

# Digi Accelerated Linux (DAL) Release Notes

## Digi Enterprise Extenders/Routers

### Version 23.3.31.129

## INTRODUCTION

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This is a major firmware release for all EX-series products. This is a mandatory production release.

## SUPPORTED PRODUCTS

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- Digi EX50
- Digi EX12/EX12-PR
- Digi EX15/EX15W
- Digi EX15-PR/EX15W-PR

## KNOWN ISSUES

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- Health metrics are uploaded to Digi Remote Manager unless the *Monitoring > Device Health > Enable* option is de-selected and either the *Central Management > Enable option* is de-selected or the *Central Management > Service* option is set to something other than Digi Remote Manager [DAL-3291]
- Surelink tests for PPPoE interfaces are not accurately reflected in the CLI/webUI/DigiRM and will always show a status of *Untested*. [DAL-7537]
- **Digi EX12 only:** Before updating to 23.3 or newer firmware, the EX12's cellular modem must be running modem firmware 25.21.663 or newer. Earlier versions of modem firmware will cause the EX12 to lose cellular connectivity on AT&T networks. For details about checking the modem firmware version and updating it on your device, see the [Update cellular module firmware](#) section of the EX12's User Guide [DAL-7450]

## UPDATE BEST PRACTICES

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Digi recommends the following best practices:

1. Test the new release in a controlled environment with your application before you update production devices.
2. Unless otherwise noted, apply updates in the following order:
  - a. Device firmware
  - b. Modem firmware
  - c. Configuration
  - d. Application

Digi recommends Digi Remote Manager for automated device updates. For more information, follow the instructions for Digi Remote manager in the link below:

### 1. **Instructions for Digi Remote Manager:**

[https://www.digi.com/resources/documentation/digidocs/90001436-13/default.htm#tasks/t\\_update\\_device\\_firmware.htm](https://www.digi.com/resources/documentation/digidocs/90001436-13/default.htm#tasks/t_update_device_firmware.htm)

If you prefer manually updating one device at a time, follow these steps:

1. Download the firmware file from the [Digi firmware support page](#).
2. Connect to the device's web UI by connecting your PC to the LAN Ethernet port of the device and then going to <http://192.168.210.1>.
3. Select the **System** tab on the top navigation bar of the page, then select **Firmware Update**.
4. Select the **Browse** button in the **Upload file** section.
5. Browse for and select the downloaded firmware file.
6. Click the **Update Firmware** button.

## TECHNICAL SUPPORT

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Get the help you need via our Technical Support team and online resources. Digi offers multiple support levels and professional services to meet your needs. All Digi customers have access to product documentation, firmware, drivers, knowledge base and peer-to-peer support forums.

Visit us at <https://www.digi.com/support> to find out more.

## CHANGE LOG

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**Mandatory release** = A firmware release with a critical or high security fix rated by [CVSS score](#).

For devices complying with ERC/CIP and PCIDSS, their guidance states that updates are to be deployed onto device within 30 days of release

**Recommended release** = A firmware release with medium or lower security fixes, or no security fixes

Note that while Digi categorizes firmware releases as mandatory or recommended, the decision if and when to apply the firmware update must be made by the customer after appropriate review and validation.

## VERSION 23.3.31.129 (May 4, 2023)

This is a **mandatory** release.

Firmware	sha512sum	md5sum
EX12-23.3.31.129.bin	88a70fb3dff66b2f126b1df253f1616c014b9be709f0cf8fd637b01813f875c87c8990a7f77b19066824a7a4196f8d87e1ba0cf4cf8f861d01211774c4aab50a	5f0ef47e40d4b8c7983bf18966c7d94b
EX12-PR-23.3.31.129.bin	006b3e9f93acbf32d8a617b42d77ed2e7253f61daff33db843c8bbe1c1afed7b7c18ccafaba754d282060c834666d74ef18559a4ff1c2a7c49ed652cc620a35c	5ed7fc8f74591bf5dc365aad902ad1a4
EX15-23.3.31.129.bin	82c746318d8721deff62f0dff52696b82678ff1a87f24c631972181ca607711765dde15e9db558e994596ada33d891ca210972fb08c3cc161014d919ab22817c	7468bc7f83ef3c9db38d5d24aeb9557e
EX15-PR-23.3.31.129.bin	1355ec73852523453af65484cd76182867f698f8b02be3218d76384dd81a1e91e0482aa82a61012117dcde5ce1b0b9e56e5fc617efdb05bcf6678133073e92ce	806c2e71bafc27c0ad6b75105f4e5c2d
EX15W-23.3.31.129.bin	2dab58886345f3b20679105f11199f3cc9dbf3811584972d8e141718846eb88b0d1ae63c033b1c3d185ab69298cfd0dd0807be53c49db498adc04cb8955bfab6	45aca4af0c6ca877011d19c7adb4803c
EX50-23.3.31.129.bin	d61e3471fdc44d3d1e1c6150845d11562fd519f21a448151b8da181068b50239a12af5db48d75de2c475b52e37ee900b574c679bacfc0ebda31694ca5760668c	63dbc71595ef47f689723350d0590fec

## FEATURES

1. Redesigned Surelink configuration settings [DAL-6646]
  1. Surelink configuration settings are now listed in a single section under each network interface, as opposed to a separate section for IPv4 vs IPv6. The layout of the connectivity tests and recovery actions to perform have been redesigned to provide a more streamlined setup. Any configured tests and recovery actions are performed in the order they are configured, along with a new capability for integrating custom scripts as a test or recovery action. See the [Surelink section](#) of the Digi device's user guide for additional details.
  2. **Important note:** when upgrading a device with non-default Surelink settings from 22.11.48.x or older firmware to 23.3.31.129 or newer, there are some instances where those Surelink settings will not migrate and the device will revert back to default Surelink settings. Digi strongly recommends that you test the new firmware release in a controlled environment with your application before you update production devices. Pay particular attention to your Surelink configuration settings before and after the firmware update, and review any changes before rolling out the 23.3.31.129 release to mission critical devices
  3. **Known migration issues with 22.11.48.x and older firmware:**
    1. If an IPv4 Surelink specifies one test but the IPv6 specifies all tests, then all tests will be selected and Surelink may not behave as expected. The same applies for the reverse - IPv4 specifies all tests and IPv6 specifies one test.
    2. The previous version didn't correctly go out the correct interface in every condition. It was possible to pass the ping test without the interface even being up. This is now fixed in 23.3.31.129 firmware and newer so tests are forced out the correct interfaces by marking the packet.
    3. If migrating from a very old version (firmware versions 20.2.x and older), the config cannot be migrated as it is incompatible. In this scenario, we use the default Surelink configuration for all interfaces

4. If there are conflicting Surelink action or test settings for IPv4 and IPv6 (eg intervals etc), the device will use the IPv4 in preference when migrating the configuration as part of the firmware
2. DMVPN phase 1 spoke support with NHRP or mGRE, including compatibility with Cisco DMVPN hubs [DAL-6709]
3. Added ability to utilize the cellular modem as a time sync source under **System → Time** [DAL-6693]

## ENHANCEMENTS

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1. ModemManager updated to version 1.20.6 [DAL-6406], which includes:
  1. improved 5G SA-mode and NSA-mode performance
  2. RSRP/RSRQ/SINR statistics for 5G SA-mode connections
  3. Native multiplexing for dual-APN setups
2. Added **show surelink state** Admin CLI command to display the overall pass/fail status of the enabled Surelink tests [DAL-7070]
3. Added options under **Network → SD-WAN → WAN bonding** to configure the mode for each tunneled interface and the overall mode of the WAN bonding tunnel [DAL-7394]
4. Updated WAN bonding saneclient to version 20221103 for 5G and 1Gbps performance [DAL-7005]
5. Added new **show wan-bonding** Admin CLI command to display status of WAN Bonding tunnel [DAL-7395]
6. Added new **Status → WAN Bonding** page in the web UI to display status of the WAN Bonding tunnel [DAL-7395]
7. Added distance between the WAN bonding and Ethernet bonding setting sections in the configuration accordion
8. Added configuration settings under **System → Containers** to allow the container to be auto-started on boot with optional parameters and restart if the container stops [DAL-7021]
9. Added configuration settings under **System → Containers** to setup shared directories between the host filesystem and the container [DAL-7021]
10. Support for US cellular consumer SIMs without requiring the user to first configure the APN [DAL-7248]
11. Disable mDNS by default on EX/IX/TX products for improved cellular performance [DAL-7354]
12. Added GlobalGIG APNs to fallback APN list [DAL-6886]
13. Added new **AT&T LWM2M support** setting for enabling/disabling LWM2M on the modem (enabled by default) [DAL-7009]
14. Added IPv6 support for MQTT broker, location servers, and mDNS service [DAL-7111]
15. Include the system hostname (if configured) on the Dashboard page in the local web UI [DAL-7428]
16. Added support for SHA2 ciphers for IKEv2 IPsec tunnels [DAL-7038]

## BUG FIXES

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1. Fixed issue preventing users from locking a device to use a blank APN [DAL-7248]
2. Pre-shared keys for configured Wi-Fi SSIDs are now obfuscated in Digi Remote Manager [DAL-7107]
3. Fixed issue where configuration options for selecting the Wi-Fi channel appeared as “None” in Digi Remote Manager [DAL-7482]

4. Fixed issue preventing device from falling back to its local system time when running as a NTP server [DAL-7233]
5. Fixed issue preventing SIM failover when the device was configured with separate network interfaces set to match by carrier instead of SIM slot [DAL-6910]
6. Removed 3-second stop/start delay when making configuration updates to the MQTT broker settings [DAL-7104]
7. Fixed issue where **tail** CLI command required a filter option in order to utilize the match option [DAL-7038]
8. Fixed issue preventing WAN bonding interface from appearing in the **show route** CLI output [DAL-6829]
9. Fixed issue where initial Surelink test would fail if the cellular modem was configured to be in passthrough mode [DAL-6224]
10. Fixed possible routing issue between GRE/IPsec with Cisco peer GRE/IPsec using VTI configuration [DAL-6722]
11. Fixed issue where serial logging enabled on Realport serial ports never closes the logging session [DAL-6748]
12. Fixed issue preventing SMTP notifications from using TLS encryption [DAL-7079]
13. Fixed issue where the latest WAN Bonding saneclient presets were not being included in the DAL firmware [DAL-7540]

## SECURITY FIXES

The highest level vulnerability that has been fixed in this release is listed as a CVSS score of **9.8 Critical**

1. Update to Linux kernel 6.1 [DAL-7179]
2. Update OpenSSL to version 3.0.8 and 1.1.1t [DAL-7261]
3. Update netifd to version 18.06 [DAL-6280]
4. Update libexpat to version 2.5.0 [DAL-7082]

## VERSION 22.11.48.17 (January 31, 2023)

This is a **recommended** release.

Firmware	sha512sum	md5sum
EX50-22.11.48.16.bin	e616db4612ad5bff5b5fc858b607ef045a7959a3074d7552b7bec386ab10cfe0c0f7d1912f2eb39893aa43d7194450e9ae85415966c534359908217c26afc34a	dd75df67ed8584401ee3c8ff620c6013

## ENHANCEMENTS

1. Improved cellular performance in 5G SA-mode [DAL-7033]

## VERSION 22.11.48.16 (January 15, 2023)

This is a **recommended** release.

Firmware	sha512sum	md5sum
EX12-22.11.48.16.bin	d2f363cbba4eeb667b216cb66bf029837791500f071b2f8702346d92a80e40d8a50f2b81a811525808f3fe03ba2778a7d6f50122a7ff23db59c5ff16a5dc7962	3153b52599a4af6459c3856b6b8bb571

## ENHANCEMENTS

1. Added new **AT&T Lwm2M support** configuration setting under the **Network → Interfaces → Modem → APN list** section to fix an issue with AT&T SIM registration on EX12 products if the SIM wasn't provisioned with the attm2mglobal APN [DAL-7009]
2. Add support for SHA2-512 and SHA2-256 hash algorithms for IKEv2 IPsec tunnels for interoperability with Cisco ASA devices [DAL-7071]

## VERSION 22.11.48.10 (November 24, 2022)

This is a **mandatory** release.

Firmware	sha512sum	md5sum
EX12-22.11.48.10.bin	42d5c24fd901cf77c887735bdcbabd894c4a7f4808b571eba1a712b54881943aa0ae3c465c193fa14a2ab84c359fe5b23654849dde3c0d82adeab5a0b54337b4	8c1912d2bdd6c5f7726e1f8e41a3a9d8
EX12-PR-22.11.48.10.bin	0a36b77ddd68f01e51adf1432e33d90f953a9c20ba99afde1ac6a62b21c261700a2ef7234d81332cad87bdb3d7000901a4be1b59e07c707396e841b7a50c000c	7659c8126afecd5fbb717cf20604d172
EX15-22.11.48.10.bin	00f01eaf80e58277d8c91e7c8f210392645977a8a9733762ff61713de4b4ed3663252bd5e588c161fe65c07cf5e7574b1d40cfbb3f60169d9c246876e4439764	1d77b3fe28db66f4fae46a2a30ed1503
EX15-PR-22.11.48.10.bin	834925ab4ede3f96609454d0fa92857e9336813d47c3368f26bfe6e693504099efa49abc33def41abdd5b7598084bd6819a5fa375478d99dfb3b534ea029b70b	76c4783d0fb558a5c9708d50c90e2243
EX15W-22.11.48.10.bin	15733775ddf75de94232caf4131602b99c6d339faf9f165fd4011dff788db3ef6085105c986095950766f798b9857e689f41f3b07c46290ca481a347df8cc0f	cee26f05c0020a8e46cad4975f020c94
EX50-22.11.48.10.bin	e74b0ea43f313772bcf042fc0d3b8415a25488e96ab896bd2491179652743068d6d24802a4a332eb8b381a5b1cc56eb7586c7c2b832d2a152b5b5f626f512dd1	c8c31c082889eb412161e7f7cf5e7db2

## FEATURES

1. Updated the intelliFlow feature to integrate with Digi Remote Manager for aggregated insights and analytics [DAL-6656]
2. **EX50:** New **System → FIPs** setting to limit encryption ciphers to FIPS 140-2 compliant algorithms (disabled by default) [DAL-6927]
3. Add options under **Network → Routes → Routing services** for configuring Next-hop routing protocol (NHRP) advertisements [DAL-6711]
4. Added advanced watchdog to monitor critical services and automatically reboot if those services fail. The advanced watchdog also monitors system memory usage and will automatically log an error and reboot the device when memory usage exceeds 95%. The advanced watchdog settings can be configured and the **System → Advanced watchdog** section of the device's configuration [DAL-6094]

## ENHANCEMENTS

1. Add option under **VPN → IP Tunnels → Mode** for supporting mGRE tunnels [DAL-6709]
2. Added option under Network → Advanced settings to allow ICMP redirect messages (disabled by default) [DAL-6013]
3. Disable automatic modem/device firmware update options if using DigiRM [DAL-5738]
4. Added new **Signal strength query interval** setting under the **Network → Modems**

- configuration options to control how often the cellular modem is polled for signal strength and other network status updates (default is once every 5 seconds) [DAL-6272]
5. Display the LTE Cat-M or NB-IoT network type in the Admin CLI, local web UI, and Digi Remote Manager metrics for devices with ME910c1-WW modems [DAL-6155]
  6. New **tail** and **grep** Admin CLI commands
  7. Send container datapoints to DigiRM with the configured container name instead of container index number [DAL-6551]
  8. Update wording of help text for the **Authentication → Methods** options in the device configuration settings to provide clarification on the mode of operation between authoritative versus non-authoritative options [DAL-6928]
  9. Add modem scan timeout option to **Scan** window on the **Status → Modems** page in the web UI [DAL-6938]
  10. Update error message in the web UI when restoring a configuration backup if the web connection is lost before a response is received [DAL-6553]
  11. Added new **Data logging** options under **Serial** configuration settings to have any data sent/received on the serial port logged to the system logs in addition to whatever mode the serial port is in [DAL-6719]
    1. Remove options in the local web UI and Admin CLI for manually starting/stopping/clearing serial logs. These actions are now controlled under the **Data logging** configuration settings
  12. **EX50**: disable automatic modem firmware update in EM9191 driver by default [DAL-7014]

## BUG FIXES

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1. **EX15**: Fixed intermittent issue resulting in system performance issues when heavily utilizing VPN tunnels on an LR54 or TX54 device [DAL-6731 & DAL-5926]
2. **EX50**: Fixed issue preventing creation of password-protected backup configuration files [DAL-6931]
3. Fixed occasional issue where containers could not start due to a permissions issue [DAL-7041]
4. Fixed intermittent issue preventing configuration restores from the Admin CLI due to the output of the **show config cli\_format** command presenting configuration settings in the wrong order [DAL-6435]
5. Fixed issue in digidevice.sms python library where it couldn't process MMS messages [DAL-6952]
6. fix output of iperf speedtests in the Admin CLI [DAL-7001]
7. Disable GPS reading on ME910c1-WW modems to prevent CPU utilization spike from ModemManager [DAL-6575]
8. Fixed intermittent issue with SIM failover on devices with Telit LM940 modems [DAL-6569]
9. Fixed intermittent issue preventing modem firmware updates if no SIM card was inserted into the active SIM slot [DAL-6309]
10. Fixed issue resulting in slow upload speeds for clients connected to a Wi-Fi hotspot [DAL-6674]
11. Fixed intermittent issue in IPsec strict routing mode where a default route change could result in packets not going through the IPsec tunnel [DAL-6518]
12. Fixed intermittent issue where a device configured as a L2TP LAC would sometimes drop its tunnel and not automatically reconnect [DAL-5415]
13. Fixed intermittent issue where a device configured as a L2TP server would sometimes drop packets from L2TP client tunnels [DAL-6696]
14. Fixed issue preventing L2TP tunnels from running if they were configured with a name

longer than 12 characters [DAL-6718]

## SECURITY FIXES

The highest level vulnerability that has been fixed in this release is listed as a CVSS score of **9.8 Critical**

1. update Linux kernel to version 5.19 [DAL-6558]
2. update shellinabox to version 2.21 [DAL-5430]
3. update systemd to version 245 [DAL-5421]
4. Prevent escalated filesystem access through DigiRM [DAL-6784]
5. update OpenSSL to versions 3.0.7 and 1.1.1s [DAL-6991]
6. update jquery to version 3.6.1 and jquery-ui to version 1.13.2 [DAL-5686]
7. update default OpenVPN server cipher from AES-256-CBC to AES-256-GCM [DAL-5737]

## VERSION 22.8.33.54 (October 27, 2022)

This is a **patch** release.

Firmware	sha512sum	md5sum
EX12-22.8.33.50.bin	2c8d283d6ce00467ccdd7cd120c5b397a9994b1425f9d3084c5072b6f3178411c79bf908c28967f18cab5c772146d5c74b5148002313a14efbf3d7c9da2f9fcf	1480dece7540ca43d2270496c8af8a8e
EX12-PR-22.8.33.50.bin	2a8de9fdc6dd8c0fb0591da1179c6ee966a19555838a746895f4d257ba03f965fdc26819bad3120d56a3f508a6ba3f9dd08bfdbc3586eb32b8f638f9d10f5b07	7370cd3fbfa239e5cb5067911df4e517

## BUG FIXES

1. Fixed issue preventing EX12/EX12-PR units from upgrading to firmware versions 22.8.33.50 or 22.5.50.62 if the device was running 21.2.39.67 or older firmware. [DAL-6935]



## VERSION 22.8.33.50 (June 14, 2022)

This is a **mandatory** release.

