analog Input, Analog Value, Positive Integer Value																				
uint16	Analog Input, Analog Value, Positive Integer Value																				
uint32	Positive Integer Value																				
int8	Analog Input, Analog Value, Integer Value																				
int16	Analog Input, Analog Value, Integer Value																				
int32	Integer Value																				
float	Analog Input, Analog Value																				
bool	Binary Input, Binary Value																				
string	Character String Value																				
BACnet Device Settings – Network Interface <ul style="list-style-type: none"> mPower 6.3.1 monitors the network interface settings. When the IP address and/or subnet of the network interface that BACnet device uses for communication has changed, the change is detected, and a corresponding system update is made so the bacnetOut daemon continues working properly. Models Impacted: <ul style="list-style-type: none"> MTCAP3-LEU7-A23EEA-LEM-BAC MTCAP3-EN-A23EEA-LEM-BAC, MTCAP3-EN-A23UEA-LWM-BAC 	New Feature GP-2027 MTX-4999																				

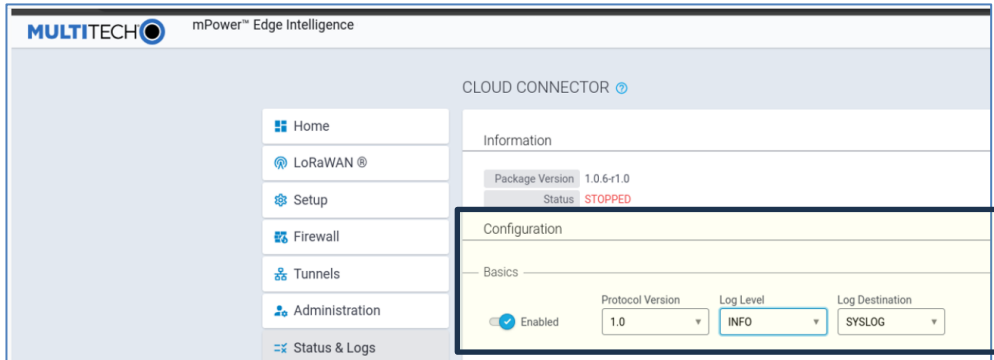
New Features & Enhancements (mPower 6.3.1)

BACnet Device Settings – Available Network Interfaces <ul style="list-style-type: none"> mPower 6.3.1 allows the selection of any Ethernet network interface available in the system: br0, eth0, eth1, eth2, swi1, swi2, swi3, swi4; regardless of LAN or WAN interface. Models Impacted: <ul style="list-style-type: none"> MTCAP3-LEU7-A23EEA-LEM-BAC MTCAP3-EN-A23EEA-LEM-BAC, MTCAP3-EN-A23UEA-LWM-BAC 	Enhancement GP-2027 MTX-4999
BACnet – Change in JavaScript Engine <ul style="list-style-type: none"> In mPower 6.3.1, Payload Management code is executed using QuickJS JavaScript Engine Previous mPower versions used Duktape JavaScript Engine QuickJS JavaScript Engine is aligned with The Things Network (TTN) recommendations and allows other updates to be made: <ol style="list-style-type: none"> Updated decode Uplink signature. Support for normalize Uplink functionality. Models Impacted: <ul style="list-style-type: none"> MTCAP3-LEU7-A23EEA-LEM-BAC MTCAP3-EN-A23EEA-LEM-BAC, MTCAP3-EN-A23UEA-LWM-BAC 	Enhancement GP-2110 MTX-5086
Software & Services – LoRaWAN Features	
Default Application – Name Change to Cloud Connector <ul style="list-style-type: none"> In mPower 6.3.1, the Default Application is renamed Cloud Connector Cloud Connector allows last mile bi-directional communication from the gateway to a cloud application (Generic MQTT, AWS & Azure) without needing to deploy custom code on each gateway; this allows LoRaWAN uplinks and downlinks to be easily consumed and produced by a cloud application. New features include the ability to trigger request and receive responses via MQTT for LoRa queries, logging, and device API's. <p>Please see the following link for additional info: https://multitechsystems.github.io/lorawan-app-connect-mqtt</p> 	Enhancement GP-2071
Cloud Connector - User Interface Configuration <ul style="list-style-type: none"> In mPower 6.3.1, Cloud Connector is moved to the applications page 	Enhancement GP-2066
Cloud Connector – Updated to version 1.1 <ul style="list-style-type: none"> mPower 6.3.1 supports Cloud Connector version 1.1 (new) or version 1.0 Detailed technical information is available on the MultiTech Systems github page https://github.com/MultiTechSystems/lorawan-app-connect/blob/master/app-connect.py3 	Enhancement

New Features & Enhancements (mPower 6.3.1)

Cloud Connector v1.1 – Basic Configuration

- In Cloud Connector v1.1, there are three basic configuration settings
- Protocol Version: v1.0 or v1.1
- Log Level: ERROR, WARNING, INFO, DEBUG, TRACE, or MAXIMUM
- Log Destination: SYSLOG or FILE (and file path)



Enhancement
GP-2095

Cloud Connector v1.1 – Message Formatting

- In Cloud Connector v1.1, API Commands, LoRa requests, and LoRa responses are in a consistent format so they can be easily parsed by third-party software.

v1.1 messages	V1.0 messages
Manage downlinks: <ul style="list-style-type: none"> • lorawan/<GW-UUID>/down • lorawan/<GW-UUID>/clear 	Manage downlinks: <ul style="list-style-type: none"> • lorawan/<APP-EUI>/<DEV-EUI>/down • lorawan/<GW-EUI>/<DEV-EUI>/down • lorawan/<GW-UUID>/<DEV-EUI>/down • lorawan/<APP-EUI>/<DEV-EUI>/clear • lorawan/<GW-EUI>/<DEV-EUI>/clear • lorawan/<GW-UUID>/<DEV-EUI>/clear
Request info from the system: <ul style="list-style-type: none"> • lorawan/<GW-UUID>/api_req • lorawan/<GW-UUID>/lora_req • lorawan/<GW-UUID>/log_req 	Request info from the system: <ul style="list-style-type: none"> • lorawan/<APP-EUI>/<GW-UUID>/api_req • lorawan/<APP-EUI>/<GW-UUID>/lora_req • lorawan/<APP-EUI>/<GW-UUID>/log_req
Publish info from the system: <ul style="list-style-type: none"> • lorawan/<GW-UUID>/api_res • lorawan/<GW-UUID>/lora_res • lorawan/<GW-UUID>/log_res 	Publish info from the system: <ul style="list-style-type: none"> • lorawan/<APP-EUI>/<GW-UUID>/api_res • lorawan/<APP-EUI>/<GW-UUID>/lora_res • lorawan/<APP-EUI>/<GW-UUID>/log_res

- <https://github.com/MultiTechSystems/lorawan-app-connect/blob/master/app-connect.py3>

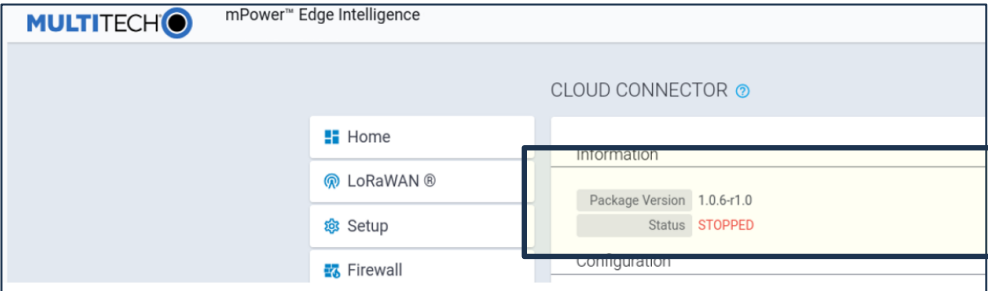
Enhancement
GP-2069

Cloud Connector v1.1 – Package Upgrades

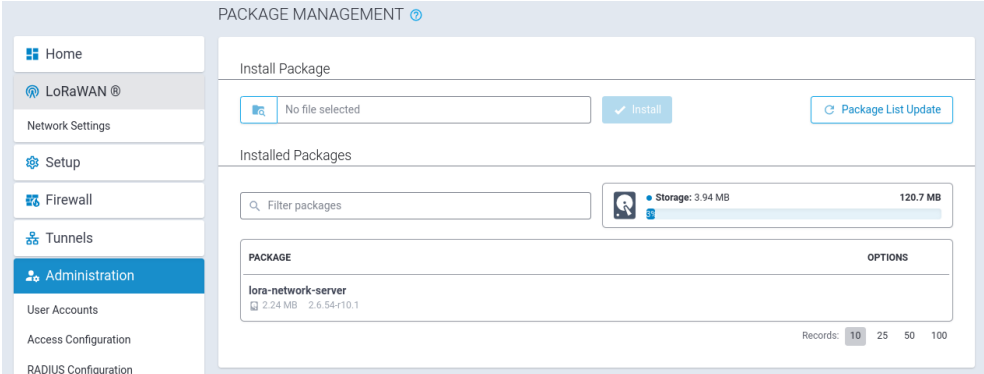
- Starting in mPower 6.3.1, Cloud Connector can be updated using the package upgrade feature.

New Feature
GP-2065
MTX-5065

New Features & Enhancements (mPower 6.3.1)

Cloud Connector v1.1 – LoRa Status Information <ul style="list-style-type: none"> In mPower 6.3.1, Cloud Connector runs independently from the LoRa Network Server. Basic Station configuration can be changed through MQTT. 	New Feature GP-2072
Cloud Connector v1.1 – APP-EUI Support <ul style="list-style-type: none"> Cloud Connector v1.1 (new) has removed the APP-EUI limitation, and the gateway listens to all APP-EUI sensor messages. Cloud Connector v1.0 was limited to one APP-EUI configuration for receiving sensor data. In previous versions of mPower, Cloud Connector was limited to one APP-EUI configuration for receiving sensor data. 	Enhancement GP-2094
Cloud Connector v1.1 – Package Version and Running Status <ul style="list-style-type: none"> In mPower 6.3.1, the user interface is updated to display the package version and running status of the Cloud Connector application. 	Enhancement GP-2100
Cloud Connector v1.1 – API Requests and Responses – Transaction ID <ul style="list-style-type: none"> In mPower 6.3.1, Cloud Connector API requests and API responses include a transaction ID. The transaction ID allows the gateway and sensor to track a specific message transaction through its lifecycle, helping monitor the progress of the transaction and ensuring that it is successfully processed. 	Enhancement GP-2068
Cloud Connector v1.1 - Subscribe on Session Present <ul style="list-style-type: none"> In Cloud Connector v1.1, the server maintains a sticky session and subscribes only when the server sends session_present=false 	Enhancement GP-2090
Gateway UUID Update <ul style="list-style-type: none"> In mPower 6.3.1, the format for the gateway UUID (universally unique identifier) has been updated to comply with the Open Software Foundation (OSF) standard. In previous versions of mPower, the UUID was formatted differently. 	Enhancement GP-2097
Remote Broker - Wildcard Subscriptions <ul style="list-style-type: none"> In mPower 6.3.1, wildcard subscriptions are removed from the remote broker <ul style="list-style-type: none"> Some brokers do not allow wildcard subscriptions In previous versions of mPower, wildcard subscriptions were allowed. 	Enhancement GP-2007
LoRa Spreading Factor Filters <ul style="list-style-type: none"> In mPower 6.3.1, four spreading factor filters are added <ul style="list-style-type: none"> DR5-DR10 DR7-DR10 DR5-DR12 DR7-DR12 	Enhancement GP-2013

