

AEP 1.2.2 Release Notes

What's New

AEP – DeviceHQ Features

After having created an account on DeviceHQ and configuring the Remote Management on the AEP Conduit, the following three features/enhancements have been added to help provide information on the LoRa functionality status, uploading the system logs, and uploading the Node-RED application status.

Upload LoRa Status and Node Status to DeviceHQ

The LoRa status is available on DeviceHQ if the AEP Conduit has a LoRa card installed. It can be found on DeviceHQ by going to the Devices page, clicking on the desired device, and selecting the LoRa tab on the device status page. On that tab the LoRa status (Enabled: Yes/No, Running: Yes,No) can be found along with LoRa network statistics for the Conduit and the Node List containing all nodes joined to the Conduit.

Upload System Logs to DeviceHQ

The Upload System Logs feature give the customer the ability to request device logs to be uploaded to DeviceHQ once, on every check-in, or on a custom interval. Only the last logs uploaded are kept on DeviceHQ. The logs can be downloaded from DeviceHQ to a workstation running a browser with the DeviceHQ Web UI.

Upload Application Status to DeviceHQ

The Upload Application Status feature provides the customer the ability to look at a simple status of their Node-RED application running on the AEP Conduit from DeviceHQ. The status contains the App name, Application ID, and the status ie. RUNNING.

This feature can be found on DeviceHQ by going to the Devices page, clicking on the desired device, and finding the “Active Apps” section on the left pane.

Make settings.js Customizable by Customer

The settings.js file in Node-RED apps on AEP Conduit is now modifiable by the customer and changes made to the file will not be overwritten by the system. This file was written every time Node-RED was started, preventing customers from adding their own custom global configuration for their applications. The file is only created and written to if it does not exist. The rest of the configuration information that was originally being written to this file is now handled either at the command line when the node process is started or embedded via a patch to the Conduit Node-RED code in the red.js file.

On upgrade, old applications should work due to the fact that the settings.js file will not be overwritten if it exists after upgrade to AEP 1.2.2 is complete. The only setting that may be overwritten in the settings.js file is the uiPort. If this setting is set to port 1880, it will be changed to port 1881. The

Node-RED process on AEP Conduit actually listens on localhost port 1881 because incoming connections to port 1880 are handled by a stunnel instance that redirects to the Node-RED 1881 port in order to run SSL for Node-RED login and the editor. This is due to the exorbitant amount of memory nodejs uses when performing SSL.

Adaptive Data Rate (ADR)

The LoRaWAN specification provides MAC commands to support Adaptive Data Rate (ADR). To summarize, the network server on the AEP Conduit samples the SNR from each packet and computes a possible data rate based on each sample and the past ten samples with a moving window of 11 samples. This is all accomplished with the appropriate configuration settings on the endpoint device.

Serial Streamer Rewrite

The streaming program that connects Node-RED to the PCI serial cards has been re-implemented. The new streamer implemented in C++ replaces the old one that was written in Python and is approximately an order of magnitude faster than the old implementation. There were some minor changes to the Node-RED multi serial node in the Node-RED pallet. The DTR/DSR flow control which made no sense from the Node-RED level (the control is not possible from Node-RED), and five and six data bits is not supported.

LTE Radio Support

Support for Multi-Tech LAT1 (AT&T/T-Mobile), LVW2 (Verizon), and LEU1 (Europe) LTE radios has been added to AEP 1.2.x. Each of the radios have been tested on the AEP Conduit and updates have been made to get the Cellular functionality working with them. Initial Setup remains the same with minor exceptions for APN configuration for the different radios. The LVW2 has a different Dial Number (*99***3#) and a default APN of vxwinternet. The Radio Status page in the Web UI is the same with the exception that the Engineering Details table displays different parameters and values that pertain to LTE. Also, for these radios, the Dial-On-Demand cannot be enabled at the same time as Wake-On-SMS.

Updated Help Content

The Help content on the AEP Conduit has been enhanced and it has been moved to a more modern framework.

Miscellaneous Enhancements and Bug Fixes

Numerous enhancements and bug fixes have been integrated into AEP 1.2.2 in a number of areas including the user interface, SMS functionality, the re-addition of the npm utility, and upgrade of the firmware. For a more detailed list of changes go to <http://www.multitech.net/developer/software/aep/aep-firmware-changelog/> .