

Digi Accelerated Linux (DAL) Release Notes

Connect IT Console Servers

Version 22.11.48.10

Version 22.11.48.11

INTRODUCTION

This is a major firmware release for all Connect IT products. This is a mandatory production firmware release

SUPPORTED PRODUCTS

- Connect IT 4
- Connect IT 16
- Connect IT 48
- Connect IT Mini

KNOWN ISSUES

- 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]

UPDATE BEST PRACTICES

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 or Digi aView for automated device updates. For more information, follow the instructions for Digi Remote manager or Digi aView in the links below:

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

https://www.digi.com/resources/documentation/digidocs/90001436-13/default.htm#tasks/t_update_device_firmware.htm

2. **Instructions for Digi aView:**

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

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

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 22.11.48.10, 22.11.48.11 (December 5, 2022)

This is a **mandatory** release

Firmware	sha512sum	md5sum
ConnectIT-Mini-22.11.48.10.bin	419af101c030ad485abc119cfab06570298346ca623098ff788e0931bdeed056de3b3377be108004a51017cf4dbc8eab72947c5442f1e5f16e6ced710dff6b4c	64ddfba61dfd95602fa8812de54def7d
ConnectIT4-22.11.48.10.bin	56207f7a786382a94f88a6c583345db4e84feb430ee0ea770ba3b394c699b77196d9bee830da4d13756e69e87e63d5f5d8a3d7c3f35631eb90fb7fe350628975	b779af4a4f1037fb59765a3719913f38
ConnectIT16-22.11.48.11.bin	3e0c8abaaecbf036ea3859f290465c5de808a4c75acc6e7995f269fa51494be2ed62a368d73c83a54c4e9da22ab9af1e03b54a8e139827dba10f50b19630d91	5afde0932eae4382457f21d8822c2e2c
ConnectIT48-22.11.48.11.bin	2b716c59c676d65ada6053c27da2981f3841a1ea60139a042949538b4e7111a2e6f835fc8e76831bc3fd1f160140d3a31bf5846783b29a044126aea5e10992e3	cce3a5cc52de03aa184b65fd402e9909

NEW FEATURES

1. Updated the intelliFlow feature to integrate with Digi Remote Manager for aggregated insights and analytics [DAL-6656]
2. Add options under **Network → Routes → Routing services** for configuring Next-hop routing protocol (NHRP) advertisements [DAL-6711]
3. 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]
4. *Connect IT 16/48*: Track and display the operational status of the power supplies and fans in the admin CLI, local web UI, and Digi Remote Manager; including the following information:
 1. physical connection status
 2. input power status
 3. output voltage

There is also a new **Power Monitoring option under System → Log → Event categories** for sending a syslog, email or SNMP alert within 3 minutes for any of the following conditions

 4. lower than 11v output voltage
 5. fan was disconnected
 6. power supply was disconnected or not receiving power

ENHANCEMENTS

1. *Connect IT 16/48*: Added new **System → External Storage** page in the web UI for mounting and interacting with external storage devices. These settings can also be configured under the **System → Storage** configuration settings [DAL-6683 & DAL-6686]
 1. Added **system storage** Admin CLI commands. These actions for mounting and interacting with external storage devices are also controlled through the **System → External Storage** page in the web UI, or under the **System → Storage configuration** settings
2. *Connect IT 16/48*: New **System → Log → Event categories → External Storage** system event for notifying when a device's external storage exceeds a specified percentage used (configurable with the Percent used setting for the external storage device) [DAL-6687]
3. Add option under **VPN → IP Tunnels → Mode** for supporting mGRE tunnels [DAL-6709]
4. Added option under Network → Advanced settings to allow ICMP redirect messages (disabled by default) [DAL-6013]
5. Disable automatic modem/device firmware update options if using DigiRM [DAL-5738]
6. 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]
7. 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]
8. New **tail** and **grep** Admin CLI commands
9. Send container datapoints to DigiRM with the configured container name instead of container index number [DAL-6551]
10. 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]
11. Add modem scan timeout option to **Scan** window on the **Status → Modems** page in the web UI [DAL-6938]
12. 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]

13. Added new **Data logging** options under **Serial** configuration settings to have any data sent/received on the serial port logged to the serial logs in addition to whatever mode the serial port is in. Logging settings are now persistent across a reboot. [DAL-6719]
 1. Remove options in the local web UI and Admin CLI for manually starting/stopping serial logs. These actions are now controlled under the **Data logging** configuration settings. Clear option has changed to Restart, which empties the log but continues logging.

BUG FIXES

1. Fixed occasional issue where containers could not start due to a permissions issue [DAL-7041]
2. 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]
3. Fixed issue in digidevice.sms python library where it couldn't process MMS messages [DAL-6952]
4. fix output of iperf speedtests in the Admin CLI [DAL-7001]
5. Disable GPS reading on ME910c1-WW modems to prevent CPU utilization spike from ModemManager [DAL-6575]
6. Fixed intermittent issue with SIM failover on devices with Telit LM940 modems [DAL-6569]
7. Fixed intermittent issue preventing modem firmware updates if no SIM card was inserted into the active SIM slot [DAL-6309]
8. Fixed issue resulting in slow upload speeds for clients connected to a Wi-Fi hotspot [DAL-6674]
9. 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]
10. Fixed intermittent issue where a device configured as a L2TP LAC would sometimes drop its tunnel and not automatically reconnect [DAL-5415]
11. Fixed intermittent issue where a device configured as a L2TP server would sometimes drop packets from L2TP client tunnels [DAL-6696]
12. 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 version 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 22.8.33.50 (August 26, 2022)

This is a **mandatory** release

Firmware	sha512sum	md5sum
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ConnectIT-Mini-22.8.33.50.bin	f0f4f8cedc90790be89fc18578a5965af92443773f22ea41d5fe0bc01af2265ee3c6e93e35b673632e76a3ed4b9cf1a020ca176f5c2cfbab606c58ea2f3f5402	bdc0b24801ad87181bc5506ed5393c83
ConnectIT16-22.8.33.50.bin	8b2c8fac3d44195d812d768accfa2021fe25381a54bd280e663a6d0d9b9f8359fc664808b7128e4bb5dcfaacf e3bec2eff65c6d57d296a211b56566d7360eea6	3ee4dc24026e31cd46e7f84bea91e86e
ConnectIT4-22.8.33.50.bin	dbf2c35c8764875ee4491e8b6404b1c8bf7a20ab68c32548a5605af26011145ab4ec7e8058659cda148f5a158f457ffac033c7017d10cd50b2ed84b1977ca0b7	85ea49b9dcce429993fef574056d4ba5
ConnectIT48-22.8.33.50.bin	65a37f28e407b924975676354772e3f8a3be1b1d7ba2f75f4b767fde11a2b5b60567bc20163603f98dfbfc919b2f32ce42f754863c992b814d7f1e284990fcc3	90f641401f6719f6dd145aeaeb7636b5