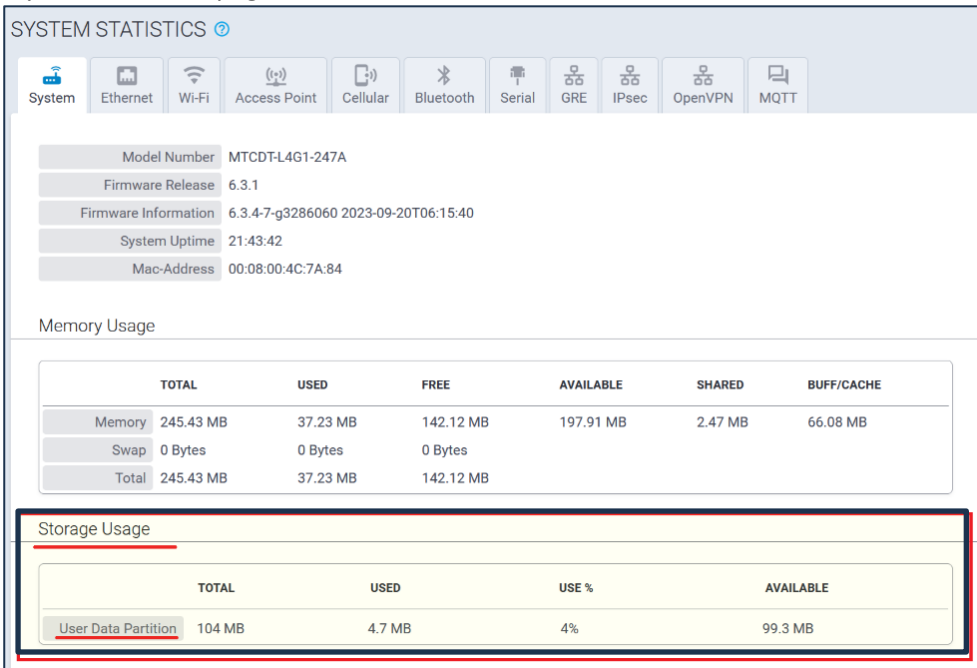
New Features & Enhancements (mPower 6.3.1)

Basic Station – EU868 Duty Cycle Update <ul style="list-style-type: none"> Updated to v2.0.6-20 Add duty-cycle bands K, L, and N Changed duty-cycle limits to match EU regulations <ul style="list-style-type: none"> https://www.thethingsnetwork.org/docs/lorawan/regional-parameters/eu868/ Also add nodc option to allow the LoRaWAN Network Server manage duty cycle 	Enhancement GP-2086
User Experience	
Administration, Package Management <ul style="list-style-type: none"> In mPower 6.3.1, installed packages can be updated if another version of the package is available. This feature is only available to the administrator role. Previous versions of mPower only allowed administrators to install new packages and remove existing packages. 	New Feature GP-2065 MTX-5065

New Features & Enhancements (mPower 6.3.1)

System Statistics – Storage Usage

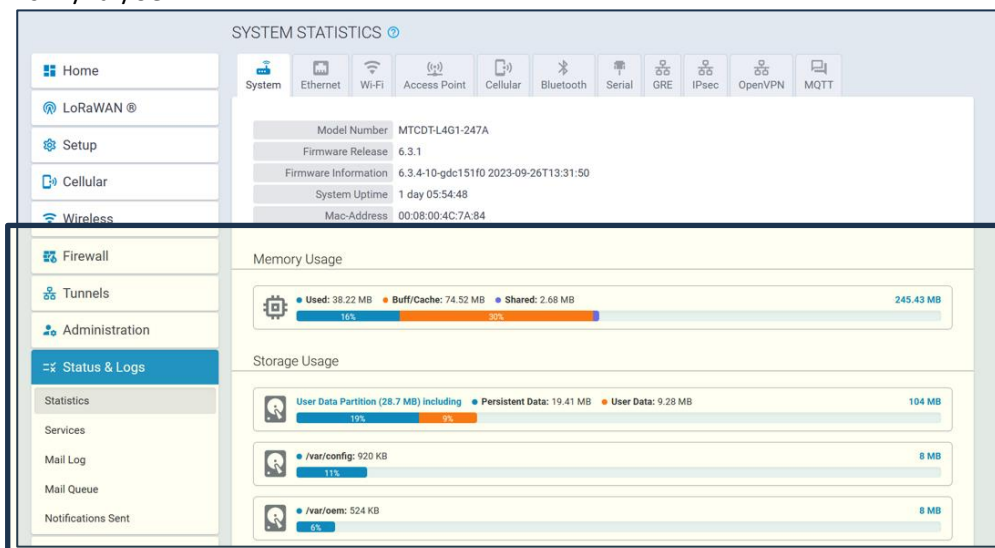
- In mPower 6.3.1, the user interface displays the external USB storage device usage on the System Statistics page.



Enhancement
GP-2109
MTX-5084

Status & Logs, System Statistics

- In mPower 6.3.1, Memory Usage and Storage Usage are displayed in a graph. Previously, this information was available in a table.
- In mPower 6.3.1, Storage Usage is displayed in three categories:
 - User Data Partition
 - /var/config
 - /var/oem

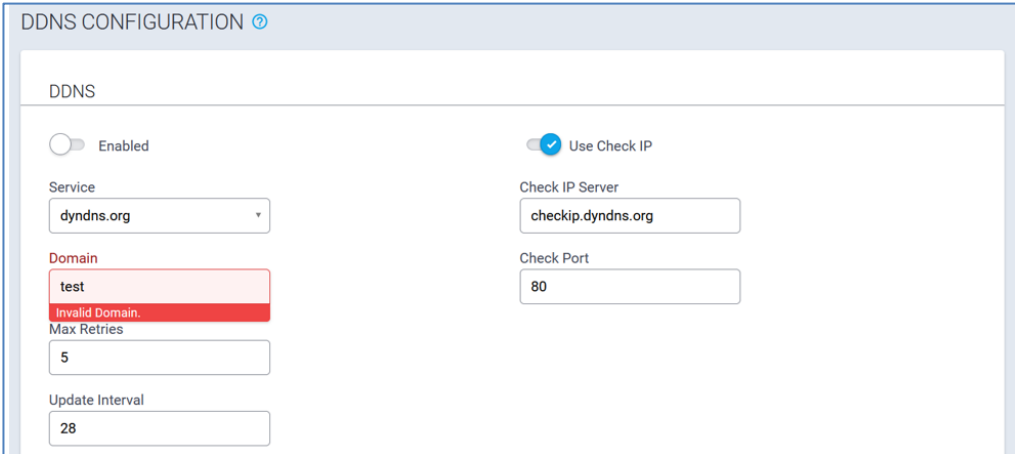


Enhancement
GP-2109

Networking & Security (mPower 6.3.1)

OpenVPN Tunnel – Tunnel Name Character Limit <ul style="list-style-type: none"> In previous versions of mPower, OpenVPN tunnel names could be a maximum of 15 characters. When a 15 character name is entered, only the first 12 characters are displayed. In mPower 6.3.1, the tunnel name character limit is reduced to 12 characters. 	Enhancement MTX-5052																
SNMP Configuration – Add support for MIB OID Values <ul style="list-style-type: none"> In mPower 6.3.1, support for standard RFC1213-MIB and the following read-only OID values is implemented: <table border="1" data-bbox="214 575 1219 1791"> <thead> <tr> <th>Name</th><th>OID Description</th></tr> </thead> <tbody> <tr> <td>sysDescr</td><td> <ul style="list-style-type: none"> A textual description of the device. The system returns the following information: <ul style="list-style-type: none"> Product ID Serial Number mPower Firmware Release vendor ID Example: <ul style="list-style-type: none"> MTCDDT-246A-915.R3-WW S/N 12345678 mPower 6.3.0 Multi-Tech Systems </td></tr> <tr> <td>sysObjectID</td><td> <ul style="list-style-type: none"> Identification of the device. <ul style="list-style-type: none"> Gateway device 1.3.6.1.4.1.995.16.1.2.1 </td></tr> <tr> <td>sysUpTime</td><td> <ul style="list-style-type: none"> The uptime of the SNMP service. The time (in hundredths of a second) since the network management portion of the system was last re-initialized. </td></tr> <tr> <td>sysContact</td><td> <ul style="list-style-type: none"> Identification of the contact person for this device, together with information on how to contact this person. Empty by default Configurable on SNMP Configuration page </td></tr> <tr> <td>sysName</td><td> <ul style="list-style-type: none"> Assigned name for this managed device By convention, this is the device's fully qualified domain name Empty by default Configurable on SNMP Configuration page </td></tr> <tr> <td>sysLocation</td><td> <ul style="list-style-type: none"> The physical location of this device Example: "telephone closet, 3rd floor" Empty by default Configurable on SNMP Configuration page </td></tr> <tr> <td>sysServices</td><td> <ul style="list-style-type: none"> The set of services that this device offers. <ul style="list-style-type: none"> mPower device 76 </td></tr> </tbody> </table>	Name	OID Description	sysDescr	<ul style="list-style-type: none"> A textual description of the device. The system returns the following information: <ul style="list-style-type: none"> Product ID Serial Number mPower Firmware Release vendor ID Example: <ul style="list-style-type: none"> MTCDDT-246A-915.R3-WW S/N 12345678 mPower 6.3.0 Multi-Tech Systems 	sysObjectID	<ul style="list-style-type: none"> Identification of the device. <ul style="list-style-type: none"> Gateway device 1.3.6.1.4.1.995.16.1.2.1 	sysUpTime	<ul style="list-style-type: none"> The uptime of the SNMP service. The time (in hundredths of a second) since the network management portion of the system was last re-initialized. 	sysContact	<ul style="list-style-type: none"> Identification of the contact person for this device, together with information on how to contact this person. Empty by default Configurable on SNMP Configuration page 	sysName	<ul style="list-style-type: none"> Assigned name for this managed device By convention, this is the device's fully qualified domain name Empty by default Configurable on SNMP Configuration page 	sysLocation	<ul style="list-style-type: none"> The physical location of this device Example: "telephone closet, 3rd floor" Empty by default Configurable on SNMP Configuration page 	sysServices	<ul style="list-style-type: none"> The set of services that this device offers. <ul style="list-style-type: none"> mPower device 76 	New Feature GP-1871 MTX-4817 TS-5113882
Name	OID Description																
sysDescr	<ul style="list-style-type: none"> A textual description of the device. The system returns the following information: <ul style="list-style-type: none"> Product ID Serial Number mPower Firmware Release vendor ID Example: <ul style="list-style-type: none"> MTCDDT-246A-915.R3-WW S/N 12345678 mPower 6.3.0 Multi-Tech Systems 																
sysObjectID	<ul style="list-style-type: none"> Identification of the device. <ul style="list-style-type: none"> Gateway device 1.3.6.1.4.1.995.16.1.2.1 																
sysUpTime	<ul style="list-style-type: none"> The uptime of the SNMP service. The time (in hundredths of a second) since the network management portion of the system was last re-initialized. 																
sysContact	<ul style="list-style-type: none"> Identification of the contact person for this device, together with information on how to contact this person. Empty by default Configurable on SNMP Configuration page 																
sysName	<ul style="list-style-type: none"> Assigned name for this managed device By convention, this is the device's fully qualified domain name Empty by default Configurable on SNMP Configuration page 																
sysLocation	<ul style="list-style-type: none"> The physical location of this device Example: "telephone closet, 3rd floor" Empty by default Configurable on SNMP Configuration page 																
sysServices	<ul style="list-style-type: none"> The set of services that this device offers. <ul style="list-style-type: none"> mPower device 76 																