Firmware	sha512sum	md5sum
EX15-22.8.33.50.bin	64abc65059303e7ffb9bb02743d5dd9533e0b965c034c991d525431858a5c22c2fef3d55997f038e4aa2b505193afeb493558bea484d791bbe0207bb6da3976b	bee2797d92db7273328dc54dcf9b6429
EX15-PR-22.8.33.50.bin	b361360398fc1a9c534982bfeb94cab327e0cc8617469e7cb3d6c6897d84f46ab484582f9bb8d0f8f62d39fdd6493686a517d478431c360831c09877a104ed04	3d7c311af507d66b90898850685d6e5c
EX15W-22.8.33.50.bin	3e5f35ca552ec7c21f75e6cb2adaa157315bf4028533fb125c6f33886430bfc5634b1bc1065bfde57c80a1868b5176503970598fc0aac52c045b6699c8408983	1f96a984dd89bc98efe8d4f909ed8335
EX50-22.8.33.50.bin	e164830467545ab4b4dcc272e9ceddc04d5e2f302bb8b14ef0e65a91debc7fdc67ac565bc0a41788d2e3194dafb41cb0709f4da3a5e6a61d659627d78cf9ff55	16005a8cb0cbfb5dc14b2ef8ca67be25

## FEATURES

1. Added configuration options for running a PPPoE server in IP passthrough mode [DALP-1045]

## ENHANCEMENTS

1. Update firmware OTA downloads to utilize the Digi Remote Manager firmware repository (firmware.devicecloud.com) [DALP-606]
2. Always display **Central management** → **Firmware server** configuration setting regardless of which central management service is selected [DAL-5719]
3. Always display **Central management** → **Speedtest server** configuration setting regardless of which central management service is selected [DAL-6527]
4. New **modem firmware ota download** Admin CLI command for downloading cellular modem firmware from the Digi firmware repository [DAL-6541]
5. Add ability to specify DFS channels under **Network** → **Wi-Fi** → **Client mode connections** for background scanning when **DFS client support** is enabled [DALP-1004]
6. Add cellular carrier name and **PLMN ID to Status** → **Modems** page in the web UI [DAL-6554]
7. Mark Containers as a premium feature enabled via Digi Remote Manager [DALP-1038]
8. Support the ability to start/stop containers via RCI commands from Digi Remote Manager [DAL-6468]
9. Added new metrics for sending container status, name, CPU load, and disk usage as datapoints to DigiRM [DAL-6404]
10. New **show eth** Admin CLI command to show the link status of each Ethernet port [DAL-6126]
11. New **poweroff** CLI command to perform a graceful shutdown of the device without automatically rebooting [DALP-982]
12. Added new **Strict routing** setting to IPsec tunnels that, if enabled, will only route packets through the tunnel if both the source IP and destination IP match the IPsec tunnel's policies instead of NAT-ing traffic that only matches the remote network policy [DAL-5317]
13. Added new MS-CHAPv2 option under **L2TP** → **L2TP network servers** → **Authentication method** to support clients that require MS-CHAPv2 for authentication to a L2TP/IPsec server [DAL-6327]
14. Store kernel crashes and debug logs across reboots and automatically add them to the

- system logs in /var/log/ [DAL-6496]
15. Include AT#FWSWITCH output in support reports [DAL-6580]
  16. Added **network.modem.modem.gea1\_cipher** debug config setting that can be can enable GEA1 cipher and speed up initial connectivity and SIM failover on Quectel modems [DAL-5258]
  17. Automatically refresh the **System → Firmware Update** page in the web UI after a user clicks the Duplicate Firmware button [DAL-4750]
  18. Add disclaimer to **Network → SD-WAN → WAN bonding** settings to note that a DigiRM license is required
  19. Update WAN Bonding client to version 2022-04071718
  20. EX50: Added options under **Network → Modems → Access technology** to set the modem to 5G-only (including setting to 5G SA-only, NSA-only, or both NSA/SA-modes) [DAL-6395]

## BUG FIXES

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All bug fixes listed below affect firmware versions 22.5.50.62 or older unless specified otherwise

1. Added new **Network → Routes → Routing services → BGP → Networks** section for defining specific IP networks to advertise to BGP peers [DAL-6368]
2. EX50: Fix issue with certain AT&T SIMs connecting with EM9191 modems by ensuring the APN is written to the SIM before connecting
3. EX50: Fixed connectivity issues where EM9191 modems with a Vodafone SIM would switch to Verizon firmware instead of Generic firmware
4. Fixed issue where manual carrier selection through the web UI, configuration settings, or Admin CLI would fail to connect if the SIM required a APN username/password with CHAP authentication [DAL-6552]
5. Fixed L2TP setups so it only adds a default route for the tunnel if the defaultroute custom PPP setting is specified [DAL-6328]
6. Add **timeout** option to **modem scan** Admin CLI command to allow users to specify a longer scan period for SIMs that can roam to a larger number of nearby carriers
7. Fixed buffer limitation of 1024 characters when copy/pasting text into the Admin CLI [DAL-6445]
8. Fixed issue where kernel-level system logs were logged with UTC timestamps regardless of the locally-configured timezone [DAL-6408]
9. Fixed issue with sending UCS-2 formatted SMS messages with UTF-16 characters [DAL-6318]
10. Fixed issue preventing the Digi device from connecting to Digi Remote Manager over a HTTP proxy through an IPsec tunnel [DAL-6430]
11. Fixed permission issue with starting containers added via Digi Remote Manager [DAL-5844]
12. Fixed invalid format of SIM ICCID metric sent to Digi Remote Manager [DAL-6394]
13. Fixed issue where Wi-Fi client would not reconnect if the config settings were disabled and then re-enabled [DAL-6592]
14. Fixed issue where the **Reset modem** Surelink option would prevent the **SIM failover** Surelink option from taken affect if both Surelink settings were enabled (affects firmware versions 22.2.x through 22.5.x) [DAL-6343]
15. Fixed issue with downloading client ovpn file from the local web UI [DAL-6561]
16. Fixed issue where the connection to DigiRM would fail if WAN Bonding was enabled [DAL-6386]

## SECURITY FIXES

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The highest level vulnerability that has been fixed in this release is listed as a CVSS score of **9.8**

### Critical

1. Update OpenSSL to version 3.0.5 and 1.1.1q (CVE 2022-2274, CVE-2022-2068)
2. Update Linux kernel to version 5.18

### VERSION 22.5.50.64 (October 27, 2022)

This is a **patch** release.

Firmware	sha512sum	md5sum
EX12-22.8.33.50.bin	388ad7b275a4904575cb879befad85ac3df6 f3b353398b4f6a3399de84dc8e581bbcb8d9 1ec8500e24bbed2eebcbababca18426f348 feb63e8304323978b5f5	05d509e0d87fa0bbb5234e1671 d91a15
EX12-PR-22.8.33.50.bin	c3a1f780e55c7e8180106378384eca4a5d3b cb316b9120150d9f7d0637490fb9708a4311 f640efe6c734419933ec55ba9701015f0aa5d 93e11f55a4cf24c5e65	5e4ea5e0a9c509ef720c191f535 71ef5

### BUG FIXES

1. Fixed issue preventing EX12/EX12-PR units from upgrading to firmware versions 22.8.33.50 or 22.5.50.62 if the device was running 21.2.39.67 or older firmware. [DAL-6935]

### VERSION 22.5.50.63 (July 12, 2022)

This is a **recommended** release.

Firmware	sha512sum	md5sum
EX50-22.5.50.63.bin	d8a1d4bfe660b7eb705ac589940157df60903cc97052 1816f3aae82ceb14fa08a016a734ed6ae0d059df59d4 e81bd1954c4b461fec7ff205c8f56ad9574bba01	035d1ce819be09af1bee5d53b64aceb9

### BUG FIXES

The below bugs are all present on firmware versions 22.5.50.62 and older unless otherwise specified

1. Fixed issue preventing connectivity with some Verizon SIMs [DAL-6384]

### VERSION 22.5.50.62 (June 14, 2022)

This is a **mandatory** release.

Firmware	sha512sum	md5sum
EX50-22.5.50.62.bin	c61fc171d3bd86adc91f8dc5af2c9723a9f3f3d463887 e412147440d448b3e2fc741c586b291e4e0ccec41f8ca 89a41dcd6d8ffc71080afcd22a31a5b24ac7d0	3dfecfcc114faf39a80dc06124aeb09a
EX15-22.5.50.62.bin	39dd81b222676736cd5991fcd2cd9e714d8b6401687 e26a2b2ef1af26c8ccce6448aad04d8dbe3b75fa77c b7168eb00c66dca38dd8fbc023bc949f66a8a88e6	d9b98e79530b26d8b502119eca78e79 2
EX15-PR-22.5.50.62.bin	31a9b861e52054cd302f685c283644f38dfa5c5c73b91 7f1c1ab120e125fa550f4ab09b4b2c51d26d7924c453f 90720a0831befc8f736b48986c1d5cfc3aee8d	af718e7787d8afb9225f76ca1820c49b

EX15W-22.5.50.62.bin	fc4fc77983c5a163c2a00151f4fe8c8edc2d91184e675 a22fe7b98b8ec9e8756b5297c38767452c428331b164 a08d28e53d800cdd43b0f7b7b9c5c28f26c4b87	dc65dac79c98a9d16196a6b73fc7ccff
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## FEATURES

1. *EX50/EX15/EX12*: Containerized python environment is now available. To enable python support on your EX15/EX50 device running 21.11.60.63 or newer firmware, you must update to 22.5.50.62 firmware and install a Python container live image. See the [linked knowledgebase article here](#)
2. Serial PPP dial-in mode for handling AT-based connection requests from a device connected to a serial port and providing IPv4 networking to the device [DALP-880]
3. New **Network → SCEP Client** settings and underlying functionality to support connecting to additional SCEP servers, including Fortinet FortiAuthenticator, DigiCert, EJBCA, and Windows server [DALP-1007, DALP-1022]
4. New *show scep* Admin CLI command for showing the sync status, expiration dates, and additional details of any configured SCEP clients [DAL-6069]
5. Support for enabling add-on features from Digi Remote Manager [DALP-673]
6. *EX15/EX15W/EX50*: New **Network → SD-WAN → WAN Bonding** add-on feature via Digi Remote Manager for bonding multiple outbound Internet connections together for increased maximum throughput or data redundancy [DALP-108]
7. *EX50*: New 5G slice support under **Network → Modems → Default slice information** for configuring the slice type to set in the 5G modem [DAL-5973]

## ENHANCEMENTS

1. Remove time.accns.com from default list of NTP servers unless **Central management → Service** is set to *aView* at the time of updating firmware from version 22.2.9.85 or older [DAL-5543]
2. Added new **system.log.persistent\_path** configuration setting to specify where system logs are stored locally, which could be on the device or to an external storage (e.g. USB flash drive, SD card, etc) [DALP-946]
3. New **Services → Location → Destination servers → Behavior when fix is invalid setting** to control the NMEA message content sent when there is no valid fix from any of the configured location sources [DAL-5984]
4. Improved the message shown on the **System → Configuration maintenance** page of the web UI if an error is encountered when restoring from a backup config file [DAL-6141]
5. Include the hostname of the device in the client .ovpn file listed on the **Status → OpenVPN → Servers** page in the web UI [DAL-6157]
6. Add support for the CP210X serial driver for connecting to Cisco USB console ports [DAL-6119]
7. Filter out non-Internet type APNs from our APN fallback list [DAL-6227]
8. Automatically power cycle the cellular modem in the event that a *modem reset* Surelink action fails [DAL-6268]
9. Enable Surelink *reset\_modem* action by default on cellular interfaces and set fail count to 3 [DAL-6275]
10. Add cellular APN and cellular connection duration as datapoints sent to DigiRM [DAL-5902]
11. Ensure modem is in enabled state before attempting to connect [DAL-6163]
12. Omit non-production modem firmware from the OTA query results in the **Status → Modems** page of the web UI [DAL-6301]
13. *EX50*: Improved EX50 cellular throughput by integrating NSS acceleration drivers [DAL-5692]

## BUG FIXES

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The below bugs are all present on firmware versions 22.2.9.85 and older unless otherwise specified

1. Fixed issue preventing Telit LE910 family of modems from registering after changing APNs without a reboot [DAL-5971, DAL-6016, DAL-5203]
2. Fixed issue preventing connectivity with fast.t-mobile.com T-Mobile SIMs when used with a Quectel modem. Use PDP context 1 for connections on Quectel modems with T-Mobile SIMs [DAL-6401, DAL-5930]
3. Fixed issue where modem-based Location source would sometimes not report properly due to an initialization timing error with the modem [DAL-6163]
4. Fixed issue where an IPsec tunnel fails to re-establish the tunnel if SAs are deleted after phase 1 re-authentication [DAL-4959]
5. Fixed issue where the connection to Digi Remote Manager would delay up to 15 minutes before refreshing to use the active main Internet connection in the event of a network failover or fallback [DAL-6164]
6. Fixed issue where **OpenVPN → Advanced options → OpenVPN parameters** text box was limited to 64 characters when synced with Digi Remote Manager. The new limit is now 64,000 characters [DAL-6002]
7. Fixed issue preventing OpenVPN server from authenticating clients with an external LDAP/TACACS+/RADIUS server [DAL-6159]
8. Fixed broken **Go to Digi Remote Manager** link in the local web UI [DAL-6088]
9. Fixed issue preventing LDAP external authentication for SSH and Telnet session [DAL-6098]
10. Fixed typo in description of *container delete* CLI command [DAL-5956]
11. Fixed output of *show containers* Admin CLI command to list all containers on the filesystem, not just those linked to configuration settings [DAL-5958]
12. Fixed issue where the *show location* output in the Admin CLI could include an incorrect timestamp if the configured location server(s) had a non-UTC timezone set
13. Fixed issue preventing **Network → Interfaces → MAC address allowlist** from implicitly denying access to devices not in the allowlist [DAL-6001]
14. Fixed **Invalid lookup path for : network.interface** error when running `cfg.get("network.interface")` in the digidevice.config python module [DAL-6005]
15. Fixed issue where TAIP messages would have the incorrect timestamp if the timezones between the device and server were different [DAL-6335]

## SECURITY FIXES

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The highest level vulnerability that has been fixed in this release is listed as a CVSS score of **9.8 Critical**

1. **EX50**: Update to OpenSSL 3.0.3 to enable FIPS 140-2 support [DALP-738]
2. Update to OpenSSL 1.1.1o (CVE-2022-0778, CVE-2022-1292) [DAL-6035]
3. Update to linux kernel 5.17 [DAL-6081]
4. Patch for “dirty pipe” vulnerability in Linux kernel (CVE-2022-0847) [DAL-5981]
5. Update gcc to version 11.2 and binutils to version 2.37 (CVE-2019-15847, CWE-331, CVE-2018-12886, CWE-209, CVE-2002-2439, CWE-190) [DAL-5444]
6. Update openvpn to version 2.5.6 (CVE 2022-054) [DAL-6229]

## VERSION 22.2.9.85 (March 3, 2022)

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This is a **mandatory** release.

Firmware	sha512sum	md5sum
EX50-22.2.9.85.bin	fd4fe82f644b4ff0fba0e0d205d98d656fe018813baf3a2b3498e6e0c62e554d635712d30ac45420e318ed5021de4068ccba861b350eb8866bd891707cf2242b	083974e026d14146ff99829b8aaae22a
EX15-22.2.9.85.bin	25c1986ff5c60ed91b4d2fc826a569a7de6e8b24745cd8403dcba9ee8a0a83c8b2eadb1e3e7a3d25808f367b3810ff004279e37a449281976d91a64f6ca8f504	4068a2c3a180a7949cbf7e2b6c375ac4
EX15-PR-22.2.9.85.bin	78c83b8fc5c809e4c28acce2e4d50561f3a01a5c21b5137eb4a3f8eaa812799e5eecb8d33d2eaf430611d5ee6a5179b879360986407cbd48f9bc79a6329b75ce	a5c1c0b5118471a0f993e3b2f2c44c3a
EX15W-22.2.9.85.bin	4f85327a4ae6d058f86c70186a3493e8211bfa9e7f23da8d35af566c93402511b8e868d6bb7429545f89c46cde8c364a26af03966b3f9989e16df825cbaa306d	e711481b0e6283aaaac6663a7ea23b7c
EX12-22.2.9.85.bin	c1c164e8b0fa33f5b9a01f6a7149426384b23155d6a02d5602b1229989bdda2f98162738c27e715bc2a9f292051cd0feb078f6d4f3dbb42bf5ad3e0f1cc34e9b	eb4f1e2fce0158556a01d203f5b5a844
EX12-PR-22.2.9.85.bin	0cf685860b107f333db758daba6c64f69728ad7d402dc9b820540be4c9e2e3547c82596d56ea3261aa1b99608e9b7052fc00340746861d9239cf304eb1c873cf	6d0b831432c6ee589f9cb3538f97143e
6300-CX-22.2.9.85.bin	e1954708760622d7021b044d3d755dcb47c6f59f78153ac944dc0762e6265430c8f96955039f42d91aa2d16cf21c009fbdf2ea41c78482a2fc24a12f4908c0f9	b09a56706fc45c40dc6042683da95f5c
6310-DX-22.2.9.85.bin	a170c7b50cff2d07cc2183b7f9ecd6a3b6958333b99e9280ed1b195215d9ebd47bc23b2a9e524489b21ab70791e19c2d6c8037bff3868f596dbaef841e9cadd	a5de4d49d661cd46d7d5a26e26ad1c36
6330-MX-22.2.9.85.bin	5e220ab73b278c2baabf3849fea505ae61d9dbe9f804287d48816b0a6b0b2c483ea36d88226f00bff4a07c7a7ad049cfadbbe35556cfbda4af369179bbb7e458	fe596f8a682bc247292cf56721d8d788
6335-MX-22.2.9.85.bin	6262e531c6fb33d873a54b3e5837c7d35dd28899ad63da58cfcfe2b012dd4a3288540638c351c4b496bfa172ee15247f311d84e4f7a32f85376f7745fa23f98	40d4ceca8e0acc4f9ef022c6447fadaa
6350-SR-22.2.9.85.bin	39a49f783fe4ad70f7dd1ab17d1866889de8044f4faf2893ea92ffbd9197183101e56cb66925ef4c44f126622729e4b0b1535090e37c0195e1f0aa2cb333fc5d	f8d71eb9e4a5778e8300b8f3e44a1573
6355-SR-22.2.9.85.bin	adf0d5af361119877ccfe929a43eb11fbe4a16eedf13c6784c96b648705986bda34be4a89034b373b1ba8d55dc29cd585c983f933e862fe86b7bcdda39a19e1f	1226d0aaffbd442c11ffae5a40d2d75a

## FEATURES

1. Added new option under **System → Time → NTP → Use GNSS module** to enable the device to use its internal GNSS module as a date/time sync source [DAL-5760]

## ENHANCEMENTS

1. Update default Digi Remote Manager URL to edp12.devicecloud.com [DALP-972]
  1. In firmware versions 22.2.9.85 and newer, the default central management server changes from **my.devicecloud.com** to **edp12.devicecloud.com**. This change enables more secure connection negotiation and enables support for device certificates. If your device connections are managed by a firewall, or your devices do not have direct access to public DNS servers, you may be required to make firewall changes to open connectivity to edp12.devicecloud.com, or to enable DNS. See <https://www.digi.com/support/knowledge-base/firewall-concerns-for-outbound-edp-connections-to> for more information about device connectivity to Digi Remote manager.
2. EX12-PR: Add container support to PR products and remove from 63xx-series legacy

- Accelerated products [DAL-5498]
3. Increased web UI upload limit to 512MB [DAL-5694]
  4. Added new **Surelink Switch SIM** and **Switch SIM fail count** options to specify how many times the Surelink test must run and fail on a cellular modem before the device switches to the alternate SIM slot [DAL-5717]
  5. Support for standard SCEP servers [DALP-821]
    1. Previously the SCEP client only supported syncing with Fortigate SCEP servers. Two new settings were added under the **Network → SCEP Client** options to control the CA identity and HTTP path to the CA
  6. Renamed **VPN → IPsec → Tunnels → Policies → Local network** setting to **Local traffic selector** along with a new **Dynamic** option which allows users to configure a local network by protocol and/or port instead of a network address range [DAL-5645]
  7. Added new **VPN → IPsec → Advanced → Debug level** option to specify the logging verbosity of IPsec messages in the device system logs (default is debug logging is disabled) [DAL-5720]
  8. Added new **Serial → Autoconnect → Socket ID string** option to send the configured text to the remote server(s) when a TCP socket connection is opened to the serial port [DAL-5700]
  9. **EX12/1002-CM06/1003-CM07**: Utilize T-Mobile carrier firmware if available for the cellular modem when using Sprint Curiosity SIMs [DAL-5466]
  10. New cat Admin CLI command for displaying file contents [DAL-5853]
  11. Update /etc/config/scep\_client/ directory to be read/write by admin users
  12. Add ability for policy-based routes to override routing of packets through VPN tunnels, useful in the case where you only want packets from a certain source network to go through the tunnel [DAL-5317]

## BUG FIXES

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The below bugs are all present on firmware versions 21.11.60.63 and older unless otherwise specified

1. Fixed HFSC class hierarchy setup for QoS policies to limit bandwidth used for shared links [DAL-5814]
2. Fixed issue preventing scheduled maintenance window from updating the maintenance\_window datapoint in Digi Remote Manager if the maintenance window start time was between 00:00-00:59 [DAL-5765]
3. Fixed bug preventing MMS SMS messages from being received and parsed properly, preventing large out-of-band config changes from being received from central management portals [DAL-5538]
4. Fixed issue preventing transport-mode IPsec tunnels from initializing properly [DAL-5718]
5. Fixed issue where only the first policy would be setup on IKEv2 IPsec tunnels [DAL-5347]
6. Fixed issue preventing port forwarding firewall setups if the **Destination port(s)** setting was left blank [DAL-5860]
7. Fixed intermittent issue where the **show dhcp-leases** CLI output would sometimes not include all leases [DAL-5688]
8. Fixed system log errors when performing TACACS command authorization without having a TACACS server configured [DAL-5512]
9. Fixed interruption of active serial port connections when a user changes the serial port mode in the Digi device's configuration settings [DAL-5698]
10. Fixed issue where Surelink tests aren't reloaded if a user updates the network bridge or Wi-Fi configuration settings on the device [DAL-5406]
11. Prevent modbus setup issue by not allowing users to configure the device to use reserved address ranges [DAL-5905]

12. Fixed intermittent race condition in Surelink that could lead to a delay in setting up a WAN connection [DAL-5934]
13. Fixed issue with digidevice.sms python module processing empty SMS messages [DAL-5883]
14. *EX15*: Fixed link connectivity issues with 10Mbps Ethernet switches [DAL-5506]
15. *EX15*: Fixed intermittent link-dead messages when using an EX15 connected to a VeloCloud appliance [DAL-5657]
16. *EX50*: Fixed intermittent Wi-Fi LEDs when switching between Ethernet and cellular WAN connections [DAL-5660]

## SECURITY FIXES

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The highest level vulnerability that has been fixed in this release is listed as a Critical CVSS score of **10 Critical**

5. Update python to version 3.10 [DAL-5499]
6. Update openssh to version 8.8p1 (CVE-2021-28041, CVE-2020-14145) [DAL-5451]
  1. This deprecates support for RSA signatures using the SHA-1 hash algorithm by default, which may prevent old machines from SSH-ing to the Digi device. Please ensure your SSH tool (TeraTerm, PuTTY, etc) is up to date. If you need to re-enable SHA-1 hash support, you can do so by adding the following lines to the **Service → SSH → Custom configuration → Configuration file** text box in the Digi device's configuration settings:
    1. HostkeyAlgorithms +ssh-rsa
    2. PubkeyAcceptedAlgorithms +ssh-rsa
7. Update dnsmasq to version 2.86 (CVE-2021-3448) [DAL-5331]
  1. Fix problem with DNS retries in 2.83/2.84
  2. Fix a problem, introduced in 2.83, which could see DNS replies being sent via the wrong socket. On machines running both IPv4 and IPv6 this could result in sporadic messages of the form "failed to send packet: Network is unreachable" and the lost of the query
8. Update to Linux kernel version 5.15 [DAL-5546]
9. Add new **Service → Web administration → Minimum TLS version** configuration setting to allow users to specify which TLS versions are allowed in the local web UI (default minimum is TLS 1.2) [DAL-5408]
10. Update busybox to version 1.34.0 [DAL-5631]
  1. CVE-2021-4237, CVE-2021-42374, CVE-2021-42375, CVE-2021-42376, CVE-2021-42377, CVE-2021-42378, CVE-2021-42379, CVE-2021-42380, CVE-2021-42381, CVE-2021-42382, CVE-2021-42383, CVE-2021-42384, CVE-2021-42385, CVE-2021-42386
11. Update dbus to version 1.13.20 [DAL-5459]
  1. CVE-2020-12049, CVE-2019-12749
12. Update grub to version 2.06 [CVE-2021-3418] (DAL-5456)
13. Update bzip2 to version 1.0.8 (CVE-2019-12900, CVE-2011-4089, CVE-2010-0405) [DAL-5446]
14. Update procps to version 3.3.15 [DAL-5433]
  1. CVE-2018-1124, CVE-2018-1123, CVE-2018-1126, CVE-2018-1125
15. Hardened openssl build to include secure compilation flags
16. Update sqlite to version 3.37.2

## VERSION 21.11.60.63 (December 8, 2021)

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This is a **mandatory** release.