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]

BUG FIXES

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. 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]
3. Fixed L2TP setups so it only adds a default route for the tunnel if the defaultroute custom PPP setting is specified [DAL-6328]
4. 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
5. Fixed buffer limitation of 1024 characters when copy/pasting text into the Admin CLI [DAL-6445]
6. Fixed issue where kernel-level system logs were logged with UTC timestamps regardless of the locally-configured timezone [DAL-6408]
7. Fixed issue with sending UCS-2 formatted SMS messages with UTF-16 characters [DAL-6318]
8. Fixed issue preventing the Digi device from connecting to Digi Remote Manager over a HTTP proxy through an IPsec tunnel [DAL-6430]
9. Fixed permission issue with starting containers added via Digi Remote Manager [DAL-5844]
10. Fixed invalid format of SIM ICCID metric sent to Digi Remote Manager [DAL-6394]
11. Fixed issue where Wi-Fi client would not reconnect if the config settings were disabled and then re-enabled [DAL-6592]
12. 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]
13. Fixed issue with downloading client ovpn file from the local web UI [DAL-6561]
14. Fixed issue where SNMP traps were not sent unless both the SNMP and SMTP config options were enabled under **System → Log → Event categories**

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 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 22.5.50.62 (June 14, 2022)

This is a **mandatory** release

Firmware	sha512sum	md5sum
ConnectIT-Mini-22.5.50.62.bin	f1430391094f439a40a47e552547cf76b684f1bf7c70e0c038b8f437001bfccbf0306bb01644db1c304dd3650ef7df6a19744687585f036d2ab8dd7d5d741f3f	3cc8ae89aa45d1d41af46a36f9f0eeb4
ConnectIT4-22.5.50.62.bin	3f86d3487a3ba1618e265e1166e9a9f388a4f11634b5e167a09bf6bd7ef55a60264fadde68c1a8eb028f4180b218b3d882df0a744056f03ae9f3887d76f166f4	7336578917b811ec899df3ca5b3dbcdf
ConnectIT16-22.5.50.62.bin	45c178145d95dabd31c4ad8a9b0f699885f8341a1029c08bff546890756b846d9920257406a8cf986157ba33	eb759f7a37b0d3f25a3eec052aff58e7

	dbd244084965bcf4d95d9c7f550f7ee225cb3906	
ConnectIT48-22.5.50.62.bin	09ebc38e235581fbf324521d8e149ce8ec93295ed4e7b4a9b474fe023006f64c4aa0773fbc842294574cba46c509e34e80d67d1f47c0bb2103bfa863d719dffa	7177a80c9b10d8a9596b62eab9daedef

FEATURES

1. 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]
2. 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]
3. New *show scep* Admin CLI command for showing the sync status, expiration dates, and additional details of any configured SCEP clients [DAL-6069]
4. Support for enabling add-on features from Digi Remote Manager [DALP-673]
5. *ConnectIT16/48*: New **Network → NFS Client** settings for mounting a NFS server onto the local filesystem and support for logging to an external NFS [DAL-6166]
6. *ConnectIT16/48*: New **Automatic detection** settings for auto-configuring serial port settings in remote access mode [DALP-736]
7. *ConnectIT16/48*: New **System → Log → Email notification** settings for sending event logs via email [DALP-944]
8. *ConnectIT16/48*: New **System → Log → SNMP traps** settings for sending event logs via SNMP [DALP-944]

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]

BUG FIXES

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 failback [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

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

1. Update to OpenSSL 1.1.1o (CVE-2022-0778, CVE-2022-1292) [DAL-6035]
2. Update to linux kernel 5.17 [DAL-6081]
3. Patch for “dirty pipe” vulnerability in Linux kernel (CVE-2022-0847) [DAL-5981]
4. 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]
5. Update openvpn to version 2.5.6 (CVE 2022-054) [DAL-6229]

VERSION 22.2.9.85 (March 3, 2022)

This is a **mandatory** release

Firmware	sha512sum	md5sum
ConnectIT-Mini-22.2.9.85.bin	0ac6c499ca933502404a63bdc0c3b29147816d561356852c2e2514e3288f7a38e9c659eb6486fbc7f7644bde8a929a6865cdae135b0b98979aa5f8289e7e14fd	55129f2d4041d8f9bcffb4cc8ca4c5a0
ConnectIT4-22.2.9.85.bin	4de9c3d90fa1f13125bafc2f9a6aba36e531da6ed33ad	ebc835f1b74bfca30ac24c3e25f8b84b

	c0c63eb362fb93005aa7c4dfd7031bdf1b9767c0f053cb703a97c8a6d7556e633cd31c7deb3d5940e81	
ConnectIT16-22.2.9.85.bin	2900d1d01c89ca75a47d6e3741e9b4c8d67c16a454ed61ace11d340ed161b8f3eefcfe16336e89c4a54d9de31e866d97cb2d53a3513d0658be48dece78b15356	6bd31c685f54d218fe831a6f69a6aa31
ConnectIT48-22.2.9.85.bin	8622c8ee760a5ab0ffbc705a35110d67bd12620d2666d4579436694e03c8bd171fbb09caea33ae0c199de39eda4253e0dd22e3df1b7ae58c10188642a5d3dc20	606c9b528d59990f2a16df92c9335de0

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. Increased web UI upload limit to 512MB [DAL-5694]
3. 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]
4. 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
5. 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]
6. 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]
7. 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]
8. **1002-CM06/1003-CM07**: Utilize T-Mobile carrier firmware if available for the cellular modem when using Sprint Curiosity SIMs [DAL-5466]
9. New cat Admin CLI command for displaying file contents [DAL-5853]
10. Update /etc/config/scep_client/ directory to be read/write by admin users
11. 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

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. *ConnectIT 16/48*: Fixed serial port lockup over time when set in UDP serial mode [DAL-5940]

SECURITY FIXES

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

1. Update python to version 3.10 [DAL-5499]
2. Update openssl 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
3. 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
4. Update to Linux kernel version 5.15 [DAL-5546]
5. 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]

6. 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
7. Update dbus to version 1.13.20 [DAL-5459]
 1. CVE-2020-12049, CVE-2019-12749
8. Update grub to version 2.06 [CVE-2021-3418] (DAL-5456)
9. Update bzip2 to version 1.0.8 (CVE-2019-12900, CVE-2011-4089, CVE-2010-0405) [DAL-5446]
10. Update procs to version 3.3.15 [DAL-5433]
 1. CVE-2018-1124, CVE-2018-1123, CVE-2018-1126, CVE-2018-1125
11. Hardened openssl build to include secure compilation flags
12. Update sqlite to version 3.37.2 [DAL-5669]