Bug Fixes (mPower 6.3.1)

Cellular Mode Settings <ul style="list-style-type: none"> In mPower 6.3.0, when the modem configuration settings are changed, and the changes are applied, cellular mode settings are ignored. This occurs in APN and PDP context mode Models Impacted: <ul style="list-style-type: none"> Conduit AP 300 Series Models: MTCAP3-LEU7, MTCAP3-LNA7 In mPower 6.3.1, this issue has been resolved. 	Hardware GP-1998 MTX-4952
OpenVPN Tunnel Cipher Suite <ul style="list-style-type: none"> In mPower 6.3.0, cipher suites list does not appear when TLS Cipher Suite is set to ADVANCED. User is creating or editing the OpenVPN tunnel (Server or Client mode) in TLS Authorization Mode In mPower R.6.3.1 the issue has been resolved. 	Networking & Security MTX-5026
Access Configuration Page – ICMP Settings <ul style="list-style-type: none"> In mPower 6.3.0, the ICMP hints for settings on the Access Configuration page were incorrect In mPower 6.3.1, the ICMP hints have been updated. 	User Experience MTX-5056
First Time Setup Wizard – Remote Management Port Values <ul style="list-style-type: none"> In mPower 6.3.0, the Server Port is incorrectly displayed. In mPower 6.3.1, this issue has been resolved. <ul style="list-style-type: none"> When SSL Enabled is ON, Server Port is 5798. When SSL Enabled is OFF, Server Port is 5799. 	User Experience MTX-5047
DDNS Configuration Page <ul style="list-style-type: none"> In mPower 6.3.0, DDNS configuration changes are not submitted when Domain value is invalid.  <ul style="list-style-type: none"> In mPower R.6.3.1 the issue has been resolved. 	Networking & Security MTX-5049

Known Behaviors (mPower 6.3.1)

BACnet Payload Management- Sensor Decoder That Run in a Loop <ul style="list-style-type: none"> Models Impacted: <ul style="list-style-type: none"> MTCAP3-LEU7-A23EEA-LEM-BAC MTCAP3-EN-A23EEA-LEM-BAC, MTCAP3-EN-A23UEA-LWM-BAC It is possible to write a sensor decoder that runs in a loop. A sensor decoder that runs in a loop is not valid sensor decoder behavior and may negatively affect the whole system. mPower 6.3.1 includes a five second timeout that prevents the decoder from running in a loop. 	Payload Management GP-2114 MTX-5092
DeviceHQ® Cloud-Based Device Management <ul style="list-style-type: none"> For devices that have been shipped with or upgraded to mPower 6.3.1, DeviceHQ reports the mPower version as mPower 6.3.6 	-

Schedule (mPower 6.3.1)

- Downloadable Versions
 - mPower 6.3.1 Availability: October 2023
 - Visit <http://www.multitech.net/developer/downloads/>
 - DeviceHQ: October 2023
- Manufacturing Updates: BACnet BMS Models
 - Models Impacted

Model Number	Description
MTCAP3-EN-A23UEA-LWM-BAC	Ethernet Only, BACnet 915 MHz w/external LoRa antenna (Canada, United States)
MTCAP3-EN-A23EEA-LEM-BAC	Ethernet Only, BACnet 8-channel, 868 MHz w/external LoRa antenna (European Union, United Kingdom)
MTCAP3-LEU7-A23EEA-LEM-BAC	LTE Category 4, BACnet 868 MHz w/external LoRa (European Union, United Kingdom)

- Device shipments starting in November 2023 will include mPower 6.3.1
- Manufacturing Updates: All other Conduit AP 300 Series models
 - Devices that ship from MultiTech starting in December 2023 will include mPower 6.3.1

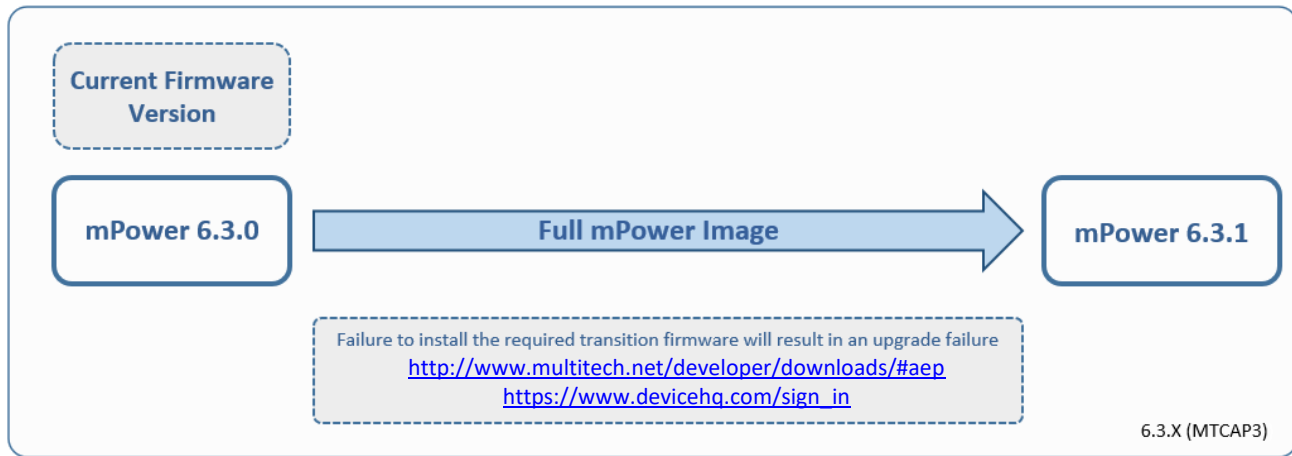
Models Impacted (mPower 6.3.1)

- MultiTech Conduit® AP 300 Series models

Model Number	Description
MTCAP3-EN-A23UEA-LWM	Ethernet-only, 915 MHz w/external LoRa antenna (Canada, United States)
MTCAP3-EN-A23UEA-LWM-BAC	Ethernet Only, BACnet 915 MHz w/external LoRa antenna (Canada, United States)
MTCAP3-EN-A23UEA-DWM	Ethernet-only, 915 MHz w/internal LoRa antenna (Canada, United States)
MTCAP3-EN-A23EEA-LEM	Ethernet-only 868 MHz w/external LoRa antenna (European Union, United Kingdom)
MTCAP3-EN-A23EEA-LEM-BAC	Ethernet Only, BACnet 8-channel, 868 MHz w/external LoRa antenna (European Union, United Kingdom)
MTCAP3-EN-A23EEA-DEM	Ethernet-only, 868 MHz w/internal LoRa antenna and Accessory Kit (European Union, United Kingdom)
MTCAP3-LNA7D-A23UEA-LUM	LTE Category 4, 915 MHz w/external LoRa antenna and Accessory Kit (Canada, United States, AT&T, Verizon)
MTCAP3-LNA7D-A23UEA-DUM	LTE Category 4, 915 MHz w/internal LoRa antenna (Canada, United States, AT&T, Verizon)
MTCAP3-LEU7-A23EEA-LEM	LTE Category 4, 868 MHz w/external LoRa antenna (European Union, United Kingdom)
MTCAP3-LEU7-A23EEA-LEM-BAC	LTE Category 4, BACnet 868 MHz w/external LoRa (European Union, United Kingdom)
MTCAP3-LEU7-A23EEA-DEM	LTE Category 4, 868 MHz w/internal LoRa antenna (European Union, United Kingdom)

Upgrade Process (mPower 6.3.1)

Customers that are running earlier versions of mPower should use the following upgrade process.



Using an old configuration file on new Conduit devices may result in the new devices becoming non-functional. To successfully update new Conduit devices, create separate configuration templates for each type of Conduit device:

- Cellular radio (-LNA7, -LEU7, -EN)
- mPower version (mPower 6.3.0, mPower 6.3.1)

When upgrading a device fleet:

5. Upgrade the mPower version on one device
6. Modify the user-specific configuration settings
7. Perform in-house testing and adjust settings if necessary
8. Use the newly developed configuration file as part of field updates when the new version of mPower is widely deployed

mPower 6.3.0 Changelog and Overview

Released: May 2023

Status: Retired November 2023. Replaced by [mPower 6.3.1](#)

mPower 6.3.0 is the first version of mPower software to ship on MTCAP3 devices.