Firmware	sha512sum	md5sum
EX50-21.11.60.63.bin	53d0e73712a1f15c314011dee2fd7046516dd740eca147b9682b60926184a961c77df8df5e6d50c426b428f498c91cefc3719c7477c41e3eb969d6b8029a595a	292eaf333af39920b8d9d6956f2386b
EX15-21.11.60.63.bin	2d84eaf652df1e6103bbe41225dcb7075d7c2f981615c18dd5b610751ff71c2a4ff7006a3f14721c253604113bf0d542b805a45e7ec90d669cca8b6237fe39b7	ef4059bc4615e7e8b2e3e944a2085bf0
EX15-PR-21.11.60.63.bin	4aa918d2b04396335233a3d52fb3e26e348c7f1f81f42ff50412a1389b09d0ebb36bb77b3ecf7af89c6532704aeb54ded5570a86f4ea3d432678de6701ef9506	f89df749b885b64ecc2ffeafd384819d
EX15W-21.11.60.63.bin	6103925bf9462917327e3c21645ceb71696e8337a552e574f47656e4028d0d0c756388fd4f36e9b3316ae92aca9f9d79344d445094ef020147fd1315dd9b09fc	dcb25bc09de8a7b40afebd94135f25c4
EX12-21.11.60.63.bin	8da05ae8d90d28f138371a5210c3a54f4635da0c7bb515a89b3993deba6a65e8c4095c5e5d3850d2af2d7404a5cf7870a43dfd2fb16a9a7824017d93426c589	d2a49b59b1eeeb9f5d921f8cdf8df7ed
EX12-PR-21.11.60.63.bin	f93f47cda19390794cf196ea9e0b94b68a1afce1fcf167521afa34af5cfc0d067e8cf254faba99074ed5ec755be824626b4e7ca3f3e621289793eb7c2e505dbe	342bfff345bc34e2ea0ddf282ea9abde
5400-RM-21.11.60.63.bin	fd6ce4439dc9be27e38bb5efff4cfa412378125af530b6a83f20bc59d69d0ab999ae523d342c606a8075784bfe a3294771a95cd488cec9f3f08e56487e80b940	8e2b9edc3a6f723e6a589a2236c987d6
6300-CX-21.11.60.63.bin	524cca9f584b2916c4a86cdaa7b53d4cd8c9222e0b30e2ebe9f9421420c51af32508278a6d5615b30fa6f34f956471af7eb9dd45a2e3f1d741c5295c6d37da07	32a71a33283d90f8094a43826906fff1
6310-DX-21.11.60.63.bin	99cfea6e5564723f52f1cfecb1f59a49e9a3ac09b452136d2c4508db89e4f54cd2f4cf0892900f0e56218cdfa4474b382aa8748e8d9ec23fce11fa4b39f8c271	1cd76d7646cfbdd3c44786b5095bd13a
6330-MX-21.11.60.63.bin	891312e196b485e1ec933354a2434a39daeed6abdc9471bbc667a6357987daa40d198254c2e6e6b66fe8b79505ad3171e4d204105cd9a85698a3a3539d8a021e	200dcd7b024b1a0efdc80a585b0cd5d7
6335-MX-21.11.60.63.bin	8c807c2b334f8cfe38b44ab0506aa991797591426e60781ba29af208f3cad1f3bafa0dfc06a30feb34228db736ddac58022af4afd27269d131eb2ce68b6fde08	658cadda43a3a44bb5f84bf175546e87
6350-SR-21.11.60.63.bin	2ce178bcd59f631da7c6de3db3695e98ea1717a65f60990eff8f4f9fa8a8eb182eac75ce57f48d1ea3acf205885c4fb9a6f213044850fcd51806c502eb6c31b1	7edd85be585a44231df309f3888aa010
6355-SR-21.11.60.63.bin	d83938fa43c6cf5f2482b33d7fb13ed16c0082c9b678ca48d014119d8eff0f985d021f8dd97054cdeb3ff31ef4158b8c6b815d8a36f0e5a3f1248cde0bcf59b3	d24ad33e747367097c8c4a6ced8abbc d

## FEATURES

1. New **System maintenance → Device firmware update** config option to allow the device to automatically update to new firmware when available (disabled by default) [DALP-630]
2. TACACS+ accounting and authorization for Admin CLI interactions [DALP-633]
  1. Includes two new configuration settings under the **Authentication → TACACS+** configuration settings for enabling TACACS command account and/or authorization
3. Add new *Authentication → Users → Username alias* option for providing an alternate username that can accommodate characters not typically allowed in a username [DALP-705]
4. PKI certificate-based authentication for WPA2/WPA3 Enterprise Wi-Fi client connections, including options for user-provided certificates or SCEP client integration for automatic certificate generation [DALP-828 & DALP-794]

## ENHANCEMENTS

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4. Improved Wi-Fi scanning tool on the **Status → Wi-Fi → Management** page in the web UI to automatically setup the underlying basic client-mode settings so the device can scan for nearby APs without requiring the user to first configure the client-mode settings [DALP-802]
5. New **show surelink** Admin CLI command for displaying details on the Surelink test(s) configured for a network interface or VPN tunnel [DALP-621]
6. Add new option under **Location → Destinations** for specifying the talker ID used in NMEA message strings [DAL-5038]
7. *1002-CMM1 CORE modems*: Use CID context 3 for any type of Verizon SIM when used with a ME910c1-WW modem [DAL-5428]
8. Include the mode indicator field in NMEA messages constructed when a GPS fix isn't obtained [DAL-5464]
9. Add support for auto-completing a parameter or AT command provided to the **xbee set|get|execute** Admin CLI commands [DAL-5196]
10. Change default IPsec IKE DH group to 14 for enhanced compatibility with industry standard settings [DAL-5344]
11. Disable serial history in remote access mode by default [DAL-5494]
12. Add new settings under cellular Surelink options to have the device reset the cellular modem if a specified number of Surelink tests fail [DAL-5441 & DAL-5485]
13. Add **datapro** APN to fallback list to be utilized with Airmob SIM cards [DAL-5548]
14. New **show containers** Admin CLI command for listing details about configured containers [DAL-5380]
15. Include SIM ICCID and phone number in the query\_state response sent to Digi Remote Manager [DAL-5632]
16. Specify string encoding as UTF-8 in communication with DigiRM for compatibility with extended character sets [DAL-5505]

## BUG FIXES

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The below bugs are all present on firmware versions 21.8.24.139 and older unless otherwise specified

17. Fixed issue preventing IPsec tunnels from being setup in Transport mode [DAL-5490]
18. *1002-CM04/1002-CME4 CORE modems*: Fixed issue where cellular modem firmware updates would not be applied to Telit LE910-family of modules unless the firmware file included a carrier name in the filename [DAL-5616]
19. *1003-CM07 CORE modem*: Fixed issue preventing multi-carrier firmware updates on Sierra EM7411 modems [DAL-5473]
20. Fixed issue preventing **on boot** SIM preference schedule from taking effect (bug present on firmware versions 21.8.x and 21.5.x) [DAL-5547]
21. Fixed issue preventing internal firewall from functioning properly if a port forwarding rule was configured with the protocol type set to **other** (bug present on 21.8.x firmware) [DAL-5501]
22. Fixed issue preventing IPsec tunnels from being setup properly if the tunnel name was longer than 9 characters [DAL-5139]
23. Fixed formatting of cellular-related health metrics so they can be properly displayed under the *Settings → Status → Cellular* section in Digi Remote Manager [DALP-768]
24. Fixed error in system log when attempting to parse an empty config file [DAL-5402]
25. Fixed issue causing potential multi-minute delays in the *show modem name XX* Admin CLI command [DAL-5297]

26. Fixed issue where Surelink ping tests would utilize the same source IP address if coming from different network interfaces assigned to the same physical device/port [DAL-5478]
27. Fixed issue where Surelink **reboot** action would not be take if the Surelink **restart interface** action was also enabled [DAL-5485]
28. Fixed issue preventing the creation of config elements with dynamic array names via the local web API [DAL-5481]
29. Fixed issue preventing installation of sqlite3 python package via pip [DAL-5611]
30. Fixed issue preventing multiple config changes from being applied in a python script using the digidevice.config module [DAL-5192]
31. 6350-SR/6355-SR: Fixed issue preventing TACACS authentication [DAL-5411]
32. EX15/EX15W/EX50: Removal of python (including FirstNet PR variants) to accommodate firmware size restrictions within the device [DAL-5217]
  1. To enable python support on your EX15/EX50 device, a Python container must be installed. Contact your Digi sales representative for information.

## SECURITY FIXES

The highest level vulnerability that has been fixed in this release is listed as a Critical CVSS score of **9.8 Critical**

14. Update to python version 3.6.15 [DAL-3190]
15. Update stunnel to version 5.60 [DAL-5291]
16. Update busybox to version 1.33.1 [DAL-5290]
17. Update to Linux kernel version 5.14 [DAL-5360]
18. Update OpenSSL to version 1.1.1l [DAL-5242]
19. Fixed issue where the TACACS shared secret was included in the system logs [DAL-5470]
20. Update libunbound to version 1.13.2 [DAL-5420]
21. Update libidn2 to version 2.3.2 [DAL-5439]
22. Update muslv to version 1.2.2 [DAL-5452]
23. Update rsync to version 3.2.3 [DAL-5431]
24. Update OpenVPN to version 2.5.4 [DAL-5435]

## VERSION 21.8.24.139 (October 7, 2021)

This is a **recommended** release.

Firmware	sha512sum	md5sum
EX15-21.8.24.139.bin	1779ca3f43492c80a0395734a4386ab1c3a69e0b116e2e7fbe03a3b5007c8937cda6a3df2a5541470715a8801cfbd3091fb4ee3319614ae046290caac3f83a5b	e480e350caad5a4a10244a11fe160039
EX15-PR-21.8.24.139.bin	52de2d7a603827e1380de827fa6d94cee25eeae38bd9e3c6bb618a82230a25807c1f81a71f440bb53885e620cc9f58b6785ce8ca4bd144be625a9835629d042	ec305b13a91987831ff24cca17a50d1d
EX15W-21.8.24.139.bin	4d62bf7b6ffdd5efdc7f249e00ec397d6e8f88d56b04154f9adc3c4627986246de6098a27aefa7df3c70c4569bccd4ffa8dfb460c65c5da87c7746a112ca3cc4	4d08c703fc7c45853729da126f17d3c6
EX15W-PR-21.8.24.139.bin	a42fdd06472672515ba8bac0cd9428b47415efc5c768c3eb0583e1dac861150bd6f1b8619478e3cd007a8ea118dd21e4284de90737480c2850ba33e660673303	5f5bf8f7c7586d6f1796dfcf894da1e2
6310-DX-21.8.24.139.bin	92347ee09c37f1bab4813a3756024587c050d4f2f22fbde50615daaf09ad11e905fef172c9dc569a776875b83cf263b0ffa0aed79f2601c87e354ca00d9b413b	3aadbff455984b62077d35d9528572d0
6330-MX-21.8.24.139.bin	1d38c081045ad808f1991e639ef5d8d063bd595fdd2f	213ef4e601e8effe3a988257e974a8a8

	728310e5387d0e739bd0910f18d7d38176e59c739cd d28582286e7357c49c23f6ecf7d38983bfab50aba	
6335-MX-21.8.24.139.bin	0a0f25cdd2e35d25f7ff84418f29f22a6542b539559f8b 9f8a4e8b93e6ca2d728758f114406d27a633d64d8239 570a87e8d245340f60d20a4c9d80a1f4a03d64	428f3fdd82631f8d2f8667d57240e5f1
6350-SR-21.8.24.139.bin	41cf2dd528b7f4e5fe011e162a2bd36f2c7e3505d555c 10214510f326ac71a63c6bf208e48285804fb83876e10 8e1fdff238f22eb73d7ce731ecf0f761c9234c	b4f637204ffa98b2c645c17aa7c21e17
6355-SR-21.8.24.139.bin	82c36e465c617924982e54b5a6eb922d2342a5b891e 46e92b0d533a57c2b94538b5e1621fb50484f53299ee 6ad25a831037b581dfbe9ecd9231b77b1eb3aefd0	e43eee9e25c69f0aa3349bffe0cbbfac

## BUG FIXES

1. Fixed issue where device would not re-establish its cellular connection after updating to 21.8.24.129 firmware [DAL-5346]
2. Prevent automated health metrics uploads and manually initiated/generated health metrics from interfering with each other

## VERSION 21.8.24.129 (September 13, 2021)

This is a **recommended** release.

Firmware	sha512sum	md5sum
EX15-21.8.24.129.bin	a08c8e7f6f6831483d430c7cc52778e0571e0f497b382 f4315c2978b701cb8b57b205c756437058a7c9e2e938 5b71ef229155a8862e780527394cd4301be340b	805942af7cf38f37dd7bfff27df5aeaa3
EX15-PR-21.8.24.129.bin	2d0e1e34a79e2434fd1a5e9d8b917067e64a92f39cb0 e869c9b09e90e3611dff7b0933812516d44ed090c67 6a77c376f8de9eca6522b79f82a41549fa5e89b5	15ec4ed16eceb610536a3af93bdbb33a
EX15W-21.8.24.129.bin	aebc4969ebee5a7fd94bf8fbc27a7052771163e019e 9a5b0b76b448ec7bb0da7d6c0d5d4393f45ed502c4a 1b115e8fc7123d966ab266ee0d604e22d9e0f6c21	667963b40d2f62335fcfb7cbc43b7edb
EX15W-PR-21.8.24.129.bin	192622b105db250dfc5c4bd99a58ace277861f0df603 9937ab1ba16678d2d4fc993d385208792befde145057 3d19f9f9b0bb2c7cb1ab27630b069bc6a11aabf0	881164a73c4e6708d4ba1d17bd3077d c
5400-RM-21.8.24.129.bin	babf7b89190d5ad8c3b4903d3edfe3ab872ea71b0ad 02900fa6172fce1a4af72487ddf0e5d818fb82f6e5bb7 44be1d8d0920868eb09b6c229187355128d4b147	023299ab540a32ed54c988f0c43abad4
EX12-21.8.24.129.bin	f8fada739adb49c5a6e289f1af4d92ec42e30fa32c930 e3f9240529d7f4271f2897ee9d2091fb19aed30f128e1 7219ba7b0e4b5aa81e5848e4968110ec9b0f2d	6dddae0feccd389ab9542a4c0ac998ebd
EX12-PR-21.8.24.129.bin	02af6daee1390d5fc690836df41510e499634a6f5e647 8db9fe0696ebc34157ba802b6136242e8ff806efd5b1 bb10b64ef56b26832003f47afb8b2cc6724903d	6650ff1e17acd9d9045b0c751caea420
6300-CX-21.8.24.129.bin	cb7f632ea3ed42b45d87971a63c86a0d1204410fcdc0 9904ab448733f400f602781ac989b8933cfd41cfd824b 13540ddfab17522a4845f2a95c93744816881b3	fda77d3f345ab01f44e57c796a5cfe33
6310-DX-21.8.24.129.bin	3a76bf7aee1b3bd006738b2fa74b9773b335739397c0 665f8a176d81a7cfa3c23c9faac4bdad9fd18ceab608e 66547243c6c43e4bffb325c35b1d4d4a3d2e043	298a7305ce3336fccaa39f176f72e884
6330-MX-21.8.24.129.bin	227a3aee7a36ff61c4cc24e74ee3d620ed9e0d7093da 0e0d6171e1ce325e36c6f8f5eba20ef9b0518bda0ad1 c468a2726ae0697ba077ae5fd0332b960fc716ca	5977492ad98fbb97b9b8c0e33875360d

6335-MX-21.8.24.129.bin	fc4dca4232b663b487647355107a1ad0f0a9e90d3286 1c67edbb5b9fe4b9f8b3c2b6f5750406f63ee1f23fc130 1e7be7ba93c051ef65788a7f48860ed7fa57f3	754b6dccb122bbd9965a7801b8d80f1 d
6350-SR-21.8.24.129.bin	4453d6ae44fad43dea8a616129660c9af9c3650a152c e876d8e3bd0483381e2894c8a48c89e97c1f754b6aa2 774b261e0c1ca75799482c79ddddd9b23496c565	de2a887d429dd984608258f64191b0d3
6355-SR-21.8.24.129.bin	cb12b1b94a0b2e7673487eb5135fdcdc03802958e3a d82362388208acd63bb2fa266df3fbf478425c4b93e9e 82d6447ebb098a1545b3f0dab16b67e4561b6508	3abd13d15a9132c95030032c7a18c3ce

## FEATURES

1. LXC container support for running localized containers on the device [DALP-243]
  1. New **System** → **Containers** configuration settings for provisioning containers, providing virtual networking, and serial port access from the container
  2. **lxc** commands available in the shell console for managing/accessing/monitoring containers on the device
  3. Containers are based off the host DAL device's system. Packages installed to the container must be built for the CPU architecture designed
2. L2TPv3 static/unmanaged VPN tunneling [DAL-5137]
  1. VPN -> L2TPv3 ethernet configuration setting
  2. New Status -> VPN -> L2TPv3 Ethernet web UI page
3. 802.1x port-based network access control, configurable per network interface [DAL-5080]
4. New **Services** → **SSH** → **Custom configuration** settings for overriding or editing the SSH server options
5. New **Monitoring** → **Device event logs** options for sending local device event logs to Digi Remote Manager [DALP-808]
  1. Event logs are controlled under the **System** → **Log** → **Event categories** configuration settings
6. New **VPN** → **IPsec** → **Tunnels** → **IKE** → **IKE fragmentation** option to enable, disable, or force IPsec IKE fragmentation [DAL-4933]
7. New **MAC address allowlist/denylist** options to allow/deny packets based off of a range of source MAC addresses [DALP-799]
8. New **system time** CLI command for manually setting the local date and time [DALP-520]
9. New **monitoring metrics upload** CLI command for sending on-demand health metrics to Digi Remote Manager [DALP-727]
10. New **system script start** CLI command and **Status** → **Scripts** page in the web UI for manually starting custom scripts configured under the **System** → **Scheduled tasks** → **Custom scripts** settings with a **Run mode** of **manual** [DALP-741]
11. New **system find-me on|off** CLI command and **Status** → **Find Me** button in the web UI for flashing cellular-related LEDs to help locate the device onsite [DAL-5142]
12. New **Network** → **Bridge** → **switchport** bridge type configuration settings for enhanced VLAN capabilities [DAL-5220]
  1. trunked vs untrunked ports
  2. virtual switch setups
  3. VLAN layer 2 networking