VERSION 21.11.60.63 (December 8, 2021)

This is a **mandatory** release

Firmware	sha512sum	md5sum
ConnectIT-Mini-21.11.60.63.bin	eaffd2606ec7977a58b28410c3d313e5943c2cbb16a2bf207d545d34988d7066b299181dacb053cd44e4264701cca886c176352324f940fb72c7ace14d785701	d2c10e771eb062be1a6e7e2acc162f49
ConnectIT4-21.11.60.63.bin	a78884140dee3b5bb7228d4c88250421c1f0476342e5b8050f838860e998431b24d0d317b4df90ea39fc18b1415ec71180ef584ef2ac1c923ab9edb3dec9ab24	4392c478460ec6e738155c4ff1e17dae
ConnectIT16-21.11.60.63.bin	175e3c31895a0a1ee14e44b0fab3cb6106f7602c405f7ee57f2109c937416b29d3ed817b245f460c3bc3bd7b6abedd67f8b73f4db63405892bc3256e4344921e	ce560d65c34465846d014a3250a4d839
ConnectIT48-21.11.60.63.bin	9c5f27e04c5242111e41a875a800ce0119553d3e49d5e166496d946506aec19d4a81ee22eb788a40e29b77a944174ca546546ecdc419cc39b7e898e561ac0d6b	c74fcdac6e0f580b7e8efeebb18a5539

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

1. 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]
2. New **show surelink** Admin CLI command for displaying details on the Surelink test(s) configured for a network interface or VPN tunnel [DALP-621]
3. Add new option under **Location → Destinations** for specifying the talker ID used in NMEA

- message strings [DAL-5038]
4. *ConnectIT-Mini*: Add option to add and configure an external USB-to-serial adapter under **Serial** configuration settings [DAL-5391]
 5. *ConnectIT-Mini & 1002-CMM1 CORE modems*: Use CID context 3 for any type of Verizon SIM when used with a ME910c1-WW modem [DAL-5428]
 6. Include the mode indicator field in NMEA messages constructed when a GPS fix isn't obtained [DAL-5464]
 7. Add support for auto-completing a parameter or AT command provided to the **xbee set|get|execute** Admin CLI commands [DAL-5196]
 8. Change default IPsec IKE DH group to 14 for enhanced compatibility with industry standard settings [DAL-5344]
 9. 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]
 10. Add **datapro** APN to fallback list to be utilized with Airmob SIM cards [DAL-5548]
 11. New **show containers** Admin CLI command for listing details about configured containers [DAL-5380]
 12. Include SIM ICCID and phone number in the query_state response sent to Digi Remote Manager [DAL-5632]
 13. Specify string encoding as UTF-8 in communication with DigiRM for compatibility with extended charactersets [DAL-5505]

BUG FIXES

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

1. Fixed issue preventing IPsec tunnels from being setup in Transport mode [DAL-5490]
2. *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]
3. *1003-CM07 CORE modem*: Fixed issue preventing multi-carrier firmware updates on Sierra EM7411 modems [DAL-5473]
4. 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]
5. 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]
6. Fixed issue preventing IPsec tunnels from being setup properly if the tunnel name was longer than 9 characters [DAL-5139]
7. 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]
8. Fixed error in system log when attempting to parse an empty config file [DAL-5402]
9. Fixed issue causing potential multi-minute delays in the *show modem name XX* Admin CLI command [DAL-5297]
10. 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]
11. Fixed issue where Surelink **reboot** action would not be take if the Surelink **restart interface** action was also enabled [DAL-5485]
12. Fixed issue preventing the creation of config elements with dynamic array names via the local web API [DAL-5481]
13. Fixed issue preventing installation of sqlite3 python package via pip [DAL-5611]

- Fixed issue preventing multiple config changes from being applied in a python script using the digidevice.config module [DAL-5192]

SECURITY FIXES

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

- Update to python version 3.6.15 [DAL-3190]
- Update stunnel to version 5.60 [DAL-5291]
- Update busybox to version 1.33.1 [DAL-5290]
- Update to Linux kernel version 5.14 [DAL-5360]
- Update OpenSSL to version 1.1.1l [DAL-5242]
- Fixed issue where the TACACS shared secret was included in the system logs [DAL-5470]
- Update libunbound to version 1.13.2 [DAL-5420]
- Update libidn2 to version 2.3.2 [DAL-5439]
- Update muslv to version 1.2.2 [DAL-5452]
- Update rsync to version 3.2.3 [DAL-5431]
- 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
ConnectIT4-21.8.24.139.bin	a17dfddc43e33fc88051ea9941030642e1ee39027ce0c1d4714b575384504ffcb076dec4bcaa6c891d0a8a8008608bf7da090aaaacb43ffcad19afcccbe5eed	c9286c1b255564638c8b8265e5813128

BUG FIXES

- Fixed issue where device would not re-establish its cellular connection after updating to 21.8.24.129 firmware [DAL-5346]
- 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

ConnectITmini-21.8.24.129.bin

SHA512:

4f582ccdc3ce7e025aee4c32e350e8402cc7cfa796703410cf5029bf722e800bf6b88ca9b5b9f005524e4cba003561cde9f5ad431a169af20d3343f02f22dfd8

MD5: 98865a8e8c3939e461881af0ef2be82d

ConnectIT4-21.8.24.129.bin

SHA512:

51fc38ed148a77508b0eed170a8a2c8ef8a5b9cf112ef0cf319a28f33e6a580c15ded4720e60413d8eca7fbfa97f0fdcfcb475463c113d13a53399c8a52b4daa

MD5: 7d05cb036823dcebb407683c8bd3ce30

ConnectIT16-21.8.24.129.bin

SHA512:

2d005a9359f80f80a2fa0e8d0d03986759902b46734f4f4bc2db629a71e8c849936cb56ef19a27cb3245b9e6f01711807794e3c5e35e8c3164a355ab776b1df5

MD5: 3c9ddc1c4fcd125c2b14725d3fe98f22

ConnectIT48-21.8.24.129.bin

SHA512:

44fc24a64825191b02cba1cac9710433a071af93aa1610a19697c69babfe256753c026737
34c83a0a3e21b5c3e6aa5ce0cf70c902843fe66ee8c7f8fc645fdb7

MD5: 1478631931bcee4286732a929438e148

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. Added new **show l2tpeth** CLI command for viewing the status of any configured L2TPv3 tunnels [DAL-5220]
2. Update python pip to version 21.2.4 [DAL-5068]
3. Shortened fallback APN list by removing wildcard entries [DAL-5012]