New Features & Enhancements	Operating System	Networking & Security	Bug Fixes	Known Behaviors	Deprecations	Schedule	Models Impacted	Upgrade Process
-------------------------------------------------	----------------------------------	-------------------------------------------	---------------------------	---------------------------------	------------------------------	--------------------------	---------------------------------	---------------------------------

New Features & Enhancements (mPower 6.3.0)

Software & Services - Payload Data Manager	
BACnet BMS System Support In mPower 6.3.0, LoRaWAN sensors can be quickly integrated into a Building Management System (BMS) <ul style="list-style-type: none"> The MultiTech gateway decodes the data from a LoRaWAN sensor and maps the sensor data into BACnet objects Uplink and downlink messages are available Previously, BACnet was supported in mPower 5.5.2 Devices Impacted: MTCAP-868-041A-BAC, MTCAP-915-041A-BAC Devices Impacted: <ul style="list-style-type: none"> MTCAP3-EN-A23EEA-LEM-BAC, MTCAP3-EN-A23UEA-LWM-BAC 	New Feature GP-1864 MTX-4778
BACnet BMS System Support – Radio Bridge Sensor Support <ul style="list-style-type: none"> Radio Bridge wireless sensor decoders are available natively <ul style="list-style-type: none"> Acceleration Sensor Air Temperature and Humidity Sensor Contact Sensor Door and Window Sensor Push Button Sensor Temperature Sensor Tilt Sensor High-Precision Tilt Sensor Ultrasonic Sensor High-Bandwidth Vibration Sensor Low-Bandwidth Vibration Sensor Voltmeter Water-Leak Sensor Customers can create their own custom sensor decoders and load them onto the gateway. Contact support@multitech.com for details Devices Impacted: <ul style="list-style-type: none"> MTCAP3-EN-A23EEA-LEM-BAC, MTCAP3-EN-A23UEA-LWM-BAC 	New Feature GP-1880 MTX-4804

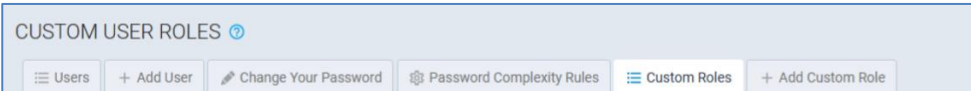
New Features & Enhancements (mPower 6.3.0)

Software & Services – mPower API Services	
mPower API service statistics (api/stats/service) have been expanded to include three new settings <ul style="list-style-type: none"> reverseSSH snmpServer mqttBroker 	Enhancement GP-1747 MTX-4626
A complete list of mPower API changes: https://www.multitech.net/developer/software/mtr-software/mtr-api-reference/api-changes/	-
Software & Services – LoRaWAN Features	
MultiTech LENS® - API Connection Improvements <ul style="list-style-type: none"> A retry mechanism has been implemented to handle cURL timeouts gracefully and improve the chances of successful communication with the LENS API After a cURL timeout occurs, multiple attempts are made before the request is considered a failure 	Enhancement -
MultiTech LENS® - Channel Frequency List <ul style="list-style-type: none"> LENS join requests will include the Channel Frequency List (CFList), ensuring that devices have the correct channel list US915 and AU915 devices using LoRaWAN 1.3 only 	New Feature GP-1895
LoRa Default App Update – Cloud Services <ul style="list-style-type: none"> The LoRa Default App has been updated to include options for connection to AWS IoT Core and Microsoft Azure IoT Cloud Services The LoRaWAN Default App supports HTTPS or MQTTS messages to securely transmit LoRaWAN data from the gateway to an IoT cloud service 	Enhancement GP-1605
LoRa Default App Update – Local AppNet EUI versus LENS AppNet EUI <ul style="list-style-type: none"> The local AppEUI settings will be used if there is a conflict with the LENS AppNet EUI settings. The LENS AppNet EUI settings will be overridden In previous versions of mPower, when the local AppEUI settings conflict with the LENS AppNet EUI settings, the LENS AppNet EUI settings take precedent In customer deployments, there should be no conflict and the local AppEUI settings should be used 	Enhancement -
LoRa Default App Update – Additional Error Messages Added <ul style="list-style-type: none"> Additional LoRa Default Application error messages have been added to improve the customer experience 	Enhancement GP-1679
LoRa Packet Forwarder – Updates to AS923 Channel Defaults <ul style="list-style-type: none"> Updates made to AS920-923 (“AS1”) and AS923-925 (“AS2”) channel plans to match the defaults required by The Things Network (TTN) Data Rate DR6 and DR7 frequencies have been adjusted NOTE: TTN recommends using Basics Station instead of LoRa Packet Forwarder 	Enhancement GP-1567
LoRa Join Server – Support for Third-Party Join Servers Added <ul style="list-style-type: none"> Local App EUI settings and Default App Profile settings have been updated to allow the Conduit embedded LoRa network server to connect to a third-party join server The Semtech LoRaWAN Join Server is supported by this capability https://www.loracloud.com/documentation/join_service 	New Feature GP-1859 TS-5113447

New Features & Enhancements (mPower 6.3.0)

LoRaWAN - Adaptive Data Rate (ADR) Updates <ul style="list-style-type: none"> nbTrans setting is added in ADR Link Request (ARDLinkReq) command nbTrans refers to the number of transmission attempts allowed for a device to successfully send a data packet at a particular data rate before the network adjusts the data rate The ADRLinkReq command requests a change in the data rate or other adaptive parameters to the network server. This command is part of the process for enabling or disabling ADR functionality or adjusting other ADR-related settings 	Enhancement GP-1841
LoRa Basics Station – Support for firmware/program update using CUPS protocol <ul style="list-style-type: none"> The LoRa Basics Station software provides credential management and firmware update interface using the Configuration and Update Server (CUPS) protocol. The CUPS protocol provides secure firmware update delivery with ECDSA signatures This feature is supported by AWS IoT Core https://docs.aws.amazon.com/iot/latest/developerguide/connect-iot-lorawan-update-firmware.html 	New Feature GP-1894 TS-5114179
ChirpStack Gateway Bridge v4 Support <ul style="list-style-type: none"> The Conduit LoRa Packet Forwarder is updated to connect to ChirpStack Network Server through the ChirpStack Gateway Bridge ChirpStack Documentation: https://www.chirpstack.io/gateway-bridge/gateway/multitech/ 	New Feature GP-1329
Hardware Support	
Cellular Configuration Page – Radio Reboot Options <ul style="list-style-type: none"> Cellular PPP is enabled: Radio Reboot Enabled option available Cellular WWAN is enabled: Radio reboot enabled option is not available 	Enhancement GP-1869 MTX-4785
Verizon APN Changes <ul style="list-style-type: none"> Verizon Class 3 APN is set automatically over-the-air (OTA) without user intervention If the current APN is incorrect, the user can enter a new APN This is a one-time setting change Devices impacted: MTCAP3-LNA7 	Enhancement GP-1801 MTX-4705 GP-1828 MTX-4740
Cellular Diagnostics Feature <ul style="list-style-type: none"> <i>Device Diagnostics</i> pane is added to the <i>Debug Options</i> page User can download cellular diagnostics and cellular related logs by using the <i>Download Cellular Data</i> button Cellular diagnostic information is recorded when it is requested by the user Downloadable report can be saved on a computer hard drive and shared with others when diagnosing connection issues 	New Feature GP-1834 MTX-4744
MQTT Broker – Bridge TLS Version Setting <ul style="list-style-type: none"> The Bridge TLS version for mPower and the MQTT broker must be the same for the connection to succeed TLS version menu is added to the MQTT Broker Configuration page When TLS is enabled, three selections are available: TLSv1.1, TLSv1.2, TLSv1.3 TLSv1.2 is the default value 	Enhancement GP-1710 MTX-4586

New Features & Enhancements (mPower 6.3.0)

Certificate and Key Management	
<ul style="list-style-type: none"> Support new Microsoft Azure Root Certificate Authority Update the certificates database to latest debian 	Enhancement GP-1872 MTX-4791
User Experience	
<p>Custom User Roles</p> <p>In previous versions of mPower, users are assigned one of three pre-defined user roles, each with different rights and permissions on the device</p> <ul style="list-style-type: none"> <u>Administrators</u> have full rights and permissions, including the ability change settings on the device <u>Engineers</u> have read/write privileges and some access to controls on the device <u>Monitors</u> have read-only access <p>In mPower 6.3.0, the administrator can create custom user roles and set the permissions for each custom user role based on organizational need and use case</p> <ul style="list-style-type: none"> <i>Custom Roles</i> and <i>Add Custom Role</i> are new menus under Administration, User Accounts The administrator creates a new name and description for each custom user role When a custom user role is defined, the administrator will identify which mPower features can be accessed by the custom user <ol style="list-style-type: none"> <i>WRITE – ON</i> allows custom users to modify the feature <i>WRITE – OFF</i> prevents custom users from modifying the feature <i>VISIBLE – ON</i> allows custom users to read the status of the feature <i>VISIBLE – OFF</i> hides the status of the feature from the custom user  <ul style="list-style-type: none"> When the administrator assigns a user to a custom user role, the user will only have access to the features defined by the administrator 	New Feature GP-1572 GP-1599
<p>Web Interface - Dark and Light Themes</p> <p>mPower detects the user system preferences and enables light or dark scheme automatically</p> <ul style="list-style-type: none"> User can switch the theme any time while working with web user interface The web user interface theme toggle is present in the mPower header and is available only when a user is logged in 	New Feature -
<p>Web Interface – Save & Apply Button Behavior</p> <ul style="list-style-type: none"> <i>Save & Apply</i> button is displayed ONLY when there are changes that can be saved and applied The <i>Save & Apply</i> button is moved from the main menu and appears in the top of the page The <i>Save & Apply</i> button is animated, and it is blinks periodically 	Enhancement -
<p>Web Interface – Main Menu Behavior</p> <ul style="list-style-type: none"> It is possible to open/expand all menus and see all submenus available User must click on the main menu to expand the list of available items The menu will stay expanded until the user clicks on it again The menu will not close automatically when opening other menu items 	Enhancement GP-1734 MTX-4612

New Features & Enhancements (mPower 6.3.0)

Web Interface – Date and Time Format <ul style="list-style-type: none"> mPower detects the user system preferences for date and time format and automatically matches the system format when date and time are displayed within the user interface 	Enhancement IN-4635 MTX-4636
Web Interface – Send and Received SMS <ul style="list-style-type: none"> <i>Send SMS</i>, <i>Sent SMS</i> and <i>Received SMS</i> are combined into a single page The submenu label is changed to <i>Send/Received SMS</i> <i>SMS Configuration</i> and <i>Send/Received SMS</i> pages are moved under the <i>Cellular</i> main menu The <i>SMS</i> main menu has been eliminated 	Enhancement GP-1705 GP-1731 MTX-4579

Operating System Updates (mPower 6.3.0)

Upgrade to OpenSSL 1.1 <ul style="list-style-type: none"> mPower 6.3.0 supports OpenSSL 1.1.1q Previous mPower versions support OpenSSL 1.1.1o 	-
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---

Networking & Security (mPower 6.3.0)

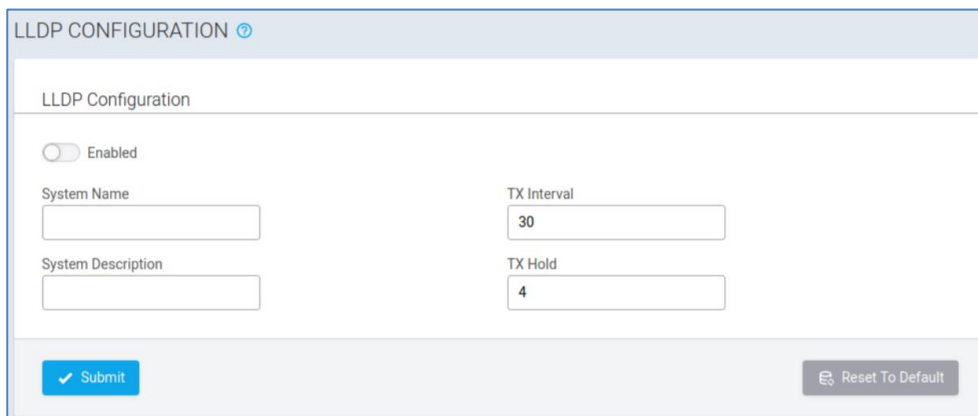
LLDP (Link Layer Discovery Protocol) Support

As local area networks expand and include more devices and more types of devices, tools are required to help network administrators locate, monitor and configure network devices

The Link Layer Discovery Protocol (LLDP) is a vendor-neutral link layer protocol used by network devices for advertising their identity, capabilities, and neighbors on a local area network based on IEEE 802 technology, principally wired Ethernet. The LLDP feature allows the network manager to see on the connected switch which device is connected to which port on the switch, how much power is being requested, what the IP address is, etc. Using this information, they can determine where the Conduit is located and, if necessary, remotely disconnect power to the Conduit in case of PoE-powered device.