## ENHANCEMENTS

1. **EX15/EX15W/6310-DX**: Enable passthrough mode on both cellular and wired WAN connections by default [DAL-5107]

2. Added new **show l2tpeth** CLI command for viewing the status of any configured L2TPv3 tunnels [DAL-5220]
3. Update python pip to version 21.2.4 [DAL-5068]
4. Shortened fallback APN list by removing wildcard entries [DAL-5012]
5. 3G sunset support for EU carriers [DAL-5041]
6. Update messaging included in keepalive packets sent to Digi Remote Manager to prevent multi-second delays in keepalive responses [DALP-832]
7. Add **datapoint.upload\_multiple** function to digidevice python module for uploading multiple datapoints to DigiRM at once [DALP-857]
8. Add **uptime** field to **show cloud** CLI output to indicate how long the device has been connected to Digi Remote Manager [DAL-1083]
9. Update **system support-report** CLI command to automatically store the support report in /var/log/ unless a path is specified [DAL-5027]
10. **system support-report** CLI command outputs helpful information for SCP-ing the file from the device to a remote destination [DAL-5027]
11. New **clear dhcp-lease** CLI command for removing all dynamic DHCP leases or certain DHCP leases based on MAC address or IP address [DAL-5127]
12. New **speedtest** CLI command for performing on-demand iPerf or nuttcp speedtests [DAL-5040]
13. Require local users to be assigned to a group [DAL-5060]
14. Add support for configuring multiple destination networks/interfaces for Multicast routes [DALP-853]
15. New **Network → Advanced → Sequential DHCP address allocation** configuration setting for controlling if DHCP addresses are assigned sequentially or randomly (disabled by default) [DAL-5136]
16. Persistent local date/time across reboots once a successful NTP sync occurs [DALP-806]
17. New **System → Scheduled tasks → System maintenance → Maintenance window trigger** configuration settings for controlling when/if a device tells Digi Remote Manager it is in a maintenance window and if updates should be pushed to the device [DAL-5010]  
Available maintenance window triggers are:
  1. Specified network interface is up
  2. Python API call
  3. Specific time window in the day
18. *EX15W/6330-MX/6350-SR*: Remove the requirement to set a Wi-Fi SSID and passphrase to initially configure the device [DAL-5101]
19. Read/write control to the /opt/ and /etc/config/analyzer/ directories through DigiRM and the local web UI [DAL-5117]
20. New options for setting up a custom default config file [DAL-4978]
  1. **system backup** CLI commands for generating a custom default config file based on the active config settings on the device
  2. **System → File System** page in the web UI for loading a configuration backup file as the custom default config
  3. **Files → Persistent files** folder accessible through Digi Remote Manager where users can upload a config backup, naming it custom-default-config.bin
21. Add option to clear a custom default config by performing a double erase sequence [DAL-5017]
22. Updated CLI login helptext to include common tool-tips [DAL-5157]
23. Replace the cellular modem manufacturer name with the CORE modem model name in the CLI/webUI/metrics details [DAL-5171]

24. Ensure scheduled reboots with the **reboot\_managed** command cause graceful shutdown of services on the device before rebooting [DAL-5150]

## BUG FIXES

The below bugs are all present on firmware versions 21.5.56.176 and older unless otherwise specified

1. Fixed issue where Digi Remote Manager would remediate a DAL device every time it's scanned due to the local user passwords being hashed [DALP-834]
2. Fixed issue where the **system restore** CLI command could default the device if the config backup file was store in the `/etc/config/` directory [DAL-5116]
3. Fixed the local web API to allow values with spaces [DAL-5039]
4. Fixed the local web API to allow array configuration settings [DAL-4895]
5. Fixed mdns service where it would occasionally crash [DAL-4663]
6. Fixed issue preventing **modem pin status** from returning valid results [DAL-5056]
7. Fixed bug with installing certain python modules using pip [DAL-5068]
8. Set default user-base directory to `/etc/config/scripts/` so python pip can install module dependencies to a writeable location when pip install `--user <module_name>` is invoked [DAL-5068]
9. Prevent serial connection crashes when a incoming serial socket connection is sending so much data that the buffer fills up the system memory

## SECURITY FIXES

1. Add STS header in HTTPS web UI [DAL-4991]
2. Update libcurl to version 7.77.0 (CVE-2021-22897, CVE-2021-22898, CVE-2021-22901)
3. Update to Linux kernel version 5.12

## VERSION 21.5.56.176

This is a **mandatory** release.

Firmware	sha512sum	md5sum
5400-RM-21.5.56.176.bin	45151bf2ae2c377f6946c6c441feaae087d6c8e55c3d485bae803a22ecaadeba328d1edbebf290d3b4f6640eb330818f1382303bcd80ef54612661666c58e2cd	39032d354685bae9219968cda0fd2f5e
EX12-21.5.56.176.bin	02a8e146b95bc4d6f858ee6cde7eeb34f93237680ffade5783d8da8c9aae731ba854b7f2adb8e1aaea3767b83ab1faab06e8c254e1ef003eb7a1357f1217f8a9	da79434ba9c68edd079cecdf468d6bbe
EX12-PR-21.5.56.176.bin	330fc8520159418384326ab9792b1159e19909d087b7e8d8cfef09630c5df1053172bf980d56c3d188a6900c11de5590ffd173a9e7e4fe397b60519f9f38ad0a	826d44b01f79cd3baadf5f88768da34b

## ENHANCEMENTS

1. Prevent race condition where DAL could try initiating a cellular connection before the modem is configured and fully setup (max wait time of 5 minutes for the modem to be configured before attempting to connect)
2. Added new **IKE fragmentation** and **Maximum IKE fragment size** config options under **VPN** → **IPsec** to control whether large packets are fragmented through IPsec tunnels and the size of packets that should be fragmented [DAL-4933]
  1. default **IKE fragmentation**: always

2. default **Maximum IKE fragment size**: 1280 bytes

## VERSION 21.5.56.106 (May 31, 2021)

This is a **mandatory** release.

Firmware	sha512sum	md5sum
EX15-21.5.56.106.bin	1e8cdd2c5660d0925cae88da6412c61a1469d00109929efa72c68a42555f9f9bad5749c2a5570236ff5fc14501e637e7f98f3af81030fcaa522cacedb38a4986	5e8f4745983b3e29a92076a1795c1ccc
EX15-PR-21.5.56.106.bin	d81dccc56b425f9696b98985a0e849129271bc20c91fb2c5f4410a3f0e5acc8c543996a33ad15eb9d7bed2b42814429374f82ac0f359fdbcbffcbfac6d202eaa4	86337bceff211ea31aeec4aab113bbf2
EX15W-21.5.56.106.bin	7ed1ee587c110170b1ea394780c9600914164f67c5db77509480c848c743cd91f933ad89978d174b3f7893c91ad832bf7ddf14b90792c0fd03d5e2ea4055c4e3	b8c6feb1c2e86b43db12c1b30bc60386
EX15W-PR-21.5.56.106.bin	7bfc627f8a78c75138ead26fc5cce287a9f18239207c5abf679d9b91de4d3b1b05a6ced2f27481400b7372c741a2f35862446d146be73b418061dfe40335a977	c27cf3d57876cd176f8686df9d68ddce
6300-CX-21.5.56.106.bin	efc15e3e64555ab7ea931fcb1e30609ca45cfa51ccaf288d084477719cbac09376d97ec4981dff8c3031f3ff2136aa0ae274c0e0bd49b2d40c07827c6407aba0	e7275b80875845dc58694a57b13c77ca
6310-DX-21.5.56.106.bin	97d002e7f99b7578c286f54a2cae3297a62db1004a58b7482d69415c6583c94cfe3d4a3cbbf70cbefe9ea6720602f3ab22de7dac3971211973308e4049d51951	33aa6f94c0fbf7391362453503366732
6330-MX-21.5.56.106.bin	c9842e32294608a8f402e80d2e407b6cfe3eb66188e7eac806de52ecf046bf847d01e43b15c16a0c62fdd920f274bf2b01556b63319419baf447b45f31b1c7c5	ddf0229f64af1a9a558053b05b88bfee
6335-MX-21.5.56.106.bin	8326227e13ccf09daff4d2f987c8ba360621430d4003db5bd0d0df6531810ec3ac9d82b25a627ac4ac5f09f0b1ddd57480d3d3a309993aac456507c5fce7202	797a304fcb74c2488c018229373da034
6350-SR-21.5.56.106.bin	e5dd59ca54ee0fd43819c18b519ca768576a63ccc015e7622b22fff0647b7db7b20755a966297cdd427e27a86ce4da4ca0db1a8f3cedf1737f1e6dd5dc1299db	a51db34fbe906049dc8ce6d39dfa09df
6355-SR-21.5.56.106.bin	494bf783c21e556c84d4181014d3ff0a648fc23c030b8fc68e62728c392fe4c9a75b91e8b2fe00fbc42a21eb2655b043cecedec98f5672985d8ed5908bb57336	1cb41f4ffe78e04078892e50664fab81

## FEATURES

1. Added options under **VPN → IPsec → tunnels → Remote** endpoint to add multiple endpoints and either round-robin between the endpoint or randomly select an endpoint to establish the tunnel to [DALP-160]
2. Added options under **VPN → IPsec → Advanced** to control IKE retransmit interval, IKE timeout, tunnel retry interval, and tunnel retry timeout [DALP-564]
3. New Surelink configuration options [DALP-787, DALP-274, & DALP-84]
  1. **Restart fail count** and **Reboot fail count** options to specify how many times the Surelink test must run and fail before a reboot/restart action is taken
  2. **Pass threshold** option to specify the number of times Surelink tests must pass before the interface is marked as working
  3. New **Test another interface's status** test type to pass/fail Surelink based on whether another network interface is up/down and has IP connectivity
4. SNMPv2c read-only support [DALP-809]



5. Enable SCEP client support for IPsec tunnel authentication [DALP-722]
6. Add **Scan** button on the Modem status page to initiate a network scan, list available carriers the SIM can connect on, and allow the user to select a particular PLMN/network to use [DAL-4338]
7. Add default **digi.device** local domain for simpler SSH/web access [DAL-4598]
  1. Requires using the Digi device as your DNS server for resolving digi.device to an IP address
8. New **UDP serial** mode that can be applied to one or more serial ports for setting up outbound serial-over-UDP connections [DALP-696]
9. New **Autoconnect** options for streaming outbound serial traffic when in remote access mode
10. Support for WPA3 Wi-Fi encryption [DALP-701]
  1. WPA2/WPA3 Personal
  2. WPA3 Enhanced Open
  3. WPA3 Personal
11. Support for WPA and WPA/WPA2 mixed modes with TKIP support [DALP-827]

## ENHANCEMENTS

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1. Add **System → Scheduled tasks → Reboot window** config option to add a random delay to the **Reboot time** if configured [DAL-4741]
2. Add read-only console access via Digi Remote Manager [DALP-336]
3. Add support for receiving additional remote commands from Digi Remote Manager:
  1. Perform a speed test and send the results to DigiRM [DALP-490]
  2. Perform automated cellular modem firmware update [DAL-4850]
4. Add option to retain the unique default password of the admin user when initially configuring the device [DALP-758]
5. Improved **Firewall → Port forwarding** options to support a range of ports, including 1:1 and many-to-one port mappings [DALP-560]
6. Added options to control packet filtering for the **Network → Analyzer** traffic analyzer [DALP-733]
7. Update voice settings on Telit and Quectel modems for continued connectivity after AT&T's 3G network sunset in February 2022 [DALP-760]
8. Add internet.gma.iot T-Mobile APN to fallback list [DAL-4906]
9. Support for Sierra cellular modem firmware with multiple CWE files in a single tarball [DAL-4860]
10. Include error messages along with error code if an issue is encountered when downloading device or cellular modem firmware [DAL-4854]
11. Added **Authentication → LDAP → Login attribute** configuration option to control the attribute ID used so it can match with the attribute set in an Active Directory server [DALP-120]
12. Update the titles of the columns in the **show dhcp-lease** CLI output to be more descriptive
13. Add **show dns** CLI command to display the active DNS servers and what interface they're associated to [DAL-3639]
14. Add **show ntp** CLI command to display the status of the NTP service and if it has synced with an external time server [DAL-4747]
15. Add **system firmware ota** commands to check, list, and update to new firmware from the Digi firmware server [DAL-4800]
16. Skip Auto-APN detection and use internet.telekom APN by default for Deutsche-Telekom SIMs [DAL-4622]

17. Add LWM2M parameters to include AT&T Host IDs for devices with EM9191/LM940/LM960 modems [DAL-4823, DAL-4844, & DAL-4845]
18. Add option to lock a 5G SIM to 5G-SA only or 5G-NSA only [DAL-4785]
19. Add step to power off Sierra EM919x modems before rebooting the device [DAL-4739]
20. Update from Quagga to FRRouting for BGP OSPF, RIPNG, and other routing services [DAL-4798]
21. Update python to version 3.6.13 [DAL-3190]
22. Return proper status code for custom scripts configured on the device [DAL-4670]
23. Rename MAC address filtering options to be called **Allowlist** and **Denylist** [DAL-4677]

## BUG FIXES

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The below bugs are all present on firmware versions 21.2.39.67 and older unless otherwise specified

1. Fixed issue when authenticating users if multiple TACACS servers were configured and the first server is unresponsive [DAL-4748]
2. Clear PDP cid 1 APN for Verizon SIMs using a vzwentp private APN with a ME910c1-WW modem [DAL-4525]
3. Fixed issue preventing devices with LM940 modems from automatically connecting with T-Mobile Hungary SIMs [DAL-4679]
4. Fixed issue where outbound SMS messages couldn't be sent using various carrier SIM cards (bug present on firmware versions 21.2.39.67 through 19.11.x) [DAL-4794]
5. Fixed issue where cellular connectivity wouldn't re-establish if a Quectel modem reset itself [DAL-4612]
6. Fixed issue where the device could stop participating in RIP routing if network interfaces are reset [DAL-4704]
7. Fixed issue where RIP, BGP, and other routing services would not setup properly if a user updated the configuration for the routing services on the device [DAL-4784]
8. Fixed issue preventing acceptance of default routes advertised via RIP [DAL-4799]
9. Fix issue preventing GRE interfaces from being specified within BGP and other routing services [DAL-4695]
10. Fixed issue preventing VPN tunnels from being specified within port forwarding rules [DAL-4524]
11. Fixed issue preventing configuration options from being applied en-masse from the CLI when using the output from the **show config cli\_format** command [DAL-4713]
12. Fixed bug where a running network analyzer could be stopped in the CLI by issuing **Ctrl-C** [DAL-4652]
13. Fixed issue where GPS-based location health metrics weren't being sent to Digi Remote Manager (Bug present on firmware versions 21.2.x) [DAL-4310]
14. Fixed issue where the status of an OpenVPN client wasn't listed properly in the web UI [DAL-4357]
15. Fixed issue preventing access to multiple remote networks through an IPsec tunnel with the same policy [DAL-4816]
16. Fixed issue preventing multi-VRRP setups from setting up with the proper priority [DAL-4824]
17. Fixed issue where devices could try recovering Sierra modems in the middle of a modem firmware update [DAL-3929]
18. Fixed issue on the **Serial Configuration** page in the web UI where users could inadvertently bring up the Copy dialog window by dragging and dropping any element from the page [DAL-4923]
19. Fixed issue where wired Internet connectivity is interrupted during cellular modem

- firmware updates [DAL-4647]
- 20. Removed broken Babel routing service (bug present on firmware versions 21.2.39.67 through 19.11.x) [DAL-4769]
- 21. Fixed overlapping 5GHz Wi-Fi channel ranges causing AP/client conflicts in connecting in Switzerland and Liechtenstein [DAL-4733]
- 22. Removed error message caused by inability to access file descriptors on PR products [DAL-4930]
- 23. Use PDP cid 1 for Telstra SIMs with a Quectel EG25-G modem [DAL-4810]

## SECURITY FIXES

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The highest level vulnerability that has been fixed in this release is listed as a Critical CVSS score of **9.8 Critical**

1. Reduce password complexity to 8-character minimum (PR products still have 10-character minimum) [DAL-4506]
2. Update to OpenSSL 1.1.1k [DAL-4755]
  1. CVE-2021-3450 CVE-2021-3449
3. Update libcurl to version 7.76.0 [DAL-4774]
  1. CVE-2021-22876  
CVE-2021-22890
4. Update netsnmp to version 5.9 [DAL-4669]
  1. CVE-2018-18066
5. Update tcpdump to version 4.99.0 [DAL-4587]
  1. CVE-2018-10103 CVE-2018-10105 CVE-2018-14461 CVE-2018-14462 CVE-2018-14463  
CVE-2018-14464 CVE-2018-14465 CVE-2018-14466 CVE-2018-14467 CVE-2018-14468  
CVE-2018-14469 CVE-2018-14470 CVE-2018-14879 CVE-2018-14880 CVE-2018-14881  
CVE-2018-14882 CVE-2018-16227 CVE-2018-16228 CVE-2018-16229 CVE-2018-16230  
CVE-2018-16300 CVE-2018-16451 CVE-2018-16452 CVE-2019-15166  
CVE-2020-8037
6. Reduced listening network services to least-privilege access [DAL-4703]
7. Removed weak SSH algorithms and protocols [DALP-817]
  1. **Removed MAC Algorithms:** umac-64-etm@openssh.com, hmac-sha1-etm@openssh.com, umac-64@openssh.com, hmac-sha1
  2. **Removed Key Exchange Algorithms:** diffie-hellman-group16-sha512, diffie-hellman-group18-sha512, diffie-hellman-group14-sha256

## VERSION 21.2.39.67 (February 27, 2021)

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EX12-21.2.39.67.bin

SHA512:

d1cd96a3a0004874209ad87acef74cd80ae695eda4d614c7ee07e54fa4635980cdd8d13c  
d28c045e8e9b8a5aac18e509032580c8b7f9a2f64f01f2c54bc65fd3

MD5: 6f422c1c3f1324b5c58c72b23c4d0e8d

EX12-PR-21.2.39.67.bin

SHA512:

e8b6eb1e2ebd4f810e103138fdd8fa9e0a3cb3ee9a613a635984e28fded6a873fa2781211  
4628adfc63f5310e8114ee48de0d3959ededf6c1c3d2962d05653d5

MD5: 212e450aa6eec6e6ef76d4b39553e3e9

EX15-21.2.39.67.bin

SHA512:

ca00f52fd57c901115fb360ec22b2591de9b7eca542b1a14c8385d00423a2f9dadbcc68a0  
a6d5067a7568d77199a361d68609431ccd5fa2ebdb075587bb16d77

MD5: b4db0fb96d39ca1742c1a24d653b479c

EX15-PR-21.2.39.67.bin

SHA512:

a16fef890859003ef2f5e39b453a3425b84358be6c6427a17af69cd77179097aa5a4a0932  
6c696ec9b238dc511f8e3a66f2b6fae416eb051504b9a8ddf677e86

MD5: 8323ef118600a4e1a9da481095ee6d57

EX15W-21.2.39.67.bin

SHA512:

a252302c2c6208dd243e1088b87e5e69d656586dc67060043303fcd7dbc07d0a9bf47840  
42d974dd6c4975d115e559b7bf6be593c1587e398e0f8d2a3976d150

MD5: ad4807daf027489f586a5db03391963d

EX15W-PR-21.2.39.67.bin

SHA512:

7a5f2d2009d4667d6275f7d70733d59359a608dae7983cb17073877f9bf0c324c6736faf5e  
3384248f3f5eec6e6be79bb0ecb19c9f660f69114735f42ccbaf0

MD5: 956d2134b32efc2522a7796bc732b072

5400-RM-21.2.39.67.bin

SHA512:

5fd6aaa4461cfadf8e99357453cd98eeb37f87e4db5c7b86876f15963e646ef8cf8a3ceaf20  
83810e074f17a46d47dff83a1bb697914ee7519cd182b432a5dd7

MD5: e7f807e658ad07554295ad5e3ab483e1

5401-RM-21.2.39.67.bin

SHA512:

bdb09db0a6dcd78caa070a2d34201a44e3566d29825b0b504d8a5e5bdf5e7bdbb66c6c1  
bf56ac8e89c2b983ff537878f7492a88ca9366cafa07eebe39aaf3ed9

MD5: 160aed03d7468a60f7c7b5d6f5934df3

6300-CX-21.2.39.67.bin

SHA512:

2ccbc4023724efc8010389f14d155b723b1d2ccc2eccf8b415bc43a84aac934a8b9cba494  
1dfd09284a9ada8b8dca4980720005c3a3223c0192adb91d13f3db4

MD5: 4fede0c4124b4db8d90a1c23ef8b82af

6310-DX-21.2.39.67.bin

SHA512:

03065095a051aaa72dfcf18d8e4f41541c32e281879e6e471e85ec1dcb2eac38efb2986  
ddd6bb167e2f7e1f4e17cb2d3c57ad511869e7b7f4ef2925a1a4da2

MD5: 0fbf35610bdb32a2507149758759a708

6330-MX-21.2.39.67.bin

SHA512:

e1d74d7ab50edfb2f045fde9e43d0acaaff6acb3486af02bd5f341128f1636e78b403e44d45  
05a4a96d4811e01ca7614250e8cd4561305184cea1e7eeeb77c29