4. 3G sunset support for EU carriers [DAL-5041]
5. Update messaging included in keepalive packets sent to Digi Remote Manager to prevent multi-second delays in keepalive responses [DALP-832]
6. Add **datapoint.upload_multiple** function to digidevice python module for uploading multiple datapoints to DigiRM at once [DALP-857]
7. Add **uptime** field to **show cloud** CLI output to indicate how long the device has been connected to Digi Remote Manager [DAL-1083]
8. Update **system support-report** CLI command to automatically store the support report in /var/log/ unless a path is specified [DAL-5027]
9. **system support-report** CLI command outputs helpful information for SCP-ing the file from the device to a remote destination [DAL-5027]
10. 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]
11. New **speedtest** CLI command for performing on-demand iPerf or nuttcp speedtests [DAL-5040]
12. Require local users to be assigned to a group [DAL-5060]
13. Add support for configuring multiple destination networks/interfaces for Multicast routes [DALP-853]
14. New **Network → Advanced → Sequential DHCP address allocation** configuration setting for controlling if DHCP addresses are assigned sequentially or randomly (disabled by default) [DAL-5136]
15. Persistent local date/time across reboots once a successful NTP sync occurs [DALP-806]
16. 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
17. Read/write control to the /opt/ and /etc/config/analyzer/ directories through DigiRM and the local web UI [DAL-5117]
18. 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
19. Add option to clear a custom default config by performing a double erase sequence [DAL-5017]
20. Updated CLI login helptext to include common tool-tips [DAL-5157]
21. Replace the cellular modem manufacturer name with the CORE modem model name in the CLI/webUI/metrics details [DAL-5171]
22. 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 21.5.56.108 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 21.5.56.108 (June 3, 2021)

This is a **mandatory** release

ConnectITmini-21.5.56.108.bin

SHA512:

d36007e1ed293fd0d518836d6ddb490dd0859a5918ff00008696fc168e63cb244ccf3870b52a66737c19836e7069f90036044e9c4a593bb65c3ab1a35f35de32

MD5: 119b0311362a503b9a16168ed4743bef

ConnectIT4-21.5.56.108.bin

SHA512:

5f4561ad0e6e5ed51e82df881e16b1656a4527c8e031030c6ed8d5b27175a1c45af00c0bf204db51e25796f433f42b5f53f73690b2952065effd3dded52bf3f3

MD5: 7749f09ece4c6fb46d9353ce286eadf3

ConnectIT16-21.5.56.108.bin

SHA512:

15c0646ec73a786dd3253ee0ee44e649b8008361059ea42872de697a75f020404e1a4d253cb4ffabdde2bcee7e8466ec4aada5f4a98d266384e45ef8760338ee

MD5: ecdba3f266c3f6752a3a55a69b418ab

ConnectIT48-21.5.56.108.bin

SHA512:

567356efd1414bd5ec4913cf6fce29d7d7cbc561013866eef0676f4d8a25944e49850ee68d5040469c5e90999fc27445cba9045fff4168038e60b89230db457a

MD5: fcda1309ebda0da247b23b64b570285a

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

ENHANCEMENTS

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. Update from Quagga to FRRouting for BGP OSPF, RIPNG, and other routing services [DAL-4798]
 19. Update python to version 3.6.13 [DAL-3190]
 20. Return proper status code for custom scripts configured on the device [DAL-4670]
 21. Rename MAC address filtering options to be called **Allowlist** and **Denylist** [DAL-4677]

BUG FIXES

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]

SECURITY FIXES

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 [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)

This is a **mandatory** release

ConnectITmini-21.2.39.67.bin

SHA256:

6a0fda83f27055a1346d74eded4ba012c67de647d3237b77908b1a72ac80cfc9b0144c2c4
2b41868bc654af6e5900126ce0c68bb0781f5d085d1582ebff774f8

MD5: 37d5b03c24823114e235ac6724cb082c

ConnectIT4-21.2.39.67.bin

SHA256:

bb80bb050eb96f164234b5e77b3e1c8a17c002a1e90de92e0c9089ef2cd7ac37cdd08c72
2d455349425ff0c7c53b062ac174be46a90c281e45f64c3b3dca7ac8

MD5: ccc31728eb1f685b8af4091b531deebc

ConnectIT16-21.2.39.67.bin

SHA256:

6b9a1661d0e718d54a0e7086e0c67abe6a42b6e9efb213680592c19b16f94470092bdf96
8f006d5fda22dd3955f3b0488681498f24135500efcf1d9f7c6b6c61

MD5: 8cab90a773ff8489cb7c786cc1716d9

ConnectIT48-21.2.39.67.bin

SHA256:

7c891bf64414341c006eaae42de28d312e116739a4ccc5e457627727931034f530c502c5f
28c477c390d339661564d49ff155df9e59fce3783b60f19f6302286

MD5: abbe72dda27f97a2d36579b81945a99a

FEATURES

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 geo-fence 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

1. Added settings under **Authentication → Serial** to control Certificate Management for TCP and autoconnect serial port setups [DALP-682]
2. Allow hidden/debug config settings to be controlled and preserved by DigiRM [DAL-4445]
3. Asymmetric preshared keys for IPsec tunnels [DALP-707]
4. Don't display Aggressive/Main mode or Xauth selections for IKEv2 IPsec tunnels [DAL-4142]

5. Update name and description of certificate settings for OpenVPN clients and servers [DAL-4435]
6. Add digidevice.led python module to all products [DALP-710]
7. Add options to forward location information to a remote host over TCP [DALP-778]
8. 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]
9. Report location metrics as datapoints to DigiRM [DAL-4055]
10. Include the connection uptime of IPsec tunnels as datapoint metrics to Digi Remote Manager [DAL-4062]
11. Add iptables TRACE tool for enhanced firewall debugging [DAL-4182]
12. Improved accuracy of the status shown for a modem during a firmware update