LLDP Configuration is available under *Setup*. When LLDP is enabled, additional settings are available

- System Name
- System Description
- TX Interval (in seconds)
 - LLDP frame transmission interval
 - Integer value, range 5 – 32768 seconds
 - Default value = 30 seconds
- TX Hold (multiplier of the TX interval)
 - The amount of time, as a multiple of the TX interval, that a receiving device holds an LLDP packet before discarding it
 - Integer value, range 2 – 10
 - Default value = 4



The screenshot shows the 'LLDP CONFIGURATION' web page. At the top, there's a title bar with 'LLDP CONFIGURATION' and a help icon. Below it, the main heading is 'LLDP Configuration'. A toggle switch labeled 'Enabled' is currently turned on. There are four input fields: 'System Name' and 'System Description' on the left, and 'TX Interval' and 'TX Hold' on the right. The 'TX Interval' field contains the value '30' and the 'TX Hold' field contains the value '4'. At the bottom, there are two buttons: a blue 'Submit' button with a checkmark icon and a grey 'Reset To Default' button with a reset icon.

New Feature
GP-14

Networking & Security (mPower 6.3.0)

Password Complexity - Password Expiration

Password Complexity Rules page has been updated to include settings for password age and password history length

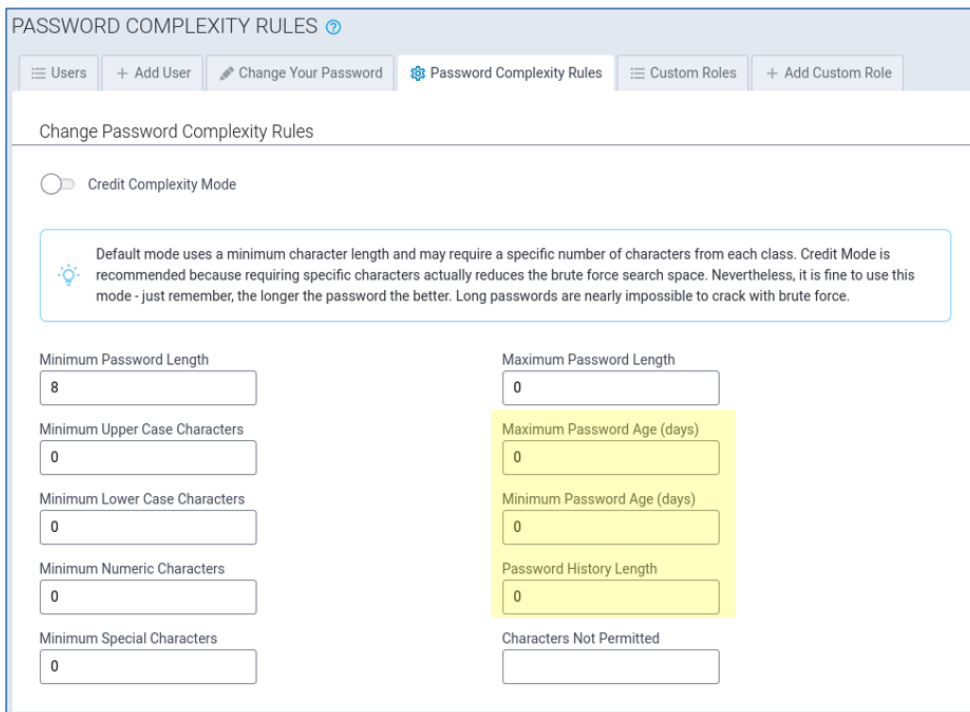
Feature Enhancement
GP-280
GP-1823

Password Age

- Maximum Password Age: A password expiration interval is configurable in days. When a user password expires due to the age of the password, the user will be prompted to change their password before their next login
- Minimum Password Age: The minimum number of days for which a password cannot be changed

Password Complexity – History Length

The number of previous passwords (including the current password) that will be remembered for a user account before a specific password can be reused



PASSWORD COMPLEXITY RULES

Users | + Add User | Change Your Password | **Password Complexity Rules** | Custom Roles | + Add Custom Role

Change Password Complexity Rules

☐ Credit Complexity Mode

Default mode uses a minimum character length and may require a specific number of characters from each class. Credit Mode is recommended because requiring specific characters actually reduces the brute force search space. Nevertheless, it is fine to use this mode - just remember, the longer the password the better. Long passwords are nearly impossible to crack with brute force.

Minimum Password Length <input type="text" value="8"/>	Maximum Password Length <input type="text" value="0"/>
Minimum Upper Case Characters <input type="text" value="0"/>	Maximum Password Age (days) <input type="text" value="0"/>
Minimum Lower Case Characters <input type="text" value="0"/>	Minimum Password Age (days) <input type="text" value="0"/>
Minimum Numeric Characters <input type="text" value="0"/>	Password History Length <input type="text" value="0"/>
Minimum Special Characters <input type="text" value="0"/>	Characters Not Permitted <input type="text"/>

Easily Retrieve IPv4 and IPv6 Addresses

- New SMS command: #wanips
- Overview: One SMS command that can be sent to an mPower device to retrieve all WAN IPv4 and IPv6 addresses available to the device

New Feature
GP-1629

Private APN – Incorrect Date and Time

- In previous versions of mPower, customers using a private APN can experience issues associated with inaccurate date and time
- mPower 6.3.0 has been updated so cellular date and time can be used instead of GPS or a private ntp server

New Feature
GP-139

Bug Fixes (mPower 6.3.0)

LoRaWAN - Uplink Packets <ul style="list-style-type: none"> In previous versions of mPower, the port value for empty uplink packets is incorrectly reported In mPower 6.3.0, this issue has been resolved. Port value in Network Server database is set to "0" for empty packets 	GP-1867 GP-1887 TS-5113991
LoRaWAN - AU915 Downlink <ul style="list-style-type: none"> In previous versions of mPower, AU915 device messages do not include ADRLinkReq in the first downlink In mPower 6.3.0, this issue has been resolved 	GP-1862 TS-5113968
LoRaWAN – mPower LENS API Service <ul style="list-style-type: none"> In previous versions of mPower, it was discovered that there was no timeout set for cURL calls using the LENS API. The result is failed calls to LENS In mPower 6.3.0, this issue has been resolved 	GP-1882 TS-5113450
Custom Application Contains Special Characters <ul style="list-style-type: none"> In previous versions of mPower, in the web user interface, if the filename for a custom application contains a special character (~!@#\$\$%^&*()_), the application cannot be deleted in the API or the user interface In mPower 6.3.0, this issue is resolved 	GP-1774 MTX-4676
Empty SMS Messages <ul style="list-style-type: none"> In previous versions of mPower, if a 0 byte (empty) SMS message is accepted by the device, the system can crash In mPower 6.3.0, this issue is resolved 	GP-1838
Save & Apply Error – Bluetooth Configuration <ul style="list-style-type: none"> In previous versions of mPower, error message "Request is not allowed" is presented when Bluetooth Configuration changes are made In mPower 6.3.0, this issue is resolved 	GP-1777 MTX-4683
Bootloader Password <ul style="list-style-type: none"> In previous versions of mPower, <i>Bootloader Password Authentication Status</i> is displayed as <i>Not Supported</i> when it should be <i>Supported</i> In mPower 6.3.0, this issue is resolved 	GP-1866 MTX-4780
Bootloader Password <ul style="list-style-type: none"> In previous versions of mPower, Bootloader Password Validation fails to set a password In mPower 6.3.0, this issue is resolved 	GP-1873 MTX-4789
Password Complexity Rules <ul style="list-style-type: none"> In previous versions of mPower, the <i>Characters Not Permitted</i> setting is not properly enforced in the <i>Default</i> mode. Users can set a password using characters that the administrative user has identified as <i>Not Permitted</i> In mPower 6.3.0, this issue is resolved. User passwords cannot include characters that the administrator has defined as <i>Not Permitted</i> 	IN:4612
Debug Console, Silent Mode <ul style="list-style-type: none"> In previous versions of mPower, when <i>Silent Mode</i> is Enabled, output to the Debug Console should be turned off In mPower 6.0.X, Debug Console entries are logged even though <i>Silent Mode</i> is Enabled In mPower 6.3.0, this issue is resolved 	GP-1878 MTX-4799

Bug Fixes (mPower 6.3.0)

U-Boot Access <ul style="list-style-type: none"> In previous versions of mPower, during system boot and system reboot, u-boot is not available when it should be In mPower 6.3.0, this issue is resolved 	GP-1879 MTX-4800
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------

Known Behaviors (mPower 6.3.0)

Cellular radio improvement for devices used on the AT&T network <ul style="list-style-type: none"> The cellular radio used in MTCAP3-LNA7D models is a “data-only” radio and does not include voice support. 	-
Ethernet-Only Devices Include Cellular Configuration Settings In mPower 6.3.0, cellular configuration settings are present in the setup Wizard and in the user interface for Ethernet-only devices <ul style="list-style-type: none"> Ethernet-only devices do not include a cellular radio, and cellular configuration settings should not be present in the setup Wizard or the user interface The user can skip these settings when setting up an Ethernet-only device 	MTX-4734
DeviceHQ® Cloud-Based Device Management <ul style="list-style-type: none"> For devices that have been shipped with or upgraded to mPower 6.3.0, DeviceHQ reports the mPower version as mPower 6.3.1 	-

Deprecations (mPower 6.3.0)

Telnet Server Support <ul style="list-style-type: none"> Support for Telnet Server is deprecated from mPower 6.3.0 and device API Telnet is not a secure protocol 	GP-1787 MTX-4691														
Legacy API Commands Legacy API commands, that are no longer used by recent mPower versions, are deprecated from mPower 6.3.0 <table border="1" data-bbox="228 1203 1183 1478"> <tr> <td>/api/btCommand/pair</td><td>Bluetooth PAN</td></tr> <tr> <td>/api/btCommand/remove</td><td>Bluetooth PAN</td></tr> <tr> <td>/api/btCommand/accept_pairing</td><td>Bluetooth PAN</td></tr> <tr> <td>/api/devices</td><td>Legacy MultiConnect rCell</td></tr> <tr> <td>/api/gccp</td><td>Legacy MultiConnect rCell</td></tr> <tr> <td>/api/internal</td><td>Internal use</td></tr> <tr> <td>/api/powerManagement</td><td>Legacy MultiConnect rCell</td></tr> </table>	/api/btCommand/pair	Bluetooth PAN	/api/btCommand/remove	Bluetooth PAN	/api/btCommand/accept_pairing	Bluetooth PAN	/api/devices	Legacy MultiConnect rCell	/api/gccp	Legacy MultiConnect rCell	/api/internal	Internal use	/api/powerManagement	Legacy MultiConnect rCell	GP-1788 MTX-4692
/api/btCommand/pair	Bluetooth PAN														
/api/btCommand/remove	Bluetooth PAN														
/api/btCommand/accept_pairing	Bluetooth PAN														
/api/devices	Legacy MultiConnect rCell														
/api/gccp	Legacy MultiConnect rCell														
/api/internal	Internal use														
/api/powerManagement	Legacy MultiConnect rCell														

Schedule (mPower 6.3.0)

- Downloadable Versions
 - mPower 6.3.0 Availability: May 2023
 - Visit <http://www.multitech.net/developer/downloads/>
 - DeviceHQ: May 2023
- Manufacturing Updates:
 - Starting in May 2023, all devices that ship from MultiTech will include mPower 6.3.0.