MD5: 687ff1b262946cbbe7f5ffc3ff2c5bf7

6335-MX-21.2.39.67.bin

SHA512:

cf31b12d714ce03f8e4fa250849d04b17e8fa58d1d4d1484fbb23ff7780beeeea8a14a4feab  
95a0e6e937f3a03a22035d52baf4d39f9d045e90d679c3ff9746

MD5: 15ba4d5c01726f8bce39d88808c4aba1

6350-SR-21.2.39.67.bin

SHA512:

b7adadc8e1b63001f746fd6ce355e44960ecb6d03e1c01922b34d648d6466157642e8048  
cd0142e062a28d148a3c94eae63df80b8e5c1fc36d04294c791c0b15

MD5: ff2fa98f75a606bf21304e8e4f8221cf  
6355-SR-21.2.39.67.bin  
SHA512:  
e38794189d5fff5e910bbd43066c714fef9f2a7773248e484bcbaf3c7f2de503da082363b8d  
0d57a74c2034012943464c926975c7c81be4d389093e3c70919db  
MD5: b0807f0d9e5eb10f8703e4eccc4bd282

## FEATURES

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1. Add the Location service to all DAL products. DAL devices can utilize several location sources (cellular, GNSS, or user defined) to determine where it's located and report that to Digi Remote Manager or other servers [DAL-724]
2. Add geo-fencing configuration options. This new features is found under **Services → Location → Geofence**. It can be utilized to define one or more circular or polygonal geofence areas and then perform a set of actions when the device enters or leaves that area. Current options for actions to perform are either factory erasing the device or running a custom script. [DALP-711]
3. New **modem scan** CLI command for listing available carriers for the current modem and SIM setup.
4. New **Network → Interface → Modem → Network PLMN ID** config setting to lock the SIM card to a particular carrier based on its PLMN ID(note that the **Carrier selection mode** must be set to **Manual** or **Manual/Automatic** in order to lock the SIM to a specific carrier) [DALP-637]
5. Added local API to the web UI for automated configuration of the device [DALP-777]
6. Support remote CLI commands through Digi Remote Manager [DAL-4273]
7. New configuration options under **System → Scheduled tasks → System maintenance** to automatically check for device and modem firmware updates, then notify in the CLI and web UI when updates are available [DAL-4413]

## ENHANCEMENTS

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1. *EX15W*: Added new **DFS Client Support** configuration setting to support 5GHz DFS Wi-Fi channels in client mode [DALP-720]
2. *EX15W*: Add 5GHz frequencies to the list of channels that can be scanned for client-mode Wi-Fi background scanning [DAL-2570]
3. Set 2.4GHz default Wi-Fi bandwidth to 20MHz [DALP-772]
4. Update default background scanning settings for Wi-Fi clients to the following:
  1. Scan threshold: -75dB
  2. Short interval: 5s
  3. Long interval: 300s
5. Updated Surelink recovery of Wi-Fi connections to restart the Wi-Fi module if restarting the network connection fails to recover the setup [DAL-4387]
6. Added settings under **Authentication → Serial** to control Certificate Management for TCP and autoconnect serial port setups [DALP-682]
7. Allow hidden/debug config settings to be controlled and preserved by DigiRM [DAL-4445]
8. Asymmetric preshared keys for IPsec tunnels [DALP-707]
9. Don't display Aggressive/Main mode or Xauth selections for IKEv2 IPsec tunnels [DAL-4142]
10. Update name and description of certificate settings for OpenVPN clients and servers [DAL-4435]
11. Add digidevice.led python module to all products [DALP-710]

12. Add options to forward location information to a remote host over TCP [DALP-778]
13. Add new **Forward interval multiplier** configuration option under **Services → Location → Destination servers** to control the number of location update intervals to wait before sending location data to this server [DAL-4056]
14. Report location metrics as datapoints to DigiRM [DAL-4055]
15. Include the connection uptime of IPsec tunnels as datapoint metrics to Digi Remote Manager [DAL-4062]
16. Report the phone number of the SIM as a health metric datapoint to Digi Remote Manager [DAL-4440]
17. Fixed incorrect format of ICCID and IMEI metrics reported to Digi Remote Manager [DAL-4440]
18. Add iptables TRACE tool for enhanced firewall debugging [DAL-4182]
19. Improved accuracy of the status shown for a modem during a firmware update
20. *1002-CMG4*: Disable GEA1 on EG25-G modem [DAL-4250]
21. *1002-CMG4*: Disable voice services on EG25-G modules [DAL-4560]

## BUG FIXES

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24. Fixed issue with utilizing software flow control on serial ports set in remote-access mode [DAL-3630]
25. Fix issue where a serial port could lock up and prevent access if flow control was enabled [DAL-4585]
26. Fixed issue where non-primary DNS were queried through the wrong interface when **use\_dns** configuration option is set to primary [DAL-3156]
27. Report the phone number of the SIM as a health metric datapoint to Digi Remote Manager [DAL-4440]
28. Fixed incorrect format of ICCID and IMEI metrics reported to Digi Remote Manager [DAL-4440]
29. Fixed setup issue between custom firewall rules and IPsec tunnels [DAL-4433]
30. Fixed occasional issue preventing LM940 modems from re-establish their cellular connection after a modem firmware update [DAL-2933]
31. Fixed issue requiring a user to fix syslog configuration setting when updating from 20.5.x or older firmware to 20.8.x/20.11.x firmware [DAL-4426]
32. Fixed rare issue where **show system** CLI command would display incorrect uptime details [DAL-4350]
33. Fix issue with secondary CLI sessions showing stale configuration settings if the config is updated elsewhere [DAL-4446]
34. Updated message displayed in web UI to direct the user to refresh the page after erasing the device back to default settings [DAL-2326]
35. Fixed issue where dynamic DHCP leases were not displayed in the CLI or web UI (bug present on 20.11.x firmware versions) [DAL-4557]
36. Fixed inaccurate status of the Ethernet interface of a device in passthrough mode [DAL-4543]
37. Fixed issue preventing web UI access if two-factor authentication was enabled (bug present on 20.11.x firmware versions) [DAL-4509]
38. Fixed issue where CLI commands sent from DigiRM would crash the DAL device's connection to DigiRM [DAL-4412]
39. Fixed issue preventing WAN/cellular connections from working if the interface was configured with a single **Interface Up** Surelink test [DAL-4629]
40. Fix rare issue where Wi-Fi hotspots would stop responding to DHCP requests if restarted

- many times [DAL-4298]
41. Fixed output of the **show wifi ap name <ap\_name>** and **show wifi client name <client\_name>** CLI commands [DAL-1615]
  42. Fixed inaccurate status of the Ethernet interface of a device in passthrough mode [DAL-4543]
  43. *PR products*: Fixed issue preventing usage of the digidevice.config python module on PR firmware products [DAL-4378]
  44. *EX12*: Fixed connectivity of EX12 devices with T-Mobile private APN SIMs [DAL-4544]
  45. *1003-CM11*: Fixed occasional issue preventing LM940 modems from re-establish their cellular connection after a modem firmware update [DAL-2933]
  46. *1003-CM11*: Fixed timing issue after updating firmware on LM940 modems that preventing the modem from reconnecting unless rebooted [DAL-4614]
  47. Fixed issue causing aView-initiated speed tests to report the same upload/download speeds [DAL-4420]

## SECURITY FIXES

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The highest level vulnerability that has been fixed in this release is listed as a Critical CVSS score of 8.1 High

8. Update hostapd to address CVE-2019-16275 and CVE-2019-13377 [DAL-4232]
9. Update wpa\_supplicant to address CVE-2019-16275 [DAL-4233]
10. Update libcurl to version 7.74.0 (CVE-2020-8169, CVE-2020-8177) [DAL-4336]
11. Update to python version 3.6.12 (CVE-2020-14422) [DAL-4364]
12. Update OpenSSL to version 1.1.1i (CVE-2020-1971) [DAL-4326]
13. Update dnsmasq to version 2.83 (CVE-2019-14834, CVE-2020-25681, CVE-2020-25682, CVE-2020-25683, CVE-2020-25684, CVE-2020-25685, CVE-2020-25686, CVE-2020-25687) [DAL-3950]
14. Update web security settings with the following headers [DAL-4192]
  1. Pragma: no-cache
  2. Content-Security-Policy
  3. X-Content-Type-Options: nosniff
  4. X-XSS-Protection: 1; mode=block
15. Set SAMEORIGIN in X-Frame-Options to uppercase [DAL-4192]
16. Automatically de-activate active user logins/sessions if the password for that user changes
17. Removed support for https CBC ciphers [DAL-4408]
18. Fixed XSS vulnerability on serial page in the local web UI (Bug present on firmware versions 20.11.x and older) [DAL-4646]
19. *PR products*: Removed debug config options from PR firmware for changing https ciphers [DAL-4417]

## VERSION 20.11.32.168 (December 23, 2020)

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This is a recommended release.

## ENHANCEMENTS

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1. Use PDP context 1 with Telus carrier SIMs [DAL-4332]

## BUG FIXES

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1. Fixed bug preventing Ethernet speed/duplex adjustment (affects firmware version

**VERSION 20.11.32.138 (December 2, 2020)**

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EX12-20.11.32.138.bin

SHA512:

8ca00542ccca7a8a03cd720405e2d85a1d78660c804bf312f9599bc404830a7b40074abb  
5d3dad60ba7f2402609a2f22dc5f7e793d7dfaf845f8db18c8c68d17

MD5: 73958d8bb5acc31d4f75b3066f04daad

EX12-PR-20.11.32.138.bin

SHA512:

a2d9f823f8753ffa2cb00c04232f9f314afcdad221b4b76c4d392401d5725a06cd8787231  
837c0e7c4329da473afbe6ee861f2ebd4da1e5e8d17f8aac7f1eab

MD5: 211d1005b5c812c3c36d3b55ac355dc2

EX15-20.11.32.138.bin

SHA512:

83fd656aed56d972543f4d19e003825593d79dc439846b03a3d7116599cba9e1c06a55c1  
f5c984a01a5f6820c1fc8f5b7491f1a9ef793a2aed223575dac15ef8

MD5: 8fd4e699bd27cc9da81cb726225021c9

EX15-PR-20.11.32.138.bin

SHA512:

efffe94ed40519d132067cb2c0239d85428b039cea25f88955313913ade9170f9e990714d  
ac13d3fc0d0d22630a01145c878482f435f34fea8acb6528c87bc95

MD5: fb31340e93ad3bde71d0e5a5c90fd1dc

EX15W-20.11.32.138.bin

SHA512:

63ad84ec0ca6798137890486076e46b6f4f39447f5f5fed3eeef4e5485a169ace26c919c51  
d9f9b2de67cb6ae59768e913270bb526ef0e866fe6889d735deaf7

MD5: 3518774a2339b0babd56c57bd129838d

EX15W-PR-20.11.32.138.bin

SHA512:

9b67783334b0acab900682db7d817d8f9f7cd797601ea5778cc335f36845189a968094b4  
29e45a564e33d42614d0030ffe71a57fc66cbe2321b9fb7994a2b849

MD5: 54c8f6fad14ff7bda2b3d119afe31ff1

5400-RM-20.11.32.138.bin

SHA512:

75a6c795d0bca41f73516f5f1287ca8529f446fdd5ca6d2bbf6062be7e60bd4b2fc9a79dd  
98b44c39f33f4cdd834644e9e1004a2c656886a9b51e254e24fc3d8

MD5: 8fe0c22df1a24065b9b1ec32e90e2ded

5401-RM-20.11.32.138.bin

SHA512:

826fbdb9d9c7cd8c768debabf4219d5828ef3e07b3c50d78d94a3d32553ec0696c3cfe05  
2d61f773e37d66fc09bf710ff2a500fb9bf7f37240fb630259e54434

MD5: 8364adb9346a60462941abae20eebff7

6300-CX-20.11.32.138.bin

SHA512:

2b1e79bb7242c2730b5e29aa54ba9f1b8a2b5bd9a2f5b6176f07f1c338aae8a8270d76e2  
3bbea6e0311233cc9eb0d4b406d73192b57a37366b9e43f66b6b4f32

MD5: eccedc3709db885fac85a9323c6924e1

6310-DX-20.11.32.138.bin



SHA512:

e63f8d4a08967a20a1876d24b828392667dd904fd23053a032408329118dfc248b658a8a  
521084258342fea0d8579916a8a97ba4831b5a2d59d0f6a827a8b77f

MD5: 2f9e15eb0ac42fd1ce74b67eedd28f1d

6330-MX-20.11.32.138.bin

SHA512:

9d87a8256f2326d48c5492b31eb0bc11e7e7e02c916db704f532aeb2e6a48359aadaf5ff8  
fa49912c4f873e8fdd657d6578b5a0e061b53df5b51a55597b7f9e8

MD5: 953f27a0d01baa3e84a1b356e1e769b0

6335-MX-20.11.32.138.bin

SHA512:

9b5ecf97e76055ddbfcf836839e41276c9e14707a4ea074c965d3f7194b1710efda59e216  
835db75715095d6cf7de76deb01bf5e68849b535b4a57673159ad49

MD5: 461913ddf3b1649155a6de015a54dc76

6350-SR-20.11.32.138.bin

SHA512:

5571ae02a4d2bea4f412906ae91a61d453794007fbddd339d58feca739f93e12233342b0  
b3e7718d33fc3a82473e9eb516790eba7a85d1255de0a4320ff06f56

MD5: 6583d1f6001bb872de247c1b193b0480

6355-SR-20.11.32.138.bin

SHA512:

1701987867b894df7a4f22163c7bdc51e8210178fe105146e9976dfe4efff6bee21f9b7ebd  
38615ad4da05b5dd2f0795d729b4b8ccbbe66ab80e9eea2c171a35

MD5: 1dc366811ebb098422a17ff4d3c8cdb4

## FEATURES

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1. *EX12/EX15/EX15W*: New PR product variants and firmware for FirstNet/ResponseVerify products [DALP-674]
  1. PR stands for Primary Responder and indicates a security hardened, feature-restricted firmware targeted to comply with AT&T FirstNet and Verizon ResponseVerify certification security requirements. It is the same DAL firmware under the hood, but with several features removed to comply with FirstNet and ResponseVerify security restrictions. Below is a list of changes for PR products:
    1. **Services** → **Telnet** removed
    2. Removed **Telnet** option from Remote access options if a serial port was set in Remote access mode
    3. WPA1 Wi-Fi encryption option (WPA Personal) removed
    4. Default Wi-Fi SSID disabled by default
    5. interactive shell removed
      1. **Firewall** → **custom rules** always has sandbox enabled with limited shell command and filesystem access to only allow iptables interaction
      2. **System** → **Scheduled tasks** → **Custom scripts** always has sandbox option enabled with limited shell command and filesystem access to allow CLI access and python script execution
      3. No inbound SCP/SFTP support
  2. Add **ssh** and **telnet** commands to Admin CLI [DALP-664]
  3. Add new **modem firmware** CLI commands for performing local or over-the-air remote firmware updates to the cellular modem(s) in the device [DAL-2811]

4. Add new configuration options under **Network → Devices** for setting the link speed/duplex of the device's Ethernet port(s) [DALP-135]
5. Add options for starting, stopping, and viewing serial port activity logs through the CLI, web UI, or Digi Remote Manager [DALP-458]
6. Support for the Sierra EM9190/9191 5G modems [DALP-686]
7. Support for the Sierra EM7411 LTE CAT7 modem [DALP-608]
8. IPv6 IPsec tunnel support for full IPv6 tunnels, IPv6-over-IPv4, or IPv4-over-IPv6 tunnels [DALP-581]
9. IPsec XFRM interfaces for enhanced control over IPsec tunnels and the network interfaces associated to them. This allows users to select tunnels for multiple networking features, including static routes, policy-based routes, access control lists, and routing priority based on metric. [DAL-490]
10. Inclusion of the Python pip for installing external modules/libraries [DAL-4078]

## ENHANCEMENTS

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1. Add **Services → Location** options for configuring GPS or GNSS location communication [DALP-724]
2. GPS/GNSS support for the 1002-CMG4 modem [DALP-713]
3. Add cellular technology icon to the Dashboard in the web UI [DAL-3673]
4. Add link to product User Guide under the User drop-down menu at the top-right of the web UI [DALP-569]
5. Added help button to **System → File System** page of the web UI [DALP-569]
6. Added new **Status → Modbus Gateway** service page to the web UI to display information about modbus clients and servers connected to the gateway [DALP-671]
7. Added **show modbus-gateway** CLI command to view the status of Modbus gateway service [DALP-671]
8. Updated **show modem** CLI command to display historical information about the modem if it is in the process of updating firmware [DAL-1504]
9. Added new **Services → Ping responder** configuration settings for controlling what interfaces and firewall zones the DAL device responds to ICMP requests on [DAL-1565]
10. Enhance IPsec tunnels to wait for passing Surelink tests (if configured) before initiating outbound tunnels [DAL-3878/DAL-3774]
11. Add m2m.telus.iot Telus APN to fallback list [DAL-3911]
12. Add psmtneorm and edneopate010.dpa AT&T APNs to fallback list [DAL-4041/DAL-4045]
13. Add reseller and tracfone.vzwentp Tracfone APNs to the AT&T and Verizon fallback lists [DAL-4098]
14. Add new 890103 and 890141 ICCID prefixes and 31030 PMND ID matchers to AT&T APN fallback list [DAL-3934/DAL-4041]
15. Add service.qcdm.secure option to enable/disable encrypted QXDM access to the cellular modem in the DAL device [DAL-3964]
16. Add missing modem firmware and SIM details to datapoints uploaded to Digi Remote Manager [DAL-4040]
17. Show uptime for connection to Digi Remote Manager on the Dashboard web UI page in days/hours/minutes/seconds instead of just minutes [DAL-3691]
18. Updated network bridges to use the MAC address of the first device listed in **Network → Bridges → [bridge\_name] → Devices** as the MAC address for the bridged interface [DAL-3949]
19. Add link in the firmware update window on the **Status → Modem** page to direct users to the configuration options to schedule a modem firmware update [DALP-725]

20. Updated the help text on the login page to provide a more generic image [DAL-3916]
21. Added option when copying serial port settings on the **System → Serial Configuration** page to optionally copy the label of the serial port [DAL-3842]
22. Removed duplicate modem signal information from the **Modem → Status** page [DAL-3680]
23. Added a **DSCP** option to policy-based routes to allows users to match the routing rule by the type of DSCP field in the packet [DAL-3867]
24. Added a **defaultroute** option for matching policy-based routes to the device's active default route [DAL-4130]
25. Hide the **Monitoring → Device Health** configuration options if the device is not enabled for Digi Remote Manager central mangement [DAL-3825]
26. Update header types for the cellular modem name and network type on the Dashboard page
27. Create system log when Surelink DNS tests are skipped because the interface doesn't have any DNS servers [DAL-4224]
28. Hide main/aggressive mode option when using IKEv2 [DAL-4142]

## BUG FIXES

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1. *EX12*: Enable Surelink on cellular modem by default (bug affects EX12 devices on firmware versions 20.8.x and older) [DAL-3795]
2. Fixed missing default settings in configuration profiles created in Digi Remote Manager (bug affects firmware versions 20.8.x and older) [DALP-658]
3. Fixed missing option for setting the **SIM Slot Preference** in configuration profiles in Digi Remote Manager (bug affects firmware versions 20.8.x and older) [DAL-3912]
4. Fixed format of user passwords when displayed in Digi Remote Manager (bug affects firmware versions 20.8.x and 20.5.338.58) [DAL-3889]
5. Fixed issue with policy-based routing not working in conjunction with multiple IPsec tunnels (bug affects firmware versions 20.8.x and older) [DAL-3515]
6. Fixed issue preventing OpenVPN server-managed certificates from being re-generated if the process was interrupted (bug affects firmware versions 20.8.x and older) [DAL-3803]
7. Fixed issue preventing OpenVPN client from using an autogenerated config file from a tap-bridge openvpn server (bug affects firmware versions 20.8.x and older) [DAL-3881]
8. Fixed some formatting output of the **show system verbose** CLI command (bug affects firmware versions 20.8.x and older) [DAL-3805]
9. Fixed issue preventing VRRP interoperability between DAL devices and SarOS devices (bug affects firmware versions 20.8.x and older) [DAL-4130]
10. Update VRRP+ to properly handle changes in network interface statuses bug affects firmware versions 20.8.x and older) [DAL-4274]
11. Removed poorly formatted script contents from the **show scripts** CLI command output [DAL-3315]
12. Fixed non-working **system disable-cryptography** CLI command [DAL-4169]
13. Fixed second-stage erase functionality on devices not enabled for aView management [DAL-3944]
14. Fixed issue preventing multicast traffic from being sent through a GRE tunnel [DAL-3879]
15. Fixed issue preventing a firewall rule from being setup for OSFPv2 entries [DAL-3869]
16. Fixed rare crash caused when a Quectel modem disconnected [DAL-3867]
17. Fixed behavior of the WWAN Service LED to blink when a modem firmware update is in progress (bug affects firmware versions 20.8.x and older) [DAL-3963]
18. Fixed issue preventing 1002-CMG4 modems from connecting with Verizon private APNs (bug affects firmware versions 20.8.x and older) [DAL-3605/DAL-3276]