BUG FIXES

1. Fixed issue with utilizing software flow control on serial ports set in remote-access mode [DAL-3630]
2. Fix issue where a serial port could lock up and prevent access if flow control was enabled [DAL-4585]
3. Fixed issue where non-primary DNS were queried through the wrong interface when **use_dns** configuration option is set to primary [DAL-3156]
4. Report the phone number of the SIM as a health metric datapoint to Digi Remote Manager [DAL-4440]
5. Fixed incorrect format of ICCID and IMEI metrics reported to Digi Remote Manager [DAL-4440]
6. Fixed setup issue between custom firewall rules and IPsec tunnels [DAL-4433]
7. Fixed occasional issue preventing LM940 modems from re-establish their cellular connection after a modem firmware update [DAL-2933]
8. 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]
9. Fixed rare issue where **show system** CLI command would display incorrect uptime details [DAL-4350]
10. Fix issue with secondary CLI sessions showing stale configuration settings if the config is updated elsewhere [DAL-4446]
11. Updated message displayed in web UI to direct the user to refresh the page after erasing the device back to default settings [DAL-2326]
12. 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]
13. Fixed inaccurate status of the Ethernet interface of a device in passthrough mode [DAL-4543]
14. Fixed issue preventing web UI access if two-factor authentication was enabled (bug present on 20.11.x firmware versions) [DAL-4509]
15. Fixed issue where CLI commands sent from DigiRM would crash the DAL device's connection to DigiRM [DAL-4412]
16. Fixed issue preventing WAN/cellular connections from working if the interface was configured with a single **Interface Up** Surelink test [DAL-4629]

SECURITY FIXES

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

1. Update libcurl to version 7.74.0 (CVE-2020-8169, CVE-2020-8177) [DAL-4336]
2. Update to python version 3.6.12 (CVE-2020-14422) [DAL-4364]
3. Update OpenSSL to version 1.1.1i (CVE-2020-1971) [DAL-4326]
4. 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]
5. 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
6. Set SAMEORIGIN in X-Frame-Options to uppercase [DAL-4192]
7. Automatically de-activate active user logins/sessions if the password for that user changes
8. Removed support for https CBC ciphers [DAL-4408]
9. Fixed XSS vulnerability on serial page in the local web UI (Bug present on firmware versions 20.11.x and older) [DAL-4646]

VERSION 20.11.32.168 (December 23, 2020)

This is a recommended release.

ENHANCEMENTS

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

BUG FIXES

1. Fixed bug preventing Ethernet speed/duplex adjustment (affects firmware version 20.11.32.138) [DAL-4414]

VERSION 20.11.32.138 (December 2, 2020)

This is a **mandatory** release

ConnectITmini-20.11.32.138.bin

SHA256:

8aa6206f0957f2c2c739ca7fa2c0791c9d01d42503f0d7e7b5e7b6ddddd6bd1e1de23a767
40a194557fcb7bf88078ef0ac2908d5f3df9d8545de1ac2cf2216b75

MD5: 5b85b919a0824e083f6cbc683385c373

ConnectIT4-20.11.32.138.bin

SHA256:

4dd5d927bea5cdb091393bf2aa91cc06670960bf54b4ca2885741c758f9c25aa3d399146
01903a0c0c39f23d193e6b6b7a5b213f80aba58892d2f9487de33e27

MD5: 93b8e5b3b9edf8a8e54e22518c0fe4be

ConnectIT16-20.11.32.138.bin

SHA256:

6fdb0d0d75364253f1ea7eae328f7eeff0d999c021b2bcb5a353e13aa299fe052bbcd6519
4352ea43a6ecf0585166dd55b641590d0412a62cccea141a96a07d9

MD5: 40c04f4e978117146ef1ffa1ff34b032

ConnectIT48-20.11.32.138.bin

SHA256:

3befaf4ea4d9a5263f5595f910fcc44a35745431689a90535112e326efe8b51bbc205f5706
4204fa57a02507da65cc6df5c6b5c9c78eaae44133cca410efe6ac

MD5: f15d325b2eaf90d03178c861da448d82

FEATURES

1. Add **ssh** and **telnet** commands to Admin CLI [DALP-664]
2. 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]
3. Add new configuration options under **Network → Devices** for setting the link speed/duplex of the device's Ethernet port(s) [DALP-135]
4. Add options for starting, stopping, and viewing serial port activity logs through the CLI, web UI, or Digi Remote Manager [DALP-458]
5. Support for the Sierra EM9190/9191 5G modems [DALP-686]
6. Support for the Sierra EM7411 LTE CAT7 modem [DALP-608]
7. IPv6 IPsec tunnel support for full IPv6 tunnels, IPv6-over-IPv4, or IPv4-over-IPv6 tunnels [DALP-581]
8. 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]
9. Inclusion of the Python pip for installing external modules/libraries [DAL-4078]

ENHANCEMENTS

1. Add **Services → Location** options for configuring GPS or GNSS location communication [DALP-724]
2. GPS/GNSS support for the Quectel EG25-G 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 allow 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 management [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. Added python to the ConnectIT4 product [DAL-4061]
29. Hide main/aggressive mode option when using IKEv2 [DAL-4142]

BUG FIXES

1. Fixed missing default settings in configuration profiles created in Digi Remote Manager (bug affects firmware versions 20.8.x and older) [DALP-658]
2. 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]
3. 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]
4. 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]
5. 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]
6. 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]
7. Fixed some formatting output of the **show system verbose** CLI command (bug affects firmware versions 20.8.x and older) [DAL-3805]
8. Fixed issue preventing VRRP interoperability between DAL devices and SarOS devices (bug affects firmware versions 20.8.x and older) [DAL-4130]
9. Update VRRP+ to properly handle changes in network interface statuses bug affects firmware versions 20.8.x and older) [DAL-4274]
10. Removed poorly formatted script contents from the **show scripts** CLI command output [DAL-3315]

11. Fixed non-working **system disable-cryptography** CLI command [DAL-4169]
12. Fixed second-stage erase functionality on devices not enabled for aView management [DAL-3944]
13. Fixed issue preventing multicast traffic from being sent through a GRE tunnel [DAL-3879]
14. Fixed issue preventing a firewall rule from being setup for OSPFv2 entries [DAL-3869]
15. Fixed rare crash caused when a Quectel modem disconnected [DAL-3867]
16. 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]
17. Fixed issue preventing ConnectIT-Mini devices and Quectel EG25-G modules from connecting with Verizon private APNs (bug affects firmware versions 20.8.x and older) [DAL-3605/DAL-3276]
18. Removed SIM slot 2 references and options from the configuration settings in the ConnectIT-Mini [DAL-3930]

SECURITY FIXES

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

1. Disallow TCP forwarding from incoming SSH connections [DAL-3938]
2. 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]
3. 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]
4. 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]
5. OpenSSL updated to vesion 1.1.1h (CVSS score: n/a) [DAL-4037]
6. 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]
7. Linux shell/bash updated to version 5.0 (CVSS score: n/a) [DAL-3763]
8. jQuery updated to version 3.5.1 (CVSS Score: 6.1 Medium CVE-2020-11022 CVE-2020-11023) [DAL-3547]
9. Updated WebU session token to use AES-256-GCM cipher (CVSS score: n/a) [DAL-4000]
10. 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]
11. Add script CSP headers to the web UI (CVSS score: n/a) [DAL-3629]
12. 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]
13. 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]
14. 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]
15. 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]
16. 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]
17. Removed expired aView and AVWOB certificates [DAL-3467]