Models Impacted (mPower 6.3.0)

- MultiTech Conduit® AP 300 Series models
 - MTCAP3-EN models
 - MTCAP3-LEU7 models
 - MTCAP3-LNA7 models

Upgrade Process (mPower 6.3.0)

mPower 6.3.0 is the first version of mPower to ship on MTCAP3 devices, no upgrades are necessary.

Features Included in mPower 6.3.0

Overview: Previous versions of mPower are not available for use in MTCAP3 devices. However, many features and capabilities from earlier versions of mPower are included in mPower 6.3.0 for use on MTCAP3 devices.

Features & Enhancements

Software & Services	
Updated messaging when partial configuration is applied by DeviceHQ <ul style="list-style-type: none"> In mPower 6.0.0, when a device checks into DeviceHQ and performs a partial configuration upgrade, the system displays a status message on Web UI: <p style="text-align: center;">Partial configuration has been applied. The system is going down for reboot now. (DATE/TIME)</p> In previous mPower releases, the Web UI does not show a message 	Enhancement GP-418 MTX-4140 IN003879 mPower 6.0.0
Multiple LoRa User Interface and API Changes <ul style="list-style-type: none"> Added Duty-cycle info to Gateways page if ISRAEL plan is selected or duty-cycle is enabled Added Default Device Profile for local join server on Key Management page API Default packet forwarder GW SOURCE for EUI to hardware <ul style="list-style-type: none"> The web page would not load an EUI unless the Basic Settings were shown Add delete all end-device and session records button Add option to append csv/json device records to the current list on key management page Add button to delete all items from downlink queue for all devices API options to get a single device or session record use DevEUI <ul style="list-style-type: none"> /api/lora/devices/00-11-22-33-44-55-66-77 /api/lora/sessions/00-11-22-33-44-55-66-77 Added option for setting multicastGroupID for operations Add option for max FUOTA packet size <ul style="list-style-type: none"> Field in Network Settings > Datarate settings Field in Operations > Show Settings section 	Enhancement mPower 6.0.0
LoRa Firmware Update Over The Air (FUOTA) Updates <ul style="list-style-type: none"> LoRa FUOTA Version 1.0.17 Added an option for maximum packet size to control fragmentation Added an option for setting multicast group ID 	Enhancement mPower 6.0.0
LoRa Packet Forwarder Changes <ul style="list-style-type: none"> Packet Forwarder Version 4.0.17 LoRa Gateway Version 5.0.11 Add hardware reset on start-up and restart Support added for two MTAC-LORA-H-868 or two MTAC-LORA-H-915 LoRa gateway accessory cards 	Enhancement mPower 6.0.0

Features & Enhancements

LoRa Default App Changes <ul style="list-style-type: none"> • MQTT QoS and Persist settings • MQTT Resubscribe on connect • Add ClientID configuration option • Add subscriptions for downlinks from remote broker <ul style="list-style-type: none"> ○ lorawan/gweui/deveui/down ○ lorawan/gwuuid/deveui/down • Add subscription for moved devices to publish to remote broker • lorawan/appeui/deveui/moved 	Enhancement mPower 6.0.0
LoRa Network Server Changes <ul style="list-style-type: none"> • LoRa Network Server Version 2.5.37 • Add setting for max FOTA packet size (maxRx2PacketSize) • Add a command to delete all queued downlinks • Add a command to get single device or session by EUI • Add a command to delete all devices and sessions • Add a command to add list of devices or sessions • Publish lora/<APP-EUI>/<DEV-EUI>/moved topic when device is deleted by command, from user interface or DeviceHQ <ul style="list-style-type: none"> ○ Message contains list of GW-EUI • Database backup to tar.gz <ul style="list-style-type: none"> ○ Backup to RAM and move into /var/config directory ○ Reduce database in /var/config/ to one-fifth <ul style="list-style-type: none"> ▪ 2MB database takes 400K with redundant backup files • Activate Tx Param controller for LW102 AU915 and AS923 devices on Join • LENS: published moved MQTT messages when check in update moves devices • LNS version 2.5.37 added fields to the “up” mqtt messages <ul style="list-style-type: none"> ○ name – device name ○ product_id – device product ID ○ serial_number – device serial number ○ hardware_version – device hardware versionm ○ firmware_version – device firmware version 	Enhancement mPower 6.0.0
LoRa: Semtech LoRa Basics™ Station Changes: <ul style="list-style-type: none"> • Updated to version 2.0.6-5 • AU915 Channel Plan – Default transmit power changed to 30 dBm 	Enhancement GP-1459 GP-1270 mPower 6.0.0
Hardware Support	
Verizon Wireless – Updated APN Behavior Devices impacted: MTCAP3-LNA7 models When the MNO is defined as Verizon, the SMS command #apn returns the message: <i>APN is obtained automatically from the Verizon network</i>	Enhancement GP-1596 MTX-4489 mPower 6.0.1

Features & Enhancements

RADIO STATUS Page

- Tower ID is now presented in the Service Information section
- In previous versions of mPower, the Tower ID was presented on the dashboard page, under Cellular

Enhancement
GP-1657
MTX-4547
mPower 6.0.1

RADIO STATUS ⓘ

Module Information

IMEI
IMSI
Manufacturer
Model
MDN (Phone Number)
MSID
Firmware Version
ICCID

Service Information

Home Network
Current Network
RSSI
Service
Roaming
Tower 1BD4E05

User Interface

Web User Interface, status definition updates

Enhancement
GP-913
MTX-4189
GP-1595
mPower 6.0.1

Updated Status Definition in mPower 6.0.1 Previous Status Definition

DEVICE INFORMATION Page - Cellular WAN State

Link is up	PPP Link is up
Link is down	PPP Link is down
In process of establishing link	In process of establishing PPP link
Cellular is not running	PPP is not running

SERVICE STATISTICS Page - TCM/ICMP Keep Alive

IDLE, since link is not up	IDLE, since PPP link is not up
----------------------------	--------------------------------

CELLULAR STATISTICS Page - Cellular Link

Link is up	PPP Link is up
Link is down	PPP Link is down
In process of establishing link	In process of establishing PPP link
Cellular is not running	PPP is not running

NETWORK INTERFACE CONFIGURATION Page - Network Type

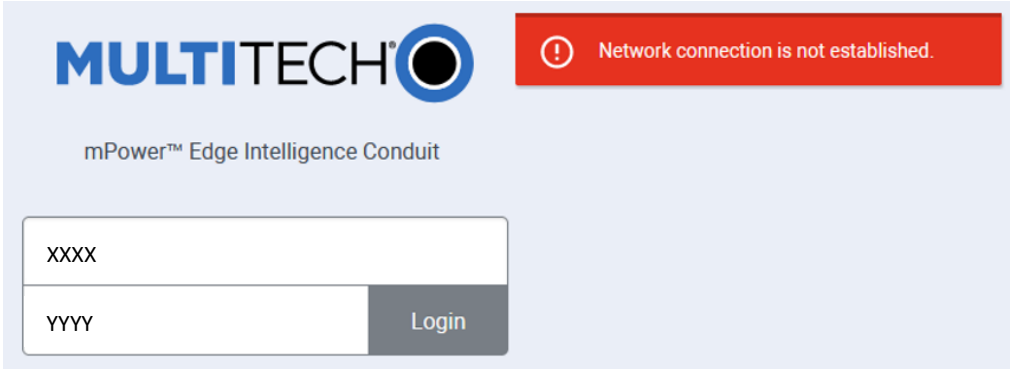
Cellular PPP	PPP
Cellular WWAN	PPP

NETWORK INTERFACE CONFIGURATION – IPv4 Settings - Mode

Auto	PPP
Auto – Addressed Only	PPP – Addresses Only

- Associated HELP files have also been updated to reflect these updates
- All other Cellular WAN status are unchanged

Features & Enhancements

<p>Web Interface, CELLULAR STATISTICS Page, terminology change</p> <table border="1"> <thead> <tr> <th>Updated Definition in mPower 6.0.1</th> <th>Previous Definition</th> </tr> </thead> <tbody> <tr> <td colspan="2">CELLULAR STATISTICS Page - Cellular</td> </tr> <tr> <td>Cellular Trace</td> <td>PPP Trace</td> </tr> </tbody> </table> <ul style="list-style-type: none"> If cellular mode is PPP, Cellular Trace is only available Associated HELP files have also been updated to reflect these updates If cellular mode is WWAN, Cellular Trace is hidden 	Updated Definition in mPower 6.0.1	Previous Definition	CELLULAR STATISTICS Page - Cellular		Cellular Trace	PPP Trace	<p>Enhancement GP-1568 MTX-4460 GP-1595 mPower 6.0.1</p>
Updated Definition in mPower 6.0.1	Previous Definition						
CELLULAR STATISTICS Page - Cellular							
Cellular Trace	PPP Trace						
<p>Web Interface, CELLULAR STATISTICS Page</p> <ul style="list-style-type: none"> Cellular logs pane is added and always displayed, regardless of cellular mode (PPP or WWAN) The cellular logs pane includes all logs related to cellular functionality 	<p>Enhancement GP-1568 MTX-4460 mPower 6.0.1</p>						
<p>Web Interface, Login Page</p> <ul style="list-style-type: none"> During the login process, if connection to the device is lost, a new message is displayed <i>Network connection is not established.</i> 	<p>Enhancement GP-1581 MTX-4473 mPower 6.0.1</p>						
<p>Username and Password – Autocomplete is Disabled</p> <ul style="list-style-type: none"> Many configuration pages within mPower require username and password information Previous versions of mPower allowed this information to be filled in automatically when the user remembers the login credentials. In mPower 6.0.1, autocomplete is disabled and username and password fields must be completed in full by the user NOTE: this behavior differs based on web browser. Some web browsers will ignore these parameters and allow autocomplete to occur 	<p>Enhancement GP-1582 MTX-4474 mPower 6.0.1</p>						
<p>User Interface</p> <ul style="list-style-type: none"> In earlier versions of mPower, LoRa device CSV file uploads generate a cryptic error message when the CSV file ends with an empty line In mPower 6.0.1, CSV files that end with an empty line will no longer generate this message 	<p>Enhancement TS-5112111 mPower 6.0.1</p>						