19. Removed SIM slot 2 references and options from the configuration settings in the 6300\_CX [DAL-3930]
20. Disable the internal Qualcomm GPSoneXTRA application on Telit LE910c4-NF modules from downloading data from the Qualcomm commercial XTRA server (bug affects firmware versions 20.8.x and older) [DAL-4009]

## SECURITY FIXES

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The highest level vulnerability that has been fixed in this release is listed as a Critical CVSS score of **9.1**

1. Secureboot with signed firmware images for the EX15/EX15W (CVSS score 5.7 Medium CVSS:3.1/AV:L/AC:H/PR:H/UI:N/S:U/C:N/I:H/A:H) [DALP-646]
2. Disallow TCP forwarding from incoming SSH connections [DAL-3938]
3. Remove sensitive information from HTTP GET requests (CVSS score: 5.7 Medium CVSS:3.1/AV:N/AC:H/PR:H/UI:R/S:U/C:H/I:H/A:N) [DAL-3938]
4. Update to linux kernel 5.8 (CVSS score: 3.7 Low CVE-2020-16166 CVSS:3.1/AV:N/AC:H/PR:N/UI:N/S:U/C:L/I:N/A:N) [DALP-678]
5. OpenSSH updated to version 8.3p1 (CVSS score: 2.2 Low CVSS:3.1/AV:N/AC:H/PR:H/UI:N/S:U/C:L/I:N/A:N) [DAL-3299]
6. OpenSSL updated to vesion 1.1.1h (CVSS score: n/a) [DAL-4037]
7. OpenVPN updated to version 2.4.9 (CVSS score 9.1 Critical CVE-2018-7544 CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:H/I:N/A:H) [DAL-3862]
8. Linux shell/bash updated to version 5.0 (CVSS score: n/a) [DAL-3763]
9. jQuery updated to version 3.5.1 (CVSS Score: 6.1 Medium CVE-2020-11022 CVE-2020-11023) [DAL-3547]
10. Updated WebU session token to use AES-256-GCM cipher (CVSS score: n/a) [DAL-4000]
11. Prevent web asset access from unauthorized logins (CVSS score: 5.3 Medium CVSS:3.1/AV:N/AC:L/PR:N/UI:N/S:U/C:L/I:N/A:N) [DAL-3835]
12. Add script CSP headers to the web UI (CVSS score: n/a) [DAL-3629]
13. Removed QR code generator from the **Authentication → Users → Two-factor authentication**, as Content-Security-Policy requirements prevent access to resources not served by the device's web UI [DAL-3629]
14. Added extra layer of firmware verification to ensure the firmware matches the target hardware variant and prevent firmware modifications (CVSS score 1.9 Medium CVSS:3.1/AV:L/AC:H/PR:H/UI:N/S:U/C:N/I:L/A:N) [DAL-3511]
15. Prevent command injection through modemadvanced, modem\_install, and firmware webpages (CVSS score: 6.8 Medium CVSS:3.1/AV:N/AC:H/PR:N/UI:R/S:U/C:H/I:H/A:N) [DAL-4093/DAL-4104/DAL-4046]
16. Prevent manual addition of files to an encrypted filesytem outside of the device itself (CVSS score: 6.1 Medium CVSS:3.1/AV:P/AC:L/PR:N/UI:N/S:U/C:N/I:H/A:H) [DAL-4149]
17. Restrict memory allocation of tcpdump (CVSS score: 7.5 High CVE-2020-8037 CVSS:3.1/AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:N/A:H) [DAL-4226]
18. Removed expired aView and AVWOB certificates [DAL-3467]
19. Encode MAC address in URL used to sync with aView to prevent privileged escalation [DAL-4304]

## VERSION 20.8.22.32 (August 28, 2020)

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EX12-20.8.22.32.bin

SHA512:

b5f1371048906d6dc452d3db2e041e645f60d590d800955334bb31bada8843b89728d1f

e926dfd3fd10f30b0a9b8ccb24f5e47738b6851afa069d54643a6eb98  
MD5: b6bef9cbec0b4fe972db73443342e8ee

EX15-20.8.22.32.bin  
SHA512:  
9ae10cd5000bb8a01ab42bfd4019b56d3657506305724b4d8889cb665b25783c47587cd  
09ad4562bc32eccdd9d813449e2216f37e83e9463740988f75e547ecdd  
MD5: 1d20c64a6c7cd9f0f5da2bf881a92292

EX15W-20.8.22.32.bin  
SHA512:  
85162831b4c98c4a9a434b4a9eb57c9e203e33b4982be70f142d921d5db92f0c293b8dcf  
38af8eeb0d43b5ad3ad7b855aa4016fe1557417d5c85468f4f9ed481  
MD5: 604328982da3a12f45e3f025727d1817

5400-RM-20.8.22.32.bin  
SHA512:  
c72d28ac55f1d9dd22c12c638d56b8d322c856bad9004b4e588184d6885b1f59a45a1bb  
0ffe1c9e450a25fc2f641a67345118fbd88f679ff7d6083d4ceadbc75  
MD5: 16ef2d441b0f350235bb1671e613779e

5401-RM-20.8.22.32.bin  
SHA512:  
3bcdb3e979504bd3a9ef11e938d90f3815996eb7de296fb04f46d835682b02fb81100372  
de205a4a7cd0cbc6d6f6ee88d48927e989cea023e013682023c173ed  
MD5: d7a62d4d5c254a77e088fa81c1e333dd

6310-DX-20.8.22.32.bin  
SHA512:  
23fef21ee2f1f36f199a19084eea11d56122b5aedb66ee44e557e893e7f6f9a2a477176ae0  
e24d80c202609d7614ad022164acf98db35a31c06f72929ecfd2b5  
MD5: cd9d262772f73b4a2533f6a217e80457

6330-MX-20.8.22.32.bin  
SHA512:  
f1d539c3d0dac46fd3af34a0c46f71341b2ab81d968a48d78bc22f09697cb645676d02d9d  
0eaeaf96bf26400188e86d46201b00a0d1e6652cf909c6b06f52d85  
MD5: 680d983cb67dfdaf95d472112d0d74f6

6335-MX-20.8.22.32.bin  
SHA512:  
eeca51acdf9104b5dd80a49ed57bea6c096e755e4c50f05f909cb714eaa4ce2dd04aa788  
58d16d79838f0a6dee62950113f1b944b079a1bb8f6d2c102d3101cd  
MD5: cdef93effb68deceae0c700e926c9e2a

6350-SR-20.8.22.32.bin  
SHA512:  
cd451d5fd6704c78d7572466b006ef743698cf6525b923160e31aa7df95c3722fbc83c67f0  
4406be5bb61baa778143a31a3d8b322387f212e9024530879cc110  
MD5: 06cd7ad939156dc778629c5c208ff3f3

6355-SR-20.8.22.32.bin  
SHA512:  
89b6bca6237bcc1b31edcedce25e10cf88d51a0c75c09908fe81811ad68fc175a1d3c29f8  
c413e7bbcc618cec9684be7297789f39733ac91755e5f912ea17e0d  
MD5: 70ea993770c9ab679d432637845c69a3

## FEATURES

1. Add new **System → Scheduled tasks → Allow scheduled scripts to handle SMS** configuration option to allow custom python scripts to handle sending/receiving SMS messages [DALP-488]
2. Add digidevice.sms python module for sending/receiving SMS messages in a custom python script [DALP-488]
3. Add ability to load custom factory config file from the local filesystem, which if present is loaded when the device is reset to default settings [DALP-394]
  1. The config file is the same as what can be downloaded when a user saves/exports the configuration from the **Configuration Maintenance** page in the local web UI. That .bin config file can be placed in /opt/custom-default-config.bin
4. DMNR Verizon Private Network support with new settings under **VPN → NEMO** [DALP-457]
5. Added Serial Modbus Gateway service for utilizing the Modbus protocol to communicate with serial ports [DALP-573]
  1. Configuration settings for the Modbus Gateway are found under **Services → Modbus Gateway**
6. MQTT client support via Paho Python module [DALP-590]
  1. Note: not available on the 6300-CX, 5400-RM, or 5401-RM
7. Added Ethernet network bonding to allow the same MAC address and IP configuration to be shared for multiple physical Ethernet ports in either active/backup or round-robin mode [DALP-589]
  1. Configuration options found under **Network → Interfaces → Ethernet bonding**. Bond devices created here can then be assigned to network interfaces
  2. Note: not available on the 6300-CX, 5400-RM, or 5401-RM
8. VRRP+ options added under **Network → VRRP → VRRP+** for validating primary or backup connectivity and automatically changing VRRP priority [DALP-289]
  1. Note a SureLink test must also be enabled for the network interface the VRRP entry is assigned to
9. Cisco Umbrella content filtering options added under **Firewall → Web filtering** service configuration section [DALP-524]

## ENHANCEMENTS

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1. Disable voice services on Quectel EC25-AF when using T-Mobile SIMs [DAL-3707]
2. Add **-I** source address option to the ping CLI command [DAL-3682]
3. Add **service.modbus.debug** config option to enable debug logging on Serial Modbus [DAL-3561]
4. Add **Central management** configuration options for any DAL product to sync with aView, ARMT, or AVWOB [DALP-626]
5. Add **4GM** and **4GT** options to the **Network->Modems->Access technology** settings to specify a CAT-M modem to only connect on LTE CAT-M1 or NB-IoT, respectively [DALP-472]
6. Add options under **System → Log → Server list** to allow users to specify the TCP/UDP protocol and port of the remote syslog server [DALP-593]
7. Added configuration option under **Serial → TCP connection** to specify encrypted vs non-encrypted connection types
8. Added configuration option under **Serial → TCP/Telnet/SSH connections** to enable/disable TCP keep-alive messages and nodelay
9. Added new **Base settings** checkbox on custom serial configuration page in the web UI to allow users to specify whether they want to copy the base serial settings or not [DAL-3775]
10. Added new **Monitoring->Device Health->Data point tuning** configuration options to fine tune what datapoints are uploaded as health metrics to Digi Remote Manager

11. Added new **Monitoring→Device Health → Only report changed values to Digi Remote Manager** option to control sending metrics to Digi Remote Manager on the basis of whether the values have changed since they were last reported [DAL-3386]
12. Reduced data usage by 80% (based on default settings) for reporting health metrics to Digi Remote Manager [DAL-3394]
13. Fade **Configuration saved** pop-up window 5 seconds after clicking the **Apply** button [DAL-3451]
14. Added new **Status → Scripts** page in the web UI to view custom scripts and applications configured in the device, along with their status (running vs idle) [DALP-533]
15. Add options in CLI to show and manually stop any custom scripts or applications [DALP-533]
16. Added **Duplicate firmware** option on the Firmware Update page in the local web UI to copy the active firmware to the secondary firmware partition [DALP-565]
17. Add **system duplicate-firmware** CLI command to copy active firmware to the secondary firmware partition [DALP-565]
18. Move **update firmware** CLI command to be under **system** [DAL-3092]
19. Add **show vrrp** CLI command to display the status of any configured VRRP instances [DAL-2953]
20. Use a random unprivileged port for performing ntp time syncs if standard port 123 fails [DAL-3650]
21. Added new **Authoritative** option under TACACS+, RADIUS, and LDAP user authentication methods to prevent falling back to additional authentication methods if enabled [DAL-3314 & DALP-540]
22. Added new options under **Network → Wi-Fi** to control Tx Power of the Wi-Fi module (default 100%) and allow multiple RADIUS servers for WPA2 Enterprise [DALP-85]
23. Include up/down status of hotspots in the **show hotspot** CLI output [DAL-2184]
24. Update to ModemManager 2020-05-19 [DAL-3254]
  1. libqmi: updated to 1.25.4+
  2. ibmbim: updated to 1.20.4+
  3. libgudev: updated to version 233
  4. Improved support for Quectel EC25/EG25 modules

## BUG FIXES

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1. Fixed T-Mobile IPv4 connectivity on EX12 [DAL-3489]
2. Fix LED behavior to account for Surelink pass/fail results [DAL-3688]
3. Fixed issue preventing RADIUS/TACACS+ authentication from working unless local-user authentication was also configured [DAL-3701]
4. Fixed issue preventing 1002-CMG4 modem from connecting with Verizon private APN SIMs [DAL-3276]
5. Fixed issue where device would remain connected to Digi Remote Manager even after cloud.service was changed to aView or disabled. Rebooting the device previously resolved the issue [DAL-3504]
6. Fixed bug where IPsec tunnels with multiple policies would only properly route traffic for the last policy configured [DAL-3448]
7. Fixed missing CPU usage stats in **show system** CLI output [DAL-2540]
8. Fixed improper value of the active SIM slot in the **modem sim-slot show** CLI command output when SIM slot 2 was in use [DAL-3569]
9. Fixed issue preventing network interfaces from initializing if the interface name was longer than 7 characters [DAL-2327]

10. Fixed issue preventing WAN passthrough mode if WAN was configured with a static IP [DAL-3097]
11. Fixed errors displayed in CLI when configuring a USB serial port in remote access mode [DAL-3207]
12. Fixed issue preventing users from configuring an IP address as a remote syslog server [DAL-3433]
13. Handle incorrect value occasionally returned by by Telit LM940/LM960 module when querying to see which SIM slot is in use [DAL-3481]
14. Fixed issue preventing cellular modem connectivity if a custom gateway/subnet was configured but the modem wasn't in passthrough mode [DAL-3585]
15. Fixed issue causing aView IPsec tunnel (if enabled) to randomly fail when device was in passthrough mode [DAL-3657]
16. Fixed permission issue on /opt/custom/ directory preventing users from setting up custom CSS and logos [DAL-3710]
17. Fixed issue preventing VLANs from being assigned to Wi-Fi SSIDs [DAL-3113]

## SECURITY FIXES

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The highest level vulnerability that has been fixed in this release is listed as a High CVSS score of **6.7**

1. Update to Linux kernel 5.7 (CVE-2020-10732 CVSS Score: 4.4 Medium [CVSS:3.1/AV:L/AC:L/PR:L/UI:N/S:U/C:L/I:N/A:L](#)) [DAL-3322]
2. Added local user login rate limiting to default lockout additional login attempts for 15 minutes after 5 login failures per user (Score: 6.7 Medium [CVSS:3.1/AV:L/AC:H/PR:N/UI:N/S:U/C:H/I:H/A:N](#)) [DAL-3390 and DAL-3505]
3. New configuration options are under the **Login failure lockout** section for each user in the **Authentication** → **User** settings
4. Prevent /etc/config/start from running when shell is disabled (Score: 5.2 Medium [CVSS:3.1/AV:L/AC:H/PR:H/UI:N/S:U/C:H/I:L/A:L](#)) [DAL-2846]
5. Prevent file path expansion on **Firmware Update** and **File System** pages in the local web UI (Score: 3.2 Low [CVSS:3.1/AV:L/AC:L/PR:H/UI:N/S:U/C:L/I:N/A:N](#)) [DAL-3513, DAL- 3471, & DAL-3518]
6. Prevent cross-site scripting on the Wi-Fi and Bluetooth scanner pages in the local web UI (Score: 3.8 Low [CVSS:3.1/AV:P/AC:H/PR:N/UI:R/S:U/C:L/I:L/A:L](#)) [DAL-3628]
7. Obfuscate text when showing the SIM PIN (Score: 3.2 Low [CVSS:3.1/AV:L/AC:L/PR:H/UI:N/S:C/C:L/I:N/A:N](#)) [DAL-3462]
8. Set HTTP Auth Cookie as secure in the local web UI (Score: 3.1 Low [CVSS:3.1/AV:N/AC:H/PR:N/UI:R/S:U/C:N/I:L/A:N](#)) [DAL-3393]
9. Fixed leaked file descriptors on serial connections [DAL-3202]

## VERSION 20.5.38.58 (July 20, 2020)

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This is a **recommended** release

## ENHANCEMENTS

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1. Increased minimum password complexity to at least 10 characters containing at least one uppercase letter, one lowercase letter, one number, and one special character [DAL-3491]
  1. Note: Devices that were running older firmware that had user passwords that do not meet these minimum requirements after upgrading to 20.5.38.58 will still be able to use that password to authenticate with the device. However, if the user attempts to update user's password in the DAL device's configuration settings after upgrading to 20.5.38.58, the updated password must comply with the new minimum requirements



## BUG FIXES

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1. Fixed delay in connecting with FirstNet SIMs caused by interference from Lightweight M2M (LWM2M) service on Telit modules [DAL-3236]
2. Prevent interruptions to QCDM/QXDM port on Sierra modems caused by ModemManager interaction [DAL-3469]
3. Fixed bug preventing dual-APN connectivity with AT&T SIMs and Sierra modems [DAL-3586]

## SECURITY FIXES

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The highest level vulnerability that has been fixed in this release is listed as a High CVSS score of 6.5, which is rated as a Medium

1. Removed **remote\_control** service used when receiving remote commands from aView/ARMT/AVWOB in favor of HTTPS secure commands. Vulnerability discovered by Stig Palmquist (CVE pending) [DAL-3460]
2. Add failed login attempts to event log sent to remote syslog servers, if enabled [DAL-3492]

## VERSION 20.5.38.39 (May 29, 2020)

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This is a **mandatory** release

## FEATURES

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1. LDAP user authentication [DALP-192]
2. Add option on the **System → Firmware Update** page in the web UI to have the DAL device query a firmware server for available firmware updates [DALP-481]
3. Added new **WiFi → Access points → [ssid\_name] → Isolate clients** option to enable/disable WiFi client isolation [DAL-2019]
4. Add configuration options under **Central management** for a proxy connection to Digi Remote Manager [DAL-3150]
5. Added new **Enable watchdog** configuration option to monitor the connection to Digi Remote Manager, along with options to reboot the device or restart its connection to Digi Remote Manager if the watchdog times out. The default settings are to restart the connection to Digi Remote Manager if the watchdog times out after 30 minutes [DAL-2954]
6. New **application** mode for serial ports to allow full control of serial ports through custom python/shell programs. Also allows additional USB-to-serial adapters to be configured and connected to using the `/dev/serial/<config_key_name>` path [DAL-2807]
7. *EX15W/6350-SR*: Add new WiFi SSID and passphrase, enabled by default. The default SSID is now `<device model>-<serial num>` and the default passphrase is the unique default password of the device [DAL-3050]

## ENHANCEMENTS

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1. Added the ability to configure DHCP pools larger than /24 subnets [DAL-2864]
2. Enable drivers for SD card on EX12 [DALP-512]
3. Add a **statusall** option to the **show ipsec** CLI command to display verbose IPsec status [DAL-2711]
4. Use modem PDP context 1 when an AT&T SIM is inserted to match new requirements from AT&T [DAL-3093]
5. Add AT&T FirstNet IMSIs so they can be differentiated from other types of AT&T SIMs [DAL-3163]
6. Added Python HID module to allow the DAL device to control PSUs via Python programs [DAL-2092]

7. Allow network analyzer to be configured to monitor any network interface instead of just wired Ethernet ports [DAL-2146]
8. Added option to **ping** CLI command to ping a broadcast address [DAL-2571]
9. Added new health metric to report the interface used by the DAL device for its configured IPsec tunnels [DAL-2710]
10. Added new health metric to report the LTE SNR value of the modem(s) on the DAL device [DAL-2904]
11. Limit metrics upload to no more than 2 per minute if backlogged [DAL-2870]
12. Added new **Locally authenticate CLI** configuration option to control whether a user is required to provide device-level authentication when accessing the console of the device through Digi Remote Manager. Default is to allow console access without providing device-level authentication, since the user is already logged in and authenticated through Digi Remote Manager [DAL-1510]
13. Report device SKU in RCI response to Digi Remote Manager [DAL-2940]
14. Add wband APN to fallback list [DAL-3182]
15. Improved recovery of Telit modem firmware updates should the update get interrupted [DAL-2984]
16. Fixed spelling of **System utilization** chart on Intelliflow page in the local web UI [DAL-2260]
17. Added new **Health sample upload window** debug configuration option to provide a delay window/jitter when uploading health metrics to Digi Remote Manager (default 2-minutes) [DAL-2607]
18. Commonize the format and naming of rx/tx health metrics reported to Digi Remote Manager [DAL-2896]
19. Add IPv6 options to **traceroute** CLI command [DAL-2618]
20. Add count of bytes transmitted and received to the output of the **show network interface X** CLI command [DAL-2980]
21. Updated **mmcli-dump** command used when generating a support report to only run its list of AT commands on the cellular modem once [DAL-3013]
22. Updated placement of the **Apply** button on the **Device Configuration** page of the web UI to account for usability on smaller screens and keep it always visible when scrolling [DAL-3029]
23. Display the secondary/alternate firmware image version as the **Alt. Firmware Version** in the output of the **show system** CLI command [DAL-3057]
24. Retain modem firmware files in the event that the firmware upgrade was interrupted [DAL-2856]
25. Renamed OpenVPN server **device type** configuration options to clarify which options are OpenVPN managed versus device-only [DAL-2857]
26. Changed the **Idle timeout** configuration settings for remote-access serial ports to use to *blank* instead of *0s*, to better match the format of the **Idle timeout** option for user login sessions [DAL-2623]
27. Added a 5-second wait time between setting LTE band configuration updates on a Telit modem and rebooting the modem to apply the configuration change [DAL-2972]
28. Add support for AES\_GCM family of IPsec ciphers [DAL-2715]