18. Encode MAC address in URL used to sync with aView to prevent privileged escalation [DAL-4304]

VERSION 20.8.22.32 (August 28, 2020)

This is a **mandatory** release

ConnectITmini-20.8.22.32.bin

SHA256: 9c21f9662754e77def26af3ea0804f84267f17c28e2ce40bfad5bce655a1add3

MD5: 926608bbdeff50c962f034ecd71c65f4

ConnectIT4-20.8.22.32.bin

SHA256: ab46ac98bc661fa5e56559c6328229d18b10e2c76960ad077c464fb1e75a03f3

MD5: 4d519c4318a4eac129739ae82cdef244

ConnectIT16-20.8.22.32.bin

SHA256: 4ae37b9d855c87afd767d02a89121a49cbe95e857df6fd4cd220cb838a7ac790

MD5: f89c26333c0a346e7635e082db92c639

ConnectIT48-20.8.22.32.bin

SHA256: 3235a52e53cd7a27cf04badf66f4cc7bd5aa1fdd2415ae1fe705e1c4a7f9093d

MD5: 926ae9e13ee56d080bec471f064761f6

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 ConnectIT4
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 ConnectIT4 or ConnectIT-Mini
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

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. 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

1. Fix LED behavior to account for Surelink pass/fail results [DAL-3688]
2. Fixed issue preventing RADIUS/TACACS+ authentication from working unless local-user authentication was also configured [DAL-3701]
3. Fixed issue preventing 1002-CMG4 modem from connecting with Verizon private APN SIMs [DAL-3276]
4. 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]
5. Fixed bug where IPsec tunnels with multiple policies would only properly route traffic for the last policy configured [DAL-3448]
6. Fixed missing CPU usage stats in **show system** CLI output [DAL-2540]
7. 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]
8. Fixed issue preventing network interfaces from initializing if the interface name was longer than 7 characters [DAL-2327]
9. Fixed issue preventing WAN passthrough mode if WAN was configured with a static IP [DAL-3097]
10. Fixed errors displayed in CLI when configuring a USB serial port in remote access mode [DAL-3207]
11. Fixed issue preventing users from configuring an IP address as a remote syslog server [DAL-3433]
12. Handle incorrect value occasionally returned by by Telit LM940/LM960 module when querying to see which SIM slot is in use [DAL-3481]
13. Fixed issue preventing cellular modem connectivity if a custom gateway/subnet was configured but the modem wasn't in passthrough mode [DAL-3585]
14. Fixed issue causing aView IPsec tunnel (if enabled) to randomly fail when device was in passthrough mode [DAL-3657]
15. Fixed permission issue on /opt/custom/ directory preventing users from setting up custom CSS and logos [DAL-3710]

SECURITY FIXES

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]
 1. New configuration options are under the **Login failure lockout** section for each user in the **Authentication → User** settings
3. 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]
4. 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]
5. 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]
6. 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]

7. Fixed leaked file descriptors on serial connections [DAL-3202]

VERSION 20.5.38.58 (July 20, 2020)

This is a **recommended** release

ENHANCEMENTS

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

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

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)

This is a **mandatory** release

FEATURES

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. Add configuration options under **Central management** for a proxy connection to Digi Remote Manager [DAL-3150]
4. 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]
5. 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]

ENHANCEMENTS

1. Added the ability to configure DHCP pools larger than /24 subnets [DAL-2864]
2. Add a **statusall** option to the **show ipsec** CLI command to display verbose IPsec status

- [DAL-2711]
3. Use modem PDP context 1 when an AT&T SIM is inserted to match new requirements from AT&T [DAL-3093]
 4. Add AT&T FirstNet IMSIs so they can be differentiated from other types of AT&T SIMs [DAL-3163]
 5. Added Python HID module to allow the DAL device to control PSUs via Python programs [DAL-2092]
 6. Allow network analyzer to be configured to monitor any network interface instead of just wired Ethernet ports [DAL-2146]
 7. Added option to **ping** CLI command to ping a broadcast address [DAL-2571]
 8. Added new health metric to report the interface used by the DAL device for its configured IPsec tunnels [DAL-2710]
 9. Added new health metric to report the LTE SNR value of the modem(s) on the DAL device [DAL-2904]
 10. Limit metrics upload to no more than 2 per minute if backlogged [DAL-2870]
 11. 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]
 12. Report device SKU in RCI response to Digi Remote Manager [DAL-2940]
 13. Add wldata APN to fallback list [DAL-3182]
 14. Improved recovery of Telit modem firmware updates should the update get interrupted [DAL-2984]
 15. Fixed spelling of **System utilization** chart on Intelliflow page in the local web UI [DAL-2260]
 16. 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]
 17. Commonize the format and naming of rx/tx health metrics reported to Digi Remote Manager [DAL-2896]
 18. Add IPv6 options to **traceroute** CLI command [DAL-2618]
 19. Add count of bytes transmitted and received to the output of the **show network interface X** CLI command [DAL-2980]
 20. 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]
 21. 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]
 22. Display the secondary/alternate firmware image version as the **Alt. Firmware Version** in the output of the **show system** CLI command [DAL-3057]
 23. Retain modem firmware files in the event that the firmware upgrade was interrupted [DAL-2856]
 24. Renamed OpenVPN server **device type** configuration options to clarify which options are OpenVPN managed versus device-only [DAL-2857]
 25. 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]
 26. 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]

27. Add support for AES_GCM family of IPsec ciphers [DAL-2715]

BUG FIXES

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 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]
8. Fixed issue preventing backup IPsec tunnel from being established when primary/preferred tunnel was down (bug affects firmware versions 20.2.x) [DAL-3024]
9. 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]
10. Fixed failing SureLink IPv6 ping tests (bug affects firmware versions 19.11.x through 20.2.x) [DAL-2488]
11. Fixed issue with applying policy-based routes to incoming packets from the Internet (bug affects firmware versions 20.2.x and older) [DAL-2589]
12. Fixed bug preventing passthrough mode from functioning if multicast was also enabled (bug affects firmware versions 20.2.x and older) [DAL-2709]
13. 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]
14. Fixed error displayed in **show modem** CLI output when modem was not connected (bug affects firmware versions 20.2.x and older) [DAL-2959]
15. 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]
16. Fix non-working custom DHCP options (bug affects firmware versions 20.2.x) [DAL-3071]
17. 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]
18. 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]
19. Removed unsupported LED options listed for LR54 units in their digidevice.led Python module options (bug affects firmware versions 20.2.x) [DAL-3250]
20. 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)
21. 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

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 (March 17, 2020)