Features & Enhancements

User Experience	
Material Design Icons Simplify the User Interface <ul style="list-style-type: none"> Material design icons are added throughout the user interface Material design icons are a set of universal icons used to improve usability and simplicity Additional Information: https://materialdesignicons.com/ 	Enhancement GP-1362 MTX-4201 mPower 6.0.0
Updated Product Images <ul style="list-style-type: none"> Updated product images added to the First-Time Setup Wizard and Support Page 	Enhancement GP-1371 MTX-4217 mPower 6.0.0

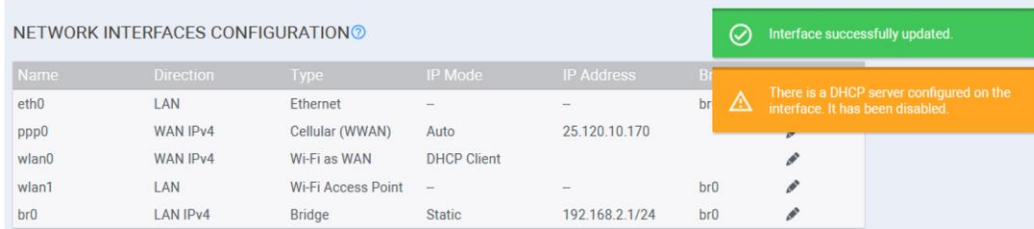
Operating System Updates

Updated Yocto Version <ul style="list-style-type: none"> Yocto version updated to Dunfell (version 3.1). Previous versions of mPower used Yocto Thud (version 2.6) 	GP-1322 MTX-4162 mPower 6.0.0
Updated Linux Kernel <ul style="list-style-type: none"> Linux kernel updated to version 5.4 Previous versions of mPower used Linux kernel v4.9.240 	- mPower 6.0.0
Updated Python <ul style="list-style-type: none"> Python updated to version 3.8.11 Previous versions of mPower used Python 2.7 	GP-1224 MTX-4164 mPower 6.0.0
RF Survey <ul style="list-style-type: none"> The RF Survey is not available for LTE devices and is removed from mPower 6.0.0 Page 404 is displayed when trying to access the page using the direct link: /rf_survey 	Deprecation GP-1444 MTX-4321 mPower 6.0.0
Upgrade to OpenSSL 1.1 <ul style="list-style-type: none"> mPower 6.0.1 supports OpenSSL 1.1.1o Previous mPower versions supported OpenSSL 1.1.1n Additional information is available <ul style="list-style-type: none"> MultiTech Security Advisories CVE-2022-1292 	GP-1600 MTX-4493 mPower 6.0.1

Networking and Security

DHCP Server Interface

- In previous versions of mPower, when a network interface is excluded from br0 and had its own DHCP server configured, the DHCP server remains enabled when the interface is added back to the br0
- In mPower 6.0.1, a yellow warning message is displayed on the **NETWORK INTERFACES CONFIGURATION** window



GP-1654
MTX-4542
mPower 6.0.1

IP Masquerading

The IP Masquerading feature allows users to enable or disable IP Masquerading for WAN interfaces of the device

- Main points
 - IP Masquerading feature can be used with WAN interfaces only
 - IP Masquerading is enabled by default. When IP Masquerading feature is enabled, the device performs IP address translation of client network traffic to the corresponding WAN interface
 - When IP Masquerading feature is disabled, the device passes client network requests unchanged to the corresponding WAN interface

API Changes

api/ni/nis: "wanMasquerade" option is added for each network interface

New Feature
MTX-4104
mPower 6.0.0

Remote Syslog Feature Enhancement: TCP and SSL/TLS support

- New settings are implemented for the Remote Syslog feature:
 - TCP Protocol support
 - SSL/TLS Protocol support
 - Configurable Port
- The **Hostname** read-only field is added to the Remote Syslog pane. The hostname value is a part of log entries that are transferred to the remote Syslog Server. The **hostname** value can be configured in the **Hostname Configuration** pane on the **Status | Global DNS** page
- API Changes
 - api/syslog
 - api/help/syslog
 - api/secureprotocols/rsyslogd

New Feature
GP-869
MTX-4178
GP-1365
MTX-4205
mPower 6.0.0

Networking and Security

Support 802.1X authentication on the Ethernet interface(s)

- 802.1X Authentication feature is available for Ethernet network interface (Eth0) if it is not in the Bridge (BR0). For other network interfaces, including Bridge (BR0), this feature is not available and is hidden on Web UI
- The 802.1X Authentication settings depend on the Authentication Method. By default, the Authentication Method is NONE
- The system supports the following authentication methods:
 - EAP-PWD
 - EAP-TLS
 - EAP-TTLS
 - EAP-PEAP

The following settings are available and depend on the Authentication Method:

Setting	Description
Authentication method	Type of the authentication
Username	Identity (user name) to authenticate the user in the inner (phase 2) authentication
Password (not used in EAP-TLS)	The secret string to be used for EAP-PWD authentication
Anonymous ID	Anonymous identity to authenticate the user in the outer (phase 1) authentication
CA Certificate (not used in EAP-PWD)	X.509 Certification Authority certificate
Domain Match (not used in EAP-PWD, optional)	Domain substring for server certificate validation
Subject Match (EAP-TLS only, optional)	Subject substring for server certificate validation
Client Certificate (EAP-TLS only)	X.509 client certificate
Private Key (EAP-TLS only)	Private key of the client
Private Key Password (EAP-TLS only)	Password to decrypt the private key
Authentication Method (EAP-TTLS and EAP-PEAP only)	Type of the inner (phase 2) authentication
PEAP Version (EAP-PEAP only)	Version of the PEAP protocol

New Feature
GP-355
GP-1328
MTX-3053
MTX-4119
MTX-4170
mPower 6.0.0

Ping Feature Settings: New Options

- Number of Requests: The number of ping requests. The default is 4. The maximum is 120
- Packet Size (Bytes): Specifies the number of data bytes to be sent.
 - Packets include an additional 28 bytes of data (8 bytes ICMP header and 20 bytes IP header)
 - The default packet size is 56 bytes (which equates to into 84 bytes of data due to ICMP header and IP header)
- When packet size of 0 bytes is requested, the actual packet size is 28 bytes due to ICMP header and IP header
- Do Not Fragment: Enable to prevent fragmentation. Without fragmentation, the ping fails if the ping packet exceeds MTU size for the network path. By default, the option is disabled

New Feature
GP-1279
MTX-4036
MTX-4131
mPower 6.0.0

Networking and Security

<p>Continuous Ping</p> <ul style="list-style-type: none"> The Continuous Ping feature allows users to start a continuous ping to an IP address or URL through a specific interface Continuous Ping is available on the Debug Options page To start a continuous ping, users specify IP Address or URL, Network Interface, Packet Size, and enable or disable the Do Not Fragment option <ul style="list-style-type: none"> Continuous Ping starts when the user clicks the Start Continuous Ping button <ol style="list-style-type: none"> The system starts pinging The button label changes to Stop Continuous Ping The message “Ping is in progress...” is displayed next to the button Continuous Ping stops when the user clicks the Stop Continuous Ping button <ol style="list-style-type: none"> The system stops pinging The button label changes to Start Continuous Ping The ping results are shown next to the Start Continuous Ping button API Changes <ul style="list-style-type: none"> api/stats/continuousPing - Continuous Ping status is stored in the “isRunning” field 	<p>New Feature GP-1229 MTX-4033 MTX-4131 mPower 6.0.0</p>
<p>ICMP Keep Alive feature</p> <ul style="list-style-type: none"> Overview: Sometimes when working with private networks, the size of the ping request is regulated. It needs to be configurable to satisfy private network requirements In mPower 6.0.0, new setting “Packet Size (Bytes)” is added next to the ICMP Count in the ICMP/TCP Check pane <ul style="list-style-type: none"> The Packet Size setting specifies the number of data bytes to be sent Packets include an additional 28 bytes of data (8 bytes ICMP header and 20 bytes IP header) The default packet size is 56 bytes (which equates to into 84 bytes of data due to ICMP header and IP header) When packet size of 0 bytes is requested, the actual packet size is 28 bytes due to ICMP header and IP header 	<p>New Feature GP-79 MTX-4167 mPower 6.0.0</p>
<p>Firewall Status Page</p> <ul style="list-style-type: none"> The Status page is added under the Firewall main menu Firewall status page contains Filter tables in the Filter Rules pane, NAT tables in the NAT Rules pane, and iptables-save command output in the IP Tables Dump The Download button allows users to download an archive file that contains the same information that is displayed on Web UI; there are three files in the archive: <ul style="list-style-type: none"> iptables-filter.log iptables-nat.log iptables-save.log API Changes. The following API endpoints are added: <ul style="list-style-type: none"> https://192.168.2.1/api/firewall/downloadStatus https://192.168.2.1/api/firewall/status 	<p>New Feature MTX-4106 mPower 6.0.0</p>

Networking and Security

IPSec Tunnels <ul style="list-style-type: none"> The “Allow All Traffic” checkbox is added to the IPSec tunnel configuration. The option is disabled by default when adding a new tunnel When the checkbox is disabled, all traffic through the tunnel is dropped and the user has to add firewall rules manually to allow the traffic. Enabling the checkbox allows all traffic through the tunnel without creating explicit rules to allow traffic by subnet and/or connection attributes When performing a firmware upgrade from a previous firmware version that does not have this setting, all existing tunnels will have the “Allow All Traffic” checkbox enabled and corresponding firewall rules will be set in the system, so nothing will change in tunnel behavior after upgrade When adding a new tunnel, if the “Allow All Traffic” checkbox is not checked, then all traffic through the tunnel will be dropped. The user will have to add a corresponding firewall rules on the Firewall Settings page API Changes <ul style="list-style-type: none"> The “allowAllTraffic” is added to the api/ipsecTunnels collection 	New Feature GP-1361 MTX-4200 mPower 6.0.0
IPSec Tunnels - Multiple Remote Networks Support <ul style="list-style-type: none"> The system allows to specify multiple local networks and remote networks when configuring an IPSec tunnel API changes <ul style="list-style-type: none"> “remoteSubnets” array replaced the “remoteNetworkIp” and “remoteNetworkMask” in the /api/ipsecTunnels collection 	New Feature GP-1337 MTX-4180 mPower 6.0.0
Ping Feature – Update the Network Interfaces List <ul style="list-style-type: none"> The list of the network interfaces available in the Network Interface dropdown list is updated. The list of available network interfaces depends on the hardware configuration. The following network interfaces are available: <ul style="list-style-type: none"> ANY BRIDGE (BR0) CELLULAR ETHERNET (ETH0) 	Enhancement GP-1320 MTX-4150 mPower 6.0.0
PPP-IP Pass-through / Serial Modem Mode - Hide Ping features from the Debug Options Page <ul style="list-style-type: none"> PPP-IP Pass-through Mode: <ul style="list-style-type: none"> It is not possible to Ping directly from the device The Ping and Continuous Ping features are not available in the Debug Options Page Serial Modem Mode: <ul style="list-style-type: none"> Continuous Ping feature is not available Ping feature is available. Network Interface options: ANY, BRIDGE (BR0) and ETHERNET (ETH0) 	Enhancement MTX-4093 mPower 6.0.0