## BUG FIXES

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1. Load FirstNet-specific firmware on Telit LM960 modems when a FirstNet SIM is present (bug affects firmware versions 20.2.x and older) [DAL-3163]
2. Fix VRRP crashes by upgrading keepalived to version 20.0.20 (bug affects firmware versions 20.2.x) [DAL-3181]

3. Prevent IPsec tunnel from being setup if its local network/interface is down (bug affects firmware versions 20.2.x and older) [DAL-2336]
4. Fixed rare issue where the cellular modem could not initialize after resetting the modem (bug affects firmware versions 20.2.x and older) [DAL-1409]
5. Update analyzer to continue running even if the users SSH session ends (bug affects firmware versions 20.2.x and older) [DAL-2154]
6. Prevent re-uploading of invalid health metrics data if Digi Remote Manager sends a response that the contents of the health metrics are invalid (bug affects firmware versions 20.2.x and older) [DAL-2868]
7. Fixed bug preventing stale conntrack entries from being flushed when a WiFi-as-WAN (client mode) network changes, connects, or re-connects (bug affects firmware versions 20.2.x and older) [DAL-2775]
8. Fixed timing issue where an IPsec tunnel configured to be built through a specific interface would not be brought down properly if that network interface went down (bug affects firmware versions 20.2.x and older) [DAL-3023]
9. Fixed issue preventing backup IPsec tunnel from being established when primary/preferred tunnel was down (bug affects firmware versions 20.2.x) [DAL-3024]
10. Fixed intermittent reporting issue where web UI and CLI would list the modem as registered when it was actually connected (bug affects firmware versions 20.2.x and older) [DAL-2329]
11. Fixed failing SureLink IPv6 ping tests (bug affects firmware versions 19.11.x through 20.2.x) [DAL-2488]
12. Fixed issue with applying policy-based routes to incoming packets from the Internet (bug affects firmware versions 20.2.x and older) [DAL-2589]
13. Fixed bug preventing passthrough mode from functioning if multicast was also enabled (bug affects firmware versions 20.2.x and older) [DAL-2709]
14. Fixed rare issue with not receiving a SCEP certificate from the server due to timing issues between requesting the certificate with a private key and when that certificate can be downloaded (bug affects firmware versions 20.2.x and older) [DAL-2850]
15. Fixed error displayed in **show modem** CLI output when modem was not connected (bug affects firmware versions 20.2.x and older) [DAL-2959]
16. Fixed bug preventing local configuration backups if the configuration directory contained files or directory paths longer than 100 characters (bug affects firmware versions 20.2.x and older) [DAL-3137]
17. Fixed issue preventing automated and console-based OTA modem firmware updates on Telit LE910c4-NF module (bug affects firmware versions 20.2.x and older) [DAL-3052]
18. Fix non-working custom DHCP options (bug affects firmware versions 20.2.x) [DAL-3071]
19. Fix corrupted configuration schema settings after issuing a **config revert** CLI command (bug affects firmware versions 19.8.x through 20.2.x) (bug affects firmware versions 20.2.x and older) [DAL-3194]
20. Fixed issue where IPsec tunnel is built through default route instead of the configured local interface (bug affects firmware versions 20.2.x) [DAL-2889]
21. Removed unsupported LED options listed for LR54 units in their digidevice.led Python module options (bug affects firmware versions 20.2.x) [DAL-3250]
22. *EX15W/6350-SR/6330-MX*: Fixed client connectivity through Captive Portals (bug affects firmware versions 20.2.x) [DAL-3251]
23. Removed empty, blank row from **Filesystem** page in the web UI when listing the contents of an empty directory (bug affects firmware versions 20.2.x and older)
24. Fixed issue preventing users from downloading the ovpn client configuration file from the web UI on the Chrome browser (bug affects firmware versions 20.2.x and older) [DAL-3262]

## SECURITY FIXES

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The highest level vulnerability that has been fixed in this release is listed as a High CVSS score of **7.5**

1. Update to openssh-8.2p1 (CVE-2019-6111 – CVSS Score: 5.8) [DAL-2860]
2. Fixed user escalation exploit through **cloud.drm.sms** configuration option (CVSS Score:6.0 Severity:Medium Matrix: [AV:L/AC:L/PR:H/UI:N/S:U/C:H/I:H/A:N](#)) [DAL-2887]
3. Fixed user escalation exploit through **Label** configuration setting for serial ports (CVSS Score: 6.0 Severity: Medium Matrix: [AV:L/AC:L/PR:H/UI:N/S:U/C:H/I:H/A:N](#)) [DAL-3011]
4. Fixed password exploit through web token (CVSS Score: 5.6 Severity: Medium Matrix: [AV:L/AC:H/PR:H/UI:R/S:U/C:H/I:H/A:N](#)) [DAL-3069]
5. Update StrongSwan to 5.8.3 [DAL-2866]
6. Updated iptutils to s20190709 and traceroute to version 2.1.0 [DAL-2338]
7. Upgrade Linux kernel to version 5.6 [DAL-2873]
8. Update ipset to version 7.6 [DAL-2853]
9. Update OpenSSL to 1.1.1g (CVE-2020-1967 - CVSS Score – 7.5 HIGH) [DAL-2977]
10. Prevent DOM XSS (cross-site scripting) exploit on **Terminal** page in the web UI (CVSS Score: 4.2 Severity: Medium Matrix: [AV:N/AC:H/PR:N/UI:R/S:U/C:L/I:L/A:N](#)) [DAL-3068]
11. Prevent user escalation exploit through netflash options in web UI (CVSS Score: 4.1 Severity: Medium Matrix: [AV:L/AC:H/PR:H/UI:N/S:U/C:N/I:H/A:N](#)) [DAL-3129]
12. Prevent use-after-free exploit in CLI configuration of OpenVPN (CVSS Score: 5.7 Severity: Medium Matrix: [AV:L/AC:H/PR:H/UI:N/S:U/C:H/I:H/A:N](#)) [DAL-2963]
13. Prevent XSS vulnerability on the **Filesystem** page in the web UI where a directory name with HTML embedded in it would be rendered as HTML rather than plain text (CVSS Score: 4.6 Severity: Medium Matrix: [AV:L/AC:H/PR:H/UI:R/S:U/C:L/I:H/A:N](#)) [DAL-3200]
14. Prevent unauthenticated users from downloading the ovpn client configuration file from the web UI (CVSS Score: 5.6 Severity: Medium Matrix: [AV:N/AC:L/PR:N/UI:N/S:U/C:L/I:N/A:N](#)) [DAL-3133]

## VERSION 20.2.162.162 (April 17, 2020)

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This is a **recommended** release

### ENHANCEMENTS

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1. Use **ims** instead of **vzwims** APN on Verizon SIMs for proper IMS registration [DAL-2883]

### BUG FIXES

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1. **EX12**: Fixed potential SIM switch failure on Telit LE910c4-NF modem caused by issuing an improper AT command when generating a support report [DAL-2883]
2. **EX12/1002-CM04/1003-CM11**: Fixed cellular high-speed throughput performance issues caused by CPU slowdown and timing of gathering cellular signal details [DAL-2802]
3. **EX12/1003-CM11**: Fixed inability to utilize SIM slot 2 of an device with a Telit LE910c4-NF or LM940 modem when the two SIM slots contained SIMs from differing carriers [DAL-2897 & DAL-2986]

## VERSION 20.2.162.157 (April 13, 2020)

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This is a **mandatory** release

### ENHANCEMENTS

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1. Add MAC address is support report filename [DAL-2863]
2. Add firstnet-broadband APN for AT&T FirstNet SIMs [DAL-2876]

## BUG FIXES

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1. Fix health metrics warnings in Digi Remote Manager stating the local filesystem's /opt/ directory was full when it wasn't [DAL-2769]
2. Fixed missing Rx/Tx bytes in **show modem** CLI command output [DAL-2804]
3. Fixed issue preventing multicast packets from being sent through a network bridge [DAL-2774]
4. Fixed auto-reboot after restoring configuration file through local web UI [DAL-2862]
5. Fixed inability to update modem firmware on Sierra EM7511 modules [DAL-2794]
6. Fixed improper modem firmware selection on Telit LM960 module when using a T-Mobile SIM [DAL-2376]
7. Fixed bug causing the configured **Reboot Time** to always occur in UTC instead of local timezone (issue present in older 20.2.162.x firmware versions)[DAL-2859]
8. Fixed bug preventing analyzer from being stopped in the CLI [DAL-2892]

## SECURITY FIXES

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1. Fix cross-site scripting (XSS) vulnerability on various Status pages in the local web UI [DAL-2818]
2. Fix cross-site scripting (XSS) vulnerability on Configuration page in the local web UI [DAL-2819]
3. Fix cross-site scripting (XSS) vulnerability on Terminal page in the local web UI [DAL-2823]
4. Fix cross-site scripting (XSS) vulnerability on File System page in the local web UI [DAL-2823]
5. Prevent script injection exploit on the Configuration Maintenance page in the local web UI [DAL-2797]
6. Prevent unauthorized read/write access to /opt/config/ and /opt/boot when **Interactive Shell** is disabled [DAL-2865]
7. Prevent analyzer output from being saved outside of the /etc/config/analyzer directory [DAL-2672]

## VERSION 20.2.162.90 (March 11, 2020)

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This is a **mandatory** release.

## NEW FEATURES

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1. Telit LM960 LTE CAT18 modem support [DALP-487]
2. Quectel EC25-AF LTE CAT4 modem support [DAL-1817]
3. [Digi Remote Manager](#) is set as the default portal for all DAL products [DALP-393]
  1. Central management via Digi Remote Manager will not be enabled if you upgrade a device running 19.11.x or older firmware that was previously syncing with an aView instance to 20.2.x or newer firmware, but can be enabled if desired. However, if the device running 20.2.x or newer firmware gets reset (e.g. if someone presses the Erase button on the device, or erases its config through the web UI or Admin CLI), the device will sync with Digi Remote Manager by default.
4. Added SureLink™ default connectivity tests on all WAN interfaces [DALP-402]
  1. SureLink tests (previously referred to as **Active Recovery**) will not be enabled by default if you upgrade a device from 19.11.x or older DAL firmware to 20.2.x or newer firmware, but can be enabled if desired. However, if the device running 20.2.x or newer firmware gets reset (e.g. if someone presses the Erase button on the device, or erases its config through the web UI or Admin CLI), the default SureLink tests **will be enabled** as part of the default settings of the device.
5. Background Wi-Fi AP roaming/scanning [DALP-435]

1. New **Background scanning** configuration settings under Client WiFi entries
6. New web UI pages added under the **System** drop-down with enhanced serial details and configuration [DALP-465]
7. Support for firmware/OTA updates on Quectel modems [DALP-419]
8. AT&T LWM2M support for Telit LM940/LM960 modems [DAL-2476]

## ENHANCEMENTS

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1. Prevent access to web UI until HTTPS is ready [DAL-603]
  1. Until the SSL cert is generated, users trying to access the web UI via standard http will receive a redirect page stating that the cert is generating. Once the SSL cert is generated, users accessing the web UI via standard http will be automatically redirected to the https link
2. Show multiple bands for Telit modems if carrier-aggregation is supported and active [DAL-2624]
3. Update wording of help text for WiFi Background Scanning config settings to better reflect their usage [DAL-6673]
4. Added additional Telit-specific AT commands to mmcli-dump of support report
5. Improved Role-based access on local web UI, SSH, and remote access [DALP-415]
 

Includes new configuration options

  - **Allow shell** - NOTE if this options is disabled and subsequently re-enabled, the DAL device will **reset to default settings**
    - **If disabled, the following changes are implemented**
      - a) Forced all custom scripts to be sandboxed.
      - b) Script sandboxing uses a tighter profile that prevents /bin/sh access.
      - c) Sandbox custom firewall scripts to a profile that only allows iptables/ipset/arptables/ip and access to /proc and /sys files. Basically all things firewall related but very locked down. The commands are still run in the shell, but no external commands are available, so the script is limited to basic loops and variable access and no escaping.
  - Under each user group under **Authentication → Groups** in the configuration settings:
    - **Admin access**
    - **Access level**
    - **Interactive shell access**
6. New default break sequence **~b** for serial connections [DALP-253]
7. Report MCC/MNC/CID/LAC values in health metrics to Digi Remote Manager [DAL-2502]
8. Add digicpn.gw12.vzwentp Verizon APN to fallback list [DAL-2283]
9. Change default OpenVPN Certificate Issuer details from Accelerated to Digi [DAL-2449]
10. Change default SSL certification from Accelerated to Digi [DAL-1336]
11. Dual-APN support on Sierra EM7511 modem [DAL-2311]
12. Include AT#RESETINFO and Quectel-specific AT commands in support report [DAL-2394]
13. Rename **Configuration Management** page under the System section of the web UI to **Configuration Maintenance** [DAL-2549]
14. Added link under **System** drop-down in web UI to download the support report
15. Update the **Digi Remote Manager** link under the **System** drop-down in the web UI to open in a new tab [DAL-2294]
16. Update the **Authentication → Idle** timeout setting to have a default value of 10-minutes

- (previously the default was blank) [DAL-2292]
17. Send up to 4 IPsec tunnels' details as health metrics reported to Digi RM [DAL-1476]
  18. Change the default behavior of the ***SIM failover alternative*** settings from ***None*** to ***Reset modem*** [DAL-2687]
  19. Renamed **Signal Strength** references to **Signal Quality** [DAL-2707]
  20. On the Network Status page of the web UI, add **Interface is up** message in SureLink status details
  21. Add **service.qcdm.modem.device** and **service.qcdm.modem.interface\_number** config options for specifying QCDM/QXDM port for a modem [DAL-2497]

## SECURITY FIXES

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1. Update to Linux kernel version 5.4.8
2. Removed plain-text passwords displayed in the output of the ***show config*** CLI command [DAL-2513]
3. Added backoff timer when maximum number of SSH/UI login retries is exceeded [DAL-2590]
4. Update to Python version 3.6.10 [DAL-2534]
5. Update tcpdump to version 4.9.3 (CVE-2017-16808 CVE-2018-14468 CVE-2018-14469 CVE-2018-14470 CVE-2018-14466 CVE-2018-14461 CVE-2018-14462 CVE-2018-14465 CVE-2018-14881 CVE-2018-14464 CVE-2018-14463 CVE-2018-14467 CVE-2018-14463 CVE-2018-10103 CVE-2018-10105 CVE-2018-14879 CVE-2018-14880 CVE-2018-16451 CVE-2018-14882 CVE-2018-16227 CVE-2018-16229 CVE-2018-16301 CVE-2018-16230 CVE-2018-16452 CVE-2018-16300 CVE-2018-16228 CVE-2019-15166 CVE-2019-15167) [DAL-2611]
6. Update libpcap to version 1.9.1 [DAL-2611]
7. Update e2fsprogs to version 1.45.5 (CVE-2019-15161 CVE-2019-15162 CVE-2019-15163 CVE-2019-15164 CVE-2019-15165 CVE-2017-16808) [DAL-2611]
8. Update openvpn to version 2.4.4 (CVE-2017-12166) [DAL-2614]
9. Update libldns to version 1.7.1 (CVE-2017-1000231 CVE-2017-1000232) [DAL-2613]
10. Update libxml2 to version 2.9.10 (CVE-2018-9251 CVE-2018-14567) [DAL-2612]
11. Restrict /etc/config/ to admin-only users [DAL-1396]
12. Remove plaintext password from RADIUS debug logs [DAL-2640]
13. Prevent Framebusting JavaScript click-jacking [SEC-494]
14. Prevent users from gaining elevated shell access through custom scripts [DAL-2628]
15. *5400-RM only*: Update FIPs products to openssl version 1.0.2u [DAL-2342]
16. Update libcurl to version 7.69.0 (CVE-2019-15601) [DAL-2732]
17. Update pppd to version 2.4.8 (CVE-2020-8597) [DAL-2732]
18. Fix elevated root access through custom scripts when no-shell is enabled [DAL-2628]
19. Obfuscate sensitive device configuration settings [DAL-1388]

## BUG FIXES

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1. Fixed bug where SureLink™ DNS tests took longer than the configured timeout to complete [DAL-2702]
2. Fixed SSL validation bug preventing modem OTA updates [DAL-2547]
3. Fixed bug where WiFi hotspot intermittently worked [DAL-2547]
4. Fixed bug where newly-created network Bridges would not be listed as options under the Device drop-down for network interfaces [DAL-2575]
5. Fixed bug where the primary/active interface was not reported correctly to Digi aView when the DAL device was configured for load-balancing between two WAN interfaces [DAL-2568]

6. Fixed bug where a device configured with multiple SSH keys would only honor the last SSH key in the list [DAL-2506]
7. Display the active cellular band for Quectel modems [DAL-2298]
8. Fixed bug where the web UI would display bytes transmitted/received for network interfaces as **N/A** [DAL-2295]
9. Fixed bug where the web UI wouldn't show IP information for client devices connected to an OpenVPN server running on the DAL device [DAL-2251]
10. Fix formatting output of **show config** CLI command when the configuration settings contained an array [DAL-2594]
11. Fix bug when adding a new element to an array in the **config** mode of the CLI [DAL-2594]
12. Fix bug where CLI ping and traceroute commands would ignore any interface specified in the command [DAL-2605]
13. Fix bug where SureLink™ default tests would continue to pass if cellular modem lost its active data connection [DAL-2609]
14. Fix a bug handling certificate files with spaces
15. Fixed padding issue with downloading SCEP CA certificates [DAL-2212]
16. Fixed rare issue with passthrough ancillary DNS not resolving if **ancillary DNS redirect** issue was disabled
17. Fixed issue with active serial logins when a serial-related configuration change was applied to the DAL device [DAL-2696]
18. *EX15/EX15W only*: Fix unstable Gigabit Ethernet connections when device is in passthrough mode [DAL-2642]
19. Fix broken SCP/SFTP file transfers when **idle\_timeout** was set to a value other than *nil* [DAL-985]
20. Fix occasional issue where expired DHCP leases were not cleared [DAL-2310]
21. Fixed output of **show modem** CLI command when cellular modem re-initializes
22. Fix potential initialization issues after updating firmware [DAL-2762]

## **VERSION 19.11.72.85 (January 21, 2019)**

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This is a **recommended** release.

### **NEW FEATURES**

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1. Added new digidevice.led python module for controlling LEDs on the device [DAL-2303]

### **ENHANCEMENTS**

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1. Include each interface's MTU to the output of the **show route verbose** command in the Admin CLI [DAL-2378]

### **BUG FIXES**

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Unless otherwise stated, any bugs mentioned here only affect earlier versions of 19.11.x

1. Fixed bug preventing users from configuring an IPsec tunnel with a remote network of 0.0.0.0/0 [DAL-2253]
2. Fixed timing issue between Active Recovery tests and reloading the devices firewall rules, which if done in the wrong order could result in the device not sending traffic through the validated connection [DAL-2000]
3. Fixed bug where the local web UI would show a \*N/A\* value for an interface's bytes



- transmitted/received [DAL-2295]
4. Fixed slowdown in Wi-Fi bridge/repeater mode due to GRO (Generic Receive Offload) being enabled [DAL-2353]
  5. EX15/EX15W only: Fixed bug preventing VLAN setups from working (bug present on all firmware versions older than 19.11.72.85) [DAL-2264]

## VERSION 19.11.72.58 (December 6, 2019)

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This is a **mandatory** release.