This is a **mandatory** release

ENHANCEMENTS

1. Add MAC address is support report filename [DAL-2863]
2. Add firstnet-broadband APN for AT&T FirstNet SIMs [DAL-2876]
3. Use **ims** instead of **vzwims** APN on Verizon SIMs for proper IMS registration [DAL-2883]

BUG FIXES

1. *1002-CM04/1003-CM11*: Fixed cellular high-speed throughput performance issues caused by CPU slowdown and timing of gathering cellular signal details [DAL-2802]
2. *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]
3. Fix health metrics warnings in Digi Remote Manager stating the local filesystem's /opt/ directory was full when it wasn't [DAL-2769]
4. Fixed missing Rx/Tx bytes in **show modem** CLI command output [DAL-2804]
5. Fixed issue preventing multicast packets from being sent through a network bridge [DAL-2774]
6. Fixed auto-reboot after restoring configuration file through local web UI [DAL-2862]

7. Fixed inability to update modem firmware on Sierra EM7511 modules [DAL-2794]
8. Fixed improper modem firmware selection on Telit LM960 module when using a T-Mobile SIM [DAL-2376]
9. 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]
10. Fixed bug preventing analyzer from being stopped in the CLI [DAL-2892]

SECURITY FIXES

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)

This is a **mandatory** release.

NEW FEATURES

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

ENHANCEMENTS

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. Added additional Telit-specific AT commands to mmcli-dump of support report
4. 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**

5. New default break sequence **~b** for serial connections [DALP-253]
6. Report MCC/MNC/CID/LAC values in health metrics to Digi Remote Manager [DAL-2502]
7. Add digicpn.gw12.vzwentp Verizon APN to fallback list [DAL-2283]
8. Change default OpenVPN Certificate Issuer details from Accelerated to Digi [DAL-2449]
9. Change default SSL certification from Accelerated to Digi [DAL-1336]
10. Dual-APN support on Sierra EM7511 modem [DAL-2311]
11. Include AT#RESETINFO and Quectel-specific AT commands in support report [DAL-2394]
12. Rename **Configuration Management** page under the System section of the web UI to **Configuration Maintenance** [DAL-2549]
13. Added link under **System** drop-down in web UI to download the support report
14. Update the **Digi Remote Manager** link under the **System** drop-down in the web UI to open in a new tab [DAL-2294]
15. Update the **Authentication → Idle** timeout setting to have a default value of 10-minutes (previously the default was blank) [DAL-2292]
16. Send up to 4 IPsec tunnels' details as health metrics reported to Digi RM [DAL-1476]
17. Change the default behavior of the **SIM failover alternative** settings from **None** to **Reset modem** [DAL-2687]
18. Renamed **Signal Strength** references to **Signal Quality** [DAL-2707]
19. On the Network Status page of the web UI, add **Interface is up** message in SureLink status details
20. 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

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. Update libcurl to version 7.69.0 (CVE-2019-15601) [DAL-2732]
16. Update pppd to version 2.4.8 (CVE-2020-8597) [DAL-2732]
17. Fix elevated root access through custom scripts when no-shell is enabled [DAL-2628]
18. Obfuscate sensitive device configuration settings [DAL-1388]

BUG FIXES

1. *Connect IT 16/48 only*: Fixed timezone offset when saving time to onboard RTC [DAL-2678]
2. *Connect IT 16/48 only*: Fix bug where devices with an internal realtime clock would not adjust their local time to the configured timezone [DAL-2272]
3. Fixed bug where SureLink™ DNS tests took longer than the configured timeout to complete [DAL-2702]
4. Fixed SSL validation bug preventing modem OTA updates [DAL-2547]
5. Fixed bug where newly-created network Bridges would not be listed as options under the Device drop-down for network interfaces [DAL-2575]
6. 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]
7. Fixed bug where a device configured with multiple SSH keys would only honor the last SSH key in the list [DAL-2506]
8. Display the active cellular band for Quectel modems [DAL-2298]
9. Fixed bug where the web UI would display bytes transmitted/received for network interfaces as **N/A** [DAL-2295]
10. Fixed bug where the web UI wouldn't show IP information for client devices connected to an
11. OpenVPN server running on the DAL device [DAL-2251]
12. Fix formatting output of **show config** CLI command when the configuration settings contained an array [DAL-2594]
13. Fix bug when adding a new element to an array in the **config** mode of the CLI [DAL-2594]
14. Fix bug where CLI ping and traceroute commands would ignore any interface specified in the

command [DAL-2605]

15. Fix bug where SureLink™ default tests would continue to pass if cellular modem lost its active data connection [DAL-2609]
16. Fix a bug handling certificate files with spaces
17. Fixed padding issue with downloading SCEP CA certificates [DAL-2212]
18. Fixed rare issue with passthrough ancillary DNS not resolving if **ancillary DNS redirect** issue was disabled
19. Fixed issue with active serial logins when a serial-related configuration change was applied to the DAL device [DAL-2696]
20. Fixed output of **show modem** CLI command when cellular modem re-initializes
21. Fix potential initialization issues after updating firmware [DAL-2762]

VERSION 19.11.72.85 (January 21, 2019)

This is a **recommended** release.

NEW FEATURES

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

ENHANCEMENTS

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

BUG FIXES

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]

VERSION 19.11.72.58 (December 6, 2019)

This is a **mandatory** release.

NEW FEATURES

1. [Re-themed web UI](#) with improved navigation and functionality. New functionality includes:
 - The ability to view local filesystem contents [DAL-2110]
 - Help-text on login page
 - Quick-config access on status pages
 - new Dashboard overview page
 - Mobile-friendly UI
2. Added new custom page in the web UI for configuring Power Controllers [DAL-2121]
3. New network analyzer and packet capture tool, included in both the Admin CLI and web UI [DAL-1575]
4. Added options under the *Network->Modem* section of the device configuration to setup SIM slot prioritization and SIM slot failback [DALP-287]

5. Added new *Preferred tunnel* option under *VPN->IPsec->Tunnels* to configure a tunnel to be a primary or failover tunnel [DAL-1478]
6. 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]
7. Added ability to receive encrypted SMS commands from Digi Remote Manager [DALP-270]
8. Add support for the Telit LM960A18 LTE CAT18 module [DAL-1905]
9. Add support for Sierra Wireless EM7511 LTE CAT18 module [DAL-1414]
10. Add support for Quectel EG25-G LTE CAT4 module [DALP-339]
11. Add support for Quectel EG06 LTE CAT6 module [DALP-403]
12. Add Python support on all products (previously only available on the IX14 and Connect IT 16/48) [DAL-1907]
13. Add *system disable-cryptography* Admin CLI command to configure a device for *nocrypt* mode [DALP-491]
14. 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
15. Add *show usb* Admin CLI command [DAL-2029]