Networking and Security

<p>Service Statistics Enhancement</p> <p>The status for new services are added to the Service Statistics Page. Services and their possible statuses are listed below:</p> <p>SNMP Server</p> <ul style="list-style-type: none"> ○ SNMP Server is disabled ○ SNMP Server is running ○ SNMP Server is stopped <p>Security Violation</p> <ul style="list-style-type: none"> ○ Security violation is disabled ○ Security violation has not been detected ○ Security violation has been detected (shown if the /var/log/tomoyo/reject_003.log log is NOT empty) <p>Reverse SSH</p> <ul style="list-style-type: none"> ○ Reverse SSH service is disabled ○ Reverse SSH service is running ○ Reverse SSH service is stopped <p>MQTT Broker</p> <ul style="list-style-type: none"> ○ MQTT Broker service is disabled ○ MQTT Broker service is running ○ MQTT Broker service is stopped <p>Remote Management</p> <ul style="list-style-type: none"> ○ Displaying statuses from the Remote Management page <p>Continuous Ping</p> <ul style="list-style-type: none"> ○ Continuous Ping is running ○ Continuous Ping is disabled 	<p>Enhancement</p> <p>GP-1295</p> <p>MTX-4142</p> <p>mPower 6.0.0</p>
<p>Web Server X.509 Certificate - Default details are updated</p> <ul style="list-style-type: none"> • The CN value in the default Web Server X.509 certificate is changed from ocg.example.com to mtx.example.com 	<p>Enhancement</p> <p>GP-1247</p> <p>MTX-4058</p> <p>mPower 6.0.0</p>
<p>Firewall Settings Improvement</p> <ul style="list-style-type: none"> • Firewall “Normal Settings” is the default mode. This view was formerly “Advanced Settings” <ul style="list-style-type: none"> ○ Prerouting Rules ○ Input Filter Rules ○ Forward Filter Rules ○ Output Filter Rules • Firewall “Legacy Settings” now includes the following. This view was formerly “Normal Settings” <ul style="list-style-type: none"> ○ Port Forwarding ○ Input Filter Rules ○ Output Filter Rules 	<p>Enhancement</p> <p>GP-1426</p> <p>MTX-4286</p> <p>mPower 6.0.0</p>

Networking and Security

<p>IPsec, GRE, OpenVPN Tunnels - Enabled checkbox is moved to the tunnel configuration page</p> <ul style="list-style-type: none"> This is an improvement that does not affect the GRE, IPsec and OpenVPN functionality and API The “Check” icon in the Enabled column on the GRE, IPsec or OpenVPN Tunnel Configuration page does not allow the user to enable or disable a tunnel To enable or disable a tunnel, click the Enabled checkbox while adding or editing tunnel 	<p>Enhancement GP-1392 MTX-4255 mPower 6.0.0</p>
<p>SNMP Configuration Page - Network Address and Mask validation, IP address conversion to the Network address</p> <ul style="list-style-type: none"> In previous mPower releases, the system displayed an error if the entered IP Address and Mask do not match while adding an IP network to the Allowed IP Addresses list on the SNMP Configuration page In mPower 6.0.0 the system automatically converts the IP address based on the Mask value, and adds a corresponding valid Network Address to the list 	<p>Enhancement GP-1468 MTX-4387 mPower 6.0.0</p>
<p>Network IP and Mask validation (GRE and IPsec Configuration)</p> <ul style="list-style-type: none"> The system (Web UI) checks the entered IP Address and Mask and automatically converts the IP address value to a valid Network Address while adding or editing GRE or IPsec Tunnels The API validation of the entered Network Address and Mask is implemented, and the system does not allow to save the settings if the Network Address and Mask do not match For example, user enters Remote Network Route as 192.168.2.2 and the Remote Network Mask as 24 while editing a GRE Tunnel. The Network Address in this case is 192.168.2.0, and the system will automatically change it and add a valid Network address, so the remote network route will be a valid value of 192.168.2.0/24 The same conversion is performed for Local Networks and Remote Networks when adding or editing an IPsec tunnel 	<p>Enhancement GP-1453 GP-1287 MTX-4353 MTX-4118 mPower 6.0.0</p>

Bug Fixes

<p>Reset to User Defined Defaults shall restore custom applications</p> <ul style="list-style-type: none"> If a custom application is installed while a user sets the current configuration as user-defined defaults, the system shall try to restore it when performing reset to User Defined defaults Main use case <ul style="list-style-type: none"> Install a custom application, configure the device, save the changes, and set the current configuration as user-defined defaults Change the configuration (make any changes you need), save and apply the changes. Click "Reset to User Defined Defaults" Result <ul style="list-style-type: none"> Device reboots overlays is reset The system installs the custom application from /var/persistent Device reboots again as soon as the custom app is installed. NOTE: Actual behavior depends on the custom application When device boots, the custom application is installed 	<p>Applications GP-1326 MTX-4154 mPower 6.0.0</p>
<p>libmts-io</p> <ul style="list-style-type: none"> MCC and MNC values are retrieved incorrectly from table In mPower 6.0.0, MCC and MNC values are retrieved correctly for further carrier detection 	<p>Hardware GP-114 MTX-4168 mPower 6.0.0</p>
<p>Rogers Wireless – Web Interface Update</p> <ul style="list-style-type: none"> In mPower 6.0.0, the Web Interface (Cellular, Radio Status) has been updated to display the following with a Rogers SIM is inserted in the device Home Network: Rogers Wireless In earlier versions of mPower software, the Web Interface (Cellular, Radio Status) displays the following when a Rogers SIM was inserted in the device Home Network: Rogers AT&T Wireless 	<p>Hardware GP-1388 mPower 6.0.0</p>
<p>SMS - quotation mark character (Double universal) " is displayed with the backslash \ character in the received SMS message (like an escaped character)</p> <ul style="list-style-type: none"> An extra slash character is added before the quotation mark " in the sent and received messages In mPower 6.0.0, the issue is resolved, and an extra slash is no longer added to the Sent and Received SMS messages 	<p>User Experience MTX-4359 mPower 6.0.0</p>
<p>Device UI inaccessible after firmware upgrade if User Authentication enabled</p> <ul style="list-style-type: none"> If User Authentication feature was enabled prior to the firmware upgrade, UI will be inaccessible with SSL error when the upgrade is finished. To restore access to the device user should either reboot the device or restart lighttpd service. This may lead to the issues with upgrade in the field if there is no physical access to the device and no ssh access or SMS commands are enabled This issue exists in previous released firmware (mPower 5.2.1 and mPower 5.3.0) In mPower 6.0.0, the issue is resolved, and user can access the device after performing upgrade if the User Authentication is enabled 	<p>User Experience GP-1301 MTX-4143 mPower 6.0.0</p>

Bug Fixes

Cellular Radio Firmware Upgrade Changes <ul style="list-style-type: none"> Menu name changed to "Cell Radio FW Upgrade" Page name changed to "Cellular Radio Firmware Upgrade" "Cell Radio Firmware Upgrade" shall be in the setup menu, below time configuration (PPP-IP pass-through mode and serial modem mode) 	User Experience GP-1451 MTX-4343 mPower 6.0.0
Custom OpenVPN config breaks iptables <ul style="list-style-type: none"> Customer unsuccessfully tried to setup a VPN connection using custom OVPN config file. Upon investigation the root cause was found in this string: <i>remote 20.191.55.208 1194 udp</i> If we split the string to these two, VPN connection works properly: <i>proto udp</i> <i>remote 20.191.55.208 1194</i> Corresponding changes are implemented, and such custom configuration can be applied, and the tunnel connection will be established successfully 	Networking GP-1421 MTX-3873 SP-5105937 mPower 6.0.0
Save & Apply restart redirects to LAN when connected through WAN <ul style="list-style-type: none"> When connected through the WAN, the Web UI redirects to a LAN IP (Ethernet eth0) when executing a Save & Apply that requires a reboot In mPower 6.0.0, if the current device IP is external (public) IP address or this is a domain name, redirection will be performed to the same address. Otherwise, the system will redirect to LAN IP address 	Networking GP-1006 IN-4375 MTX-4040 mPower 6.0.0
PPP-IP Passthrough Mode – multiple farpd instances are running if connection re-establishes <ul style="list-style-type: none"> In some cases, there are multiple farpd instances running at the same time. The issue occurs when the PPP-IP Passthrough mode cellular connection is interrupted. When the cellular connection reestablishes, the system runs a new farpd instance, but does not end the previous one. This issue does not affect the functionality In mPower 6.0.0, when cellular connection re-establishes and new settings are obtained, the farpd service restarts and there is only one farpd service in the services list 	Networking MTX-4350 mPower 6.0.0

Operating System Overview

mPower 6.3.X	
Yocto Embedded Software	Dunfell version 3.1
Linux Kernel	version 5.4
OpenSSL	1.1.1q
TLS	TLS 1.2, TLS 1.3 Configurable
Python	3.8.11
Node-RED	Deprecated
lighttpd	version 1.4.59

Additional Information

mPower Software Lifecycle Management

<https://www.multitech.com/documents/publications/sales-flyers/mPower%20Software-Lifecycle%20Management.pdf>

Security Advisories

<https://www.multitech.com/landing-pages/security>

Downloads

<http://www.multitech.net/developer/downloads/>

Getting Started

<http://www.multitech.net/developer/software/aep/creating-a-custom-application/>

API Reference:

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

Support:

Visit <https://support.multitech.com/> to create a support case

DeviceHQ, Cloud-based IoT Device Management

Login: https://www.devicehq.com/sign_in

MultiTech Developer Resources

www.multitech.net

Knowledge Base

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

MultiTech Support Portal

support.multitech.com

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

MultiTech Website

www.multitech.com

World Headquarters – USA

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

EMEA Headquarters – UK

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

Trademarks and Registered Trademarks

MultiConnect, MultiTech and the MultiTech logo are registered trademarks of Multi-Tech Systems, Inc.

All other trademarks or registered trademarks are the property of their respective owners.

Copyright © 2023 by Multi-Tech Systems, Inc. All rights reserved

Revision History

Version	Author	Date	Change Description
-003	DT	02/13/2024	mPower 6.3.2 Known Behaviors added mPower 6.3.1 Known Behaviors updated mPower 6.3.1 updated <ul style="list-style-type: none"> Networking and Security, SNMP Configuration Add support for MIB OID Values
-002	DT	01/31/2024	mPower 6.3.2 added
-001	DT	11/07/2023	Initial Version mPower 6.3.1 and mPower 6.3.0