### NEW FEATURES

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1. [Re-themed web UI](#) with improved navigation and functionality. New functionality includes:
  1. The ability to view local filesystem contents [DAL-2110]
  2. Help-text on login page
  3. Quick-config access on status pages
  4. new Dashboard overview page
  5. Mobile-friendly UI
2. New network analyzer and packet capture tool, included in both the Admin CLI and web UI [DAL-1575]
3. Added options under the *Network->Modem* section of the device configuration to setup SIM slot prioritization and SIM slot failback [DALP-287]
4. Added new *Preferred tunnel* option under *VPN->IPsec->Tunnels* to configure a tunnel to be a primary or failover tunnel [DAL-1478]
5. Add new **DHCP Hostname** option for IPv4 and IPv6 settings under the **Network->Interfaces** section of the configuration to allow the device to advertise its hostname to the DHCP server upon connection (disabled by default) [DALP-427]
6. Added ability to receive encrypted SMS commands from Digi Remote Manager [DALP-270]
7. Add support for the Telit LM960A18 LTE CAT18 module [DAL-1905]
8. Add support for Sierra Wireless EM7511 LTE CAT18 module [DAL-1414]
9. Add support for Quectel EG25-G LTE CAT4 module [DALP-339]
10. Add support for Quectel EG06 LTE CAT6 module [DALP-403]
11. Add Python support on all products (previously only available on the IX14 and Connect IT 16/48) [DAL-1907]
12. Add *system disable-cryptography* Admin CLI command to configure a device for *nocrypt* mode [DALP-491]
13. Once a device is set for *nocrypt* mode, a user must press the Erase button to reset the device to factory default settings to disable *nocrypt* mode and restore the device back to standard operation
14. Add *show usb* Admin CLI command [DAL-2029]

### ENHANCEMENTS

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1. Default user changed from root to admin [DAL-936]. Once a device is upgraded to 19.11.72.58 or newer firmware
  1. If you do have an admin user configured, it will not be touched by the update
  2. If you do not have an admin user configured, a new one will appear. It will have the same credentials/settings as the root user
  3. If you had a root user configured (e.g. not factory defaults) it will be preserved to maintain existing user access
  4. Restoring the device to factory defaults after update will result in only the admin user. If you have a root user and do a factory default, you have to login with the admin user

- instead of root, using the same default password printed on the bottom of the device
2. Added the ability to push OpenVPN routes in subnet mode [DAL-2224]
  3. Add cellular IMEI and firmware version, along with bluetooth and accelerometer info to show manufacture command in the Admin CLI [DAL-2030]
  4. Add the % measurement value to the CPU usage in the show system output of the Admin CLI
  5. Device is passthrough mode with an IPv6 connection now honors and utilizes the MTU in IPv6 Ras
  6. When using Verizon SIMs, utilize the OMADM process to auto-discover the APN [DAL-1371]
  7. Enhance modem firmware update tool to support multiple modem installations [DAL-2148]
  8. Created new Edge firewall zone to prevent the device's DNS services from being advertised on the network, which still allowing SSH and web UI access [DAL-2085]
  9. Removed 192.168.210.254 Default IP gateway [DAL-2095]
  10. Added support for sending RFC2136 compatible DNS updates to external DNS servers [DALP-446]
  11. Add new options under VPN->IPsec->Tunnels->Local endpoint->ID->ID Type for using the device's MAC address or serial number as its local endpoint ID [DALP-437]
  12. Updated the filename of the support report generated through the web UI or CLI to include the Digi name [DAL-1434]

## **SECURITY FIXES**

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1. Updated OpenSSL to version 1.1.1d [DALP-304]

## **BUG FIXES**

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1. *EX15W only*: Fixed slow performance of Wi-Fi driver (issue present on 19.8.1.61 and older firmware) [DAL-2181]
2. *EX15W only*: Fixed bug where WiFi clients would be disconnected in areas with congested Wi-Fi channels [DAL-2178]
3. Fixed bug where Telit LM940 module inside the 1003-CM11 CORE modem could disconnect and not recover due to it starting up in the wrong mode or its serial ports not responding [DAL-1843]
4. Fixed bug where a device in passthrough mode drops received packets from cellular WAN larger than its MTU (bug present in firmware versions 19.5.x through 19.8.1.61) [DAL-2137]
5. Fixed bug with timing of RCI callbacks from Digi Remote Manager (bug present in firmware versions 19.8.1.61 and older) [DAL-2091]
6. Fixed bug where RX/TX data usage metrics reported to DRM could be mistakenly calculated as a negative sum [DAL-1972]
7. Fixed crash in IPsec configuration with more than 6 for IKE Phase 1 proposals or more than 10 IKE Phase 2 proposals [DAL-2066]
8. Fixed bug in reporting the reboot counter metric to DRM [DAL-1932]
9. Fixed bug where persistent system logs could not be remotely accessed through DRM [DAL-2060]
10. Fixed bug where DRM would always shows the device's connected method as ethernet [DAL-1993]
11. Prevent users from selecting non-production firmware versions when perform modem OTA updates [DAL-1662]
12. Fixed bug preventing Linux clients from querying a DAL device running a NTP server [DAL-1815]

## VERSION 19.8.1.61 (October 22, 2019)

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This is a **recommended** release.

### ENHANCEMENTS

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1. Skip auto-APN detection when using Telus SIM cards [DAL-1928]
2. Add QCDM service for accessing QXDM ports of Qualcomm-based modems [DAL-1904]
3. Add microcom tool [DAL-1872]

### BUG FIXES

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1. Fixed bug in runt where the boot version was reported incorrectly (bug present in firmware version 19.8.1.43) [DAL-1828]
2. Fixed registration delays on devices with Telit modems using Sprint SIM cards (bug present in firmware versions 19.8.1.43 and older) [DAL-1872]
3. Fixed stability issues with 1003-CM11 modem (bug present in firmware versions 19.8.1.43 and older) [DAL-1843]
4. Fixed bug preventing devices using a 1002-CM06 modem (Sierra MC7455) with a Telus SIM from loading the Telus carrier-firmware onto the modem (bug present in firmware versions 19.8.1.43 and older) [DAL-1823]
5. Fixed memory leak causing a DAL device in passthrough mode to stop responding to ARP requests on its LAN port (bug present in firmware versions 19.8.1.43 and older) [DAL-1686]
6. Fixed bug preventing SSH keys from being used to authenticate when establishing a SSH session to the DAL device (bug present in firmware version 19.8.1.43) [DAL-1742]
7. *EX15/EX15W only*: Fixed bug where a DAL device in passthrough mode would ignore any custom gateway/netmask settings in its configuration settings (bug present on firmware version 19.8.1.43) [DAL-1454]
8. *EX15/EX15W only*: Fixed bug preventing a modem OTA firmware update from recovering if the update was interrupted, such as from a power loss or reboot (bug present on firmware versions 19.8.1.43 and older) [DAL-2051]

## VERSION 19.8.1.43 (August 30, 2019)

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This is a **mandatory** release.

### NEW FEATURES

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1. Telit LE910c4-NF modem support
2. WAN passthrough, allowing for [multi-WAN passthrough setups](#) [DALP-163 & DAL-959]
  - As a result, passthrough settings are not under the Modem section anymore, and instead are by default listed under the Network-Interface->LAN section for devices with passthrough enabled by default. To change a device defaulting in passthrough mode to router mode, simply change the "Network->Interfaces->LAN->Interface type" from "IP Passthrough" to "Ethernet", and then you'll see the normal router-mode configurations options available.
3. Auto-generated CLI documentation [DAL-1091]

## ENHANCEMENTS

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1. ModemManager update to version 1.10.2 [DAL-885]
2. Add verbose system log error messages when issues are encountered posting device health metrics to Digi Remote Manager [DAL-203]
3. Add system log when 1003-CM11 modem (LM940) carrier aggregation is disabled due to temperature limits
4. Include Telit carrier aggregation details in device support report [DAL-1435]
5. Add support for python RCI/SCI data\_service callbacks and requests from Digi Remote Manager [DAL-1003]
6. Implement protocol to be used for all local communication between cc\_acld and connector clients [DAL-203]
7. Include SIM locked/ready status in `show modem` CLI output [DAL-1320]
8. Update `show modem` CLI output formatting to have a summary mode that can be used to display the status of the modem(s) in the device, and the verbose output to display additional information for each modem, including the SIM, registration and attachment status [DAL-1184]
9. Improved formatting in the `show route` CLI output, including finer distinction of static routes [DAL-1176]
10. Include policy and connection details in `show ipsec` CLI output, along with improved status details [DAL-1190 & DAL-1174]
11. Improve labeling in output of the `show network interface X` CLI command
12. Show OpenVPN client list and rx/tx bytes in `show openvpn` CLI output [DAL-1192]
13. Add filtering options in `show log` CLI command [DAL-1181]
14. Add CPU usage, device temperature (if available), device description, and location details in `show system` CLI output [DAL-1172]
15. Updated local web UI logout link to list the name of the logged in user [DAL-1142]
16. Renamed the section of central management options from `config` to `cloud` [DAL-1255 & DAL-1256]
17. Added configuration option to have DHCP leases file persistent or clear across reboot [DAL-1196]
18. Update CLI table formatting to double space & blank fields [DAL-1186]
19. Add strongswan bypass-lan plugin to allow 0.0.0.0/0 remote IPSec networks [DAL-1007]

## SECURITY FIXES

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1. Update Linux kernel to version 5.1.14 [DAL-1076]
2. Busybox update to version 1.31.0 [DAL-1161]
  - The new busybox shell environment no longer allows local variable statements such as the following:  
`local ip_addr='1.2.3.4'`
  - and instead the variable must be set without the `local` option, such as:  
`ip_addr='1.2.3.4'`
  - includes update to httpd webUI
3. Remove option to change Wi-Fi country code on US-products [DAL-1402]

4. Update dnsmasq2 to version 2.80 to address DNS cache snooping (CVE-2017-15107) [DAL-1386]
5. Update contrack-tools to version 1.4.5
6. Update libnetfilter\_contrack to version 1.0.7
7. Update libmnl to version 1.0.4
8. Update bind to version 9.14.2 [DAL-1338]
9. Update iptables to version 1.8.3
10. Update libqmi to version 1.23.1 [DAL-885]
11. Update libmbim to version 1.18.0 [DAL-885]
12. Update stunnel to version 5.54 [DAL-1162]
13. Update quagga to version 1.2.4 (CVE-2016-1245 and CVE-2017-5495) [DAL-1160]
14. Update tar to version 1.32 [DAL-1159]
15. Add Digi Remote Manager serial port configuration to all DAL products with managed serial ports (previously only available on Connect IT products) [DAL-1213]
16. Remove unused user passwords from /etc/password [DAL-1316]

## **BUG FIXES**

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1. Fixed bug causing loss of cellular connectivity on devices in passthrough mode with IPsec tunnels built through the cellular passthrough connection (issue present on firmware versions 19.5.x) [DAL-1612]
2. Fixed bug where an apostrophe in a WiFi's WPA pre-shared key would result in the SSID not being broadcasted [DAL-1633]
3. Fix issues where Telit QMI modems would disconnect from USB hub and not recover [DAL-1321/DAL-1556]
4. Fix issues where QMI-based modems would disconnect from cellular network and not automatically re-attach (bug present in 19.5.x firmware) [DAL-1375]
5. Fix issue where logging out of the local web UI from the Terminal page would result in the left-side navbar still showing the menu instead of the **Log in** link [DAL-863]
6. Fix issue where client devices sending a DHCP request over WiFi to an external server would fail due to the ARP broadcast reply packets having the wrong source MAC address [DAL-1526]
7. Fix issue where a DHCP relay endpoint couldn't be setup through modem or IPsec interfaces [DAL-956]
8. Close any open sessions on a serial port when configuration update changes the mode of the serial port
9. Fix bug in `show network` CLI output when both IPv4 and IPv6 networks were available
10. Fix bug where `show network` CLI command would show incorrect output when no SIM was present
11. Fix bug in returning dynamic-only `ref_enums` in device config to Digi Remote Manager [DAL-1323]
12. Fix service serversocket binding when `cc_acl` restarts [DAL-1411]
13. Fix reloading of displayed configuration options when enabling/disabling aView central management in the local web UI [DAL-834]
14. Fix reloading of the Dashboard page when enabling/disabling Intelliflow in the local web UI

[DAL-780]

15. Reset LEDs displayed during reboot instead of freezing the LEDs to show the last known device state before the reboot [DAL-886]
16. Fix bug where Digi Remote Manager RCI thread blocks indefinitely waiting for config write lock [DAL-573]
17. Fix bug where `ls` command in the admin CLI required a terminating `/` on the path [DAL-1251]
18. Fix output of `show wifi` CLI output to show which physical radio a WiFi-as-WAN client is on, instead of a device name [DAL-1171]
19. Fix labeling and format errors in show wifi CLI output
20. Fix multiple SSID traversal with WiFi-as-WAN client setups [DAL-1246]
21. Fix bug with show openvpn name CLI command output [DAL-1191 & DAL-1192]
22. Fix bug with carrier, plmn, and modem status output in show modem CLI command
23. Fix column spacing and lower-casing consistency in show arp CLI output [DAL-1173]
24. Fix parsing of carrier names when posting cellular modem details to Digi Remote Manager [DAL-1553 & DAL-1326]
25. Fix error showing signal strength of WiFi network(s) when the signal was 0% [DAL-1404]
26. Limit decimal numbers reported to Digi Remote Manager to six decimal places [DAL-807]
27. *6310-DX only*: Fixed CPU slowdown due to kernel update (bug present on firmware versions 19.5.88.59 - 19.8.1.30) [DAL-1687]
28. Fixed bug with Sierra MC73xx-series cellular modules in 6300-CX and 1002-CM03 products where the modem would require a power cycle after upgrading the firmware of the modem in order to reconnect [DAL-1716]
29. Fixed issue with Telit LE910-NAv2 cellular modules in 1002-CM04 CORE modems not receiving SMS messages while cellular data session was active/online (bug present on firmware versions 19.8.1.30 and older) [DAL-1634]
30. Add Telus m2m APNs to fallback list [DALP-452]

## **VERSION 19.5.88.81 (June 26, 2019)**

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This is a **mandatory** release.

### **NEW FEATURES**

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1. Added support for getting NMEA location information from a UDP port (default port 2948) [DAL-1084]

### **SECURITY FIXES**

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1. Kernel patch for SACK attack (CVE-2019-11477). For more information, see <https://www.digi.com/resources/security>

### **BUG FIXES**

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1. Fixed bug where IPSec tunnel would cause a system crash when the tunnel was established over QMI-based modems [DAL-1170]
2. Fixed aView tunnel issue where the tunnel drops over time and remote commands fail [DAL-776]
3. Fixed bug preventing QMI-based Telit modems (CAT1 and CAT-M1 modules in particular) from

connecting with vzwstatic APNs (bug present on 19.5.88.59 firmware)

4. Fixed bug where the 1003-CM modem (LTE CAT11 Telit LM940) would shut-down and not recover its cellular connection if temperatures were too high
5. Fixed bug where the cellular modem occasionally would not initialize properly on devices with a large number of serial ports

## **VERSION 19.5.88.59 (May 24, 2019)**

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This is a **mandatory** release.

### **NEW FEATURES**

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1. New CLI with more commands/consistency [DAL-773]
2. Enable Multicast DNS service on all platforms [DAL-972]
3. Implement RADIUS authentication support for users [DAL-903]
4. Add NTP Server option (disabled by default) [DAL-340]
5. Add sftp server to all DAL platforms [DAL-859]
6. ECC Custom Cert Support [DAL-764]

### **ENHANCEMENTS**

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1. Improvements to CLI show serial [DAL-1175]
2. Improved reliability of security chip from userspace access due to wakeup
3. Send interface name with cellular status events [DAL-916]
4. Updated ipset version to 7.1 [DAL-917]
5. Update to newest shadow-4.6 package
6. TACACS+ authorization for more server implementations [DAL-933]
7. stunnel updated to version 5.52 [DAL-915]
8. Additional health metrics required for DRM 3.0 [DAL-810]
9. Add support for Telit ME910C1\_WW
10. Direct remote serial port access via WebUI (shellinabox) [DAL-775]
11. Dual-APN Support on Telit LE910-NAv2 (1002-CM04) [DAL-818]
12. Improved OpenVPN operation and customization [DAL-798]
13. Update to linux-5.0 [DAL-842]
14. Add **description** field to system group [DAL-581]
15. Upgrade MC7455 to 02.30.01.01 (SWI9X30C 2.0 Release 23) added latest Sierra firmware for MC7455 and MC7430 [DAL-759]
16. Add an additional APN for Bouygues in France [DAL-840]
17. Improved Telit location reporting [DALP-226]
18. Improved collection of network LINK and Speed reporting
19. Implement Digi Remote Manager health metrics [DAL-707]
20. Added latest Telit LE910\_XX\_V2 firmware md5 sums

### **SECURITY FIXES**

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1. Update to openssl-1.0.2r (security) CVE-2019-1559
2. busybox: fix for CVE-2014-9645 [DAL-1159]
3. busybox: fix for CVE-2017-16544 [DAL-1159]
4. libcurl: update to 7.64.1 (CVE-2017-8816, CVE-2017-8817, CVE-2017-8818, CVE-2018-0500 CVE-2018-1000300, CVE-2018-1000301, CVE-2018-14618, CVE-2018-16839, CVE-2018-16840, CVE-2018-16842 CVE-2018-16890, CVE-2019-3822, CVE-2019-3823)
5. libcurl: fixes for CVE-2018-1000007, CVE-2017-8818, CVE-2017-8816, CVE-2018-1000005 Zebra 0.99.24: fix for CVE-2016-1245
6. busybox fixes for CVE-2016-6301, CVE-2016-2148, CVE-2017-16544, CVE-2016-2147, CVE-2017-15874, CVE-2014-9645, CVE-2011-5325 [DAL-1159]
7. pppd update to 2.4.7 (CVE-2014-3158, CVE-2015-3310)
8. Kernel patch to resolve CVE-2019-11815

## BUG FIXES

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1. Fix issue on 6300-CX preventing WebUI based firmware update up to 1 in 3 tries [DAL-1194]
2. Remote cloud connections were locked until while long running commands completed [DAL-1177]
3. Fix major issue with multiple IPsec policies When two remote subnets are configured in 2 Policies for an IKEv2 tunnel only Policy 2 traffic will pass [DAL-934]
4. Corrections to CLI show route [DAL-1176]
5. CLI **show system** output included outdated current time and uptime [DAL-1172]
6. Errors on console during WebUI firmware update [DAL-1140]
7. Faster fetching of signal attributes for LE910\_NA\_V2 modem
8. Fixed bug with parsing out MCC/MNC from AT#RFSTS response (LE910NAv2)
9. Fixed cloud connector crash on shutdown
10. Fixed process management issue with cloud connector and configuration
11. Check for configured serial ports in **show serial** command
12. Fixed bug where **show serial** option is visible for devices with no serial ports [DAL-1114]
13. Web GUI input validation rewording to be consistent
14. DAL-CLI: fix typos in descriptions, titles, and minimums
15. WebUI: Ensure correct versions of static files are loaded (using md5hash)
16. Serial ports were mistakenly listed under **Network** for metrics and state
17. Metrics had incorrect title, "System" in descriptors/state.
18. ModemManager: Telit error reporting patch
19. Intelliflow crash fix (divide by 0 on some datasets)
20. Intelliflow improve error reporting
21. System maintenance tasks do not run during duration window if reboot time is set [DAL-960]
22. SPIKE: Asynchronous CLI under DRM [URMA-1996]
23. Firmware update through WebUI doesn't recover when some other page is clicked during the update process [DAL-869]
24. Signal/dbm/percentage inaccurate on Verizon 2G and 3G connections with MC7354 [DAL-786]
25. Verify and fix dual APN support on the LM940 [DAL-742]



26. Unable to establish dual-APN connection with AT&T using Sierra modem [DAL-813]
27. Telit: Added logic to protect new C1\_AP modems from being bricked [DAL-744]
28. Telit: Added firmware check sum for version 414 of LE910-EU1 [DAL-822]
29. Update Telit LE910C1-NS modem firmware from 25.00.244 to 25.00.246 [NPIX-939]
30. Fix MTU support for PPP based connections
31. Added md5 sums for the latest Telit firmware for LE910\_NA1

## **VERSION 19.1.134.81 (Feb 14, 2019)**

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This is a **mandatory** release.

### **NEW FEATURES**

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1. Support for sending device health metrics to DRM
2. PPPoE via WAN Ethernet support
3. Added option to upgrade Telit cellular modules to custom firmware images  

The custom firmware image must be a .tar.gz compressed file include the .bin firmware image itself and a .md5 file containing the md5sum output for the .bin image
4. Support for the Telit LM940 LTE cat11 module, including OTA firmware updates and carrier switching
5. Initial support for the Sierra EM7430 LTE cat6 module
6. Added 2-factor authentication support to all devices (previously only available on 5400-RM and 635x-SR products)

### **ENHANCEMENTS**

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2. Added support for upgrading Telit LE910\_XX modules to the latest xx5 firmware
3. Update aView defaults to tunnel to ipsec.accns.com endpoint for remote commands
4. Added 18327.mcs and 13631.mcs AT&T APNs
5. Added intra.vzwentp Verizon APN
6. Add Network->Modem options to basic options when central management is enabled
7. Added ability to set custom DHCP options under the IPv4 -> DHCP server -> Advanced settings configuration options for a network interface
8. Updated entries created under the System -> Scheduled tasks -> Custom scripts to be enabled by default. Previously, newly created custom scripts would be disabled by default
9. Updated custom SNMP MIB to include OIDs for all available cellular modem metrics (RSRP, RSRQ, RSSI, MCC, MNC, etc.)
10. Added GRE and IP-tunnel details to the Tunnels tab on the Status page of the local web UI
11. Updated the progress bar shown during modem firmware updates on the System page of the local web UI to change to red if the firmware update fails
12. Added Telit-specific AT commands to mmcli-dump file included in a support report generated from the System page of the local web UI
13. Allow atcmd tool in the Admin CLI to run whether ModemManager is enabled or disabled

## **SECURITY FIXES**

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1. Updated ModemManager to version 1.10.0
2. Updated wget to version 1.19.5
3. Updated strongswan from version 5.5.3 to version 5.7.1
4. Updated openssl to version 1.0.2q
5. Updated pcre to version 8.42
6. Updated glib to version 2.57.1
7. Update to Linux kernel 4.19.13

## **BUG FIXES**

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1. Fixed bug where firewall setup would crash if multiple modem interfaces were configured in the settings of the device
2. Fixed bug where OTA updates to Telit modules could be interrupted by loss of power, but would not resume after power was restored
3. Fixed bug where 2G location details were not stored or reported properly
4. Fixed bug where location details for Telit modems were not stored or reported properly