ENHANCEMENTS

1. *Connect IT Mini only*: Assign new **Edge** firewall zone to LAN Ethernet port by default to prevent the device's DNS services from being advertised on the network [DAL-2085]
2. Default user changed from root to admin [DAL-936]. Once a device is upgraded to 19.11.72.58 or newer firmware
 - If you do have an admin user configured, it will not be touched by the update
 - 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
 - If you had a root user configured (e.g. not factory defaults) it will be preserved to maintain existing user access
 - 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
3. Added the ability to push OpenVPN routes in subnet mode [DAL-2224]
4. Add cellular IMEI and firmware version, along with bluetooth and accelerometer info to show manufacture command in the Admin CLI [DAL-2030]
5. Add the % measurement value to the CPU usage in the show system output of the Admin CLI
6. Device is passthrough mode with an IPv6 connection now honors and utilizes the MTU in IPv6 RAs
7. When using Verizon SIMs, utilize the OMADM process to auto-discover the APN [DAL-1371]
8. Enhance modem firmware update tool to support multiple modem installations [DAL-2148]
9. 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]
10. Removed 192.168.210.254 Default IP gateway [DAL-2095]
11. Added support for sending RFC2136 compatible DNS updates to external DNS servers [DALP-446]
12. 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]
13. Updated the filename of the support report generated through the web UI or CLI to include the Digi name [DAL-1434]

SECURITY FIXES

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

BUG FIXES

4. 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]
5. 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]
6. Fixed bug with timing of RCI callbacks from Digi Remote Manager (bug present in firmware versions 19.8.1.61 and older) [DAL-2091]
7. Fixed bug where RX/TX data usage metrics reported to DRM could be mistakenly calculated as a negative sum [DAL-1972]
8. Fixed crash in IPsec configuration with more than 6 for IKE Phase 1 proposals or more than 10 IKE Phase 2 proposals [DAL-2066]
9. Fixed bug in reporting the reboot counter metric to DRM [DAL-1932]
10. Fixed bug where persistent system logs could not be remotely accessed through DRM [DAL-2060]
11. Fixed bug where DRM would always shows the device's connected method as ethernet [DAL-1993]
12. Prevent users from selecting non-production firmware versions when perform modem OTA updates [DAL-1662]
13. Fixed bug preventing Linux clients from querying a DAL device running a NTP server [DAL-1815]
14. *Connect IT 4 and Mini*: Fixed bug where early DCD interrupts on a serial port could cause the device to not boot up [DAL-1873]

VERSION 19.8.1.61 (October 22, 2019)

This is a **recommended** release.

ENHANCEMENTS

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

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]

VERSION 19.8.1.43 (August 30, 2019)

This is a **mandatory** release.

NEW FEATURES

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. Support for managing network-enabled power strips and power outlets with the powerman tool [DALP-193]
4. Auto-generated CLI documentation [DAL-1091]

ENHANCEMENTS

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]
8. Improved formatting in the show route CLI output, including finer distinction of static routes [DAL-1176]
9. Include policy and connection details in show ipsec CLI output, along with improved status details [DAL-1190 & DAL-1174]
10. Improve labeling in output of the show network interface X CLI command
11. Show OpenVPN client list and rx/tx bytes in show openvpn CLI output [DAL-1192]
12. Add filtering options in show log CLI command [DAL-1181]
13. Add CPU usage, device temperature (if available), device description, and location details in show system CLI output [DAL-1172]
14. Updated local web UI logout link to list the name of the logged in user [DAL-1142]
15. Renamed the section of central management options from config to cloud [DAL-1255 & DAL-1256]

16. Added configuration option to have DHCP leases file persistent or clear across reboot [DAL-1196]
17. Update CLI table formatting to double space & blank fields [DAL-1186]
18. Add bypass-lan plugin to strongswan to allow 0.0.0.0/0 remote IPSec networks [DAL-1007]

SECURITY FIXES

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. Update dnsmasq2 to version 2.80 to address DNS cache snooping (CVE-2017-15107) [DAL-1386]
4. Update conntrack-tools to version 1.4.5
5. Update libnetfilter_conntrack to version 1.0.7
6. Update libmnl to version 1.0.4
7. Update bind to version 9.14.2 [DAL-1338]
8. Update iptables to version 1.8.3
9. Update libqmi to version 1.23.1 [DAL-885]
10. Update libmbim to version 1.18.0 [DAL-885]
11. Update stunnel to version 5.54 [DAL-1162]
12. Update quagga to version 1.2.4 (CVE-2016-1245 and CVE-2017-5495) [DAL-1160]
13. Update tar to version 1.32 [DAL-1159]
14. 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

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 issue where Connect IT16/48 devices would fail to start up if a 1003-CM modem was inserted [DAL-1605]
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 rare issue where Connect IT 4 booted without access to flash
6. 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]
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 missing WAN config options in Connect IT 4 devices' default config options
14. Fix reloading of displayed configuration options when enabling/disabling aView central management in the local web UI [DAL-834]
15. Fix reloading of the Dashboard page when enabling/disabling Intelliflow in the local web UI [DAL-780]
16. Reset LEDs displayed during reboot instead of freezing the LEDs to show the last known device state before the reboot [DAL-886]
17. Fix bug where Digi Remote Manager RCI thread blocks indefinitely waiting for config write lock [DAL-573]
18. Fix bug where ls command in the admin CLI required a terminating / on the path [DAL-1251]
19. Fix bug with show openvpn name CLI command output [DAL-1191 & DAL-1192]
20. Fix bug with carrier, plmn, and modem status output in show modem CLI command
21. Fix column spacing and lower-casing consistency in show arp CLI output [DAL-1173]
22. Fix parsing of carrier names when posting cellular modem details to Digi Remote Manager [DAL-1553 & DAL-1326]
23. Limit decimal numbers reported to Digi Remote Manager to six decimal places [DAL-807]
24. Fixed bug with Sierra MC73xx-series cellular modules in 1002-CM03 CORE modems where the modem would require a power cycle after upgrading the firmware of the modem in order to reconnect [DAL-1716]
25. 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]
26. Add Telus m2m APNs to fallback list [DALP-452]
27. *Connect IT 16/48 only*: Fix bug causing the device to reset to default settings if the device experienced a power loss (bug present on firmware versions 19.3 - 19.8.1.30) [DAL-1666]

VERSION 19.5.88.81 (June 26, 2019)

This is a **mandatory** release.

NEW FEATURES

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

SECURITY FIXES

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

BUG FIXES

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)

This is a **mandatory** release.

NEW FEATURES

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

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

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

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 19.3.58.59 (March 14, 2019)

- Initial product release
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