

Digi Accelerated Linux (DAL) Release Notes

Digi Connect EZ Serial Servers

Version 22.8.33.50

INTRODUCTION

This is a major release for ConnectEZ products. This is a mandatory production firmware release.

The Digi Connect EZ Mini, 2, 4 and 4i are a family of next-generation, multi-port serial servers that connect serial peripheral devices over an IP network. They provide a modern, secure platform with expanded network connectivity and functionality relevant to today's applications.

- Serial servers provide secure, easy EIA 232/422/485 serial-to-Ethernet integration of virtually any device into wired Ethernet networks. They are ideal for use in a wide variety of demanding industrial applications such as automation, robotics control, centralized device monitoring and management, data acquisition, and point -of-sale applications requiring COM/TTY ports, serial tunneling or TCP/UDP functionality.
- Enhanced access control, management and configuration capabilities support key security requirements for critical infrastructure and distributed systems. The built-in Python environment enables application development and customization at the device level, including full device connection control, data manipulation and event-based actions.
- Management and configuration of the device is possible through Digi Remote Manager, web services, CLI connectivity with mass configuration and customization tools available to pre-configure devices prior to deployment

SUPPORTED PRODUCTS

- Digi Connect EZ Mini
- Digi Connect EZ 2
- Digi Connect EZ 4
- Digi Connect EZ 4i

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:**

<https://www.digi.com/resources/documentation/digidocs/acl-kb/default.htm#Subsystems/kb-6300-cx/update-firmware.htm>

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

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

TECHNICAL SUPPORT

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 22.8.33.50 (August 26, 2022)

This is a **mandatory** release

Firmware	sha512sum	md5sum
ConnectEZ1-22.8.33.50.bin	a619fa418fbe70626c246f55ff579ee4fcf5fe7b9011dd3a5bf776ac01cadf849c86d4c48b1fde0c800dc2ded39ff9c0bfd0dd0dcb36a0588f57c22f6e8230ba	75d269dd5d039673908134fc4871885b
ConnectEZ2-22.8.33.50.bin	fd61703ef7d05917f04871526135159ccfa2bd7de0e997ec73b68ef8a09b1663b0e2c7c1083c46acb5e592dcc557e016e045b2247d02722e375e517670f5e401	bd5826aa433441366c4c8231d2860231
ConnectEZ4-22.8.33.50.bin	7900594e2b1f2ce1212bd3ae5cd823ba6af25dd644917713423a7444ba41780ac6d9aed9fe712ea48fc17d33f23393edba8a713f97b585d0345c8fa53077e6f5	649ae99a1a5c5ffb0284ee233c964bc4

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]

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
ConnectEZ1-22.5.50.62.bin	d3b02d2e79a9954c077e1784e2c4a2afc44f633cfeeb59f0395f2dc95391805fca28ab315ef52d1b607c415e2a68942de7adde769ec8e5ac7ed5d33b39d24c82	b2cbc7a102093f5c6afbd46f2c99e4ca
ConnectEZ2-22.5.50.62.bin	e38f89c31a24ba6fc5a30a23086d263f65d3f8834e1e1615fa0461940c6866e22970a845f2260b4bbdf4f5644bbf3bffb436fc276e3455e8c80a97d3094deca7	03f89aa30242c95b6e45b175fff7f166
ConnectEZ4-22.5.50.62.bin	1bf52e4b1c6633b12dba19de2c545326ba588219bbaf99aa6ed4ddfcab4b438ccd954bf9e936098306234f917f930056dcfb13e9e97794c93fab7d0e6ec4c537	270b746722aa2a552f8f1aa4801b277b

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]

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 Connect EZ 8 devices from being setup using the Digi Navigator tool [DAL-6117]
2. Fixed issue preventing Telit LE910 family of modems from registering after changing APNs without a reboot [DAL-5971, DAL-6016, DAL-5203]
3. 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]
4. Fixed issue where modem-based Location source would sometimes not report properly due to an initialization timing error with the modem [DAL-6163]
5. Fixed issue where an IPsec tunnel fails to re-establish the tunnel if SAs are deleted after phase 1 re-authentication [DAL-4959]
6. Fixed issue where the connection to Digi Remote Manager would delay up to 15 minutes before refreshing to use the active main Internet connection in the event of a network failover or fallback [DAL-6164]
7. 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]
8. Fixed issue preventing OpenVPN server from authenticating clients with an external LDAP/TACACS+/RADIUS server [DAL-6159]
9. Fixed broken **Go to Digi Remote Manager** link in the local web UI [DAL-6088]
10. Fixed issue preventing LDAP external authentication for SSH and Telnet session [DAL-6098]
11. Fixed typo in description of *container delete* CLI command [DAL-5956]
12. Fixed output of *show containers* Admin CLI command to list all containers on the filesystem, not just those linked to configuration settings [DAL-5958]
13. 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
14. Fixed issue preventing **Network → Interfaces → MAC address allowlist** from implicitly denying access to devices not in the allowlist [DAL-6001]
15. Fixed **Invalid lookup path for : network.interface** error when running `cfg.get("network.interface")` in the `digidevice.config` python module [DAL-6005]
16. 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
ConnectEZ1-22.2.9.85.bin	9dd7241813f855270a53b0798609a20fbefc24f9092efc81b0fc36427add488bc2498a069ecb28a1b688882c716bbe2b81c7d438cc479933c56347442f769cd5	a613480a1c66d12ecb103bb6941b5f4a
ConnectEZ2-22.2.9.85.bin	756f0a53e77e18a2cce24685a822bd56e9fbf956c3d7bd88d4052c4f501fb92201059b505681c13b1f73062cd343e991a9a196bae5421c9ca9a645b51f9a1a94	9c629a6f06b85a50385de06d34cc240e
ConnectEZ4-22.2.9.85.bin	b2c3e6dee453ef17072d65982d3a18c9b72b0b9d4ff112046ff6a0499e7b6ef4f0c3bcf90962ab8e6f0a61e335b510422eaf2edb420fa019155a22bb11975585	67e282adccfef72fb68c666bda690769

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. Fixed issue preventing remote file system access to the /opt/ directory through Digi Remote Manager [DAL-5659]

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 21.11.60.65 (January 14, 2022)

This is a **recommended** release

Firmware	sha512sum	md5sum
ConnectEZ1-21.11.60.63.bin	77e3498b9eae2b45c5d2e81d4aa7a60e41d4dd5f1392bbe823475ca09c51f0d854dbaac205b2a23796d9d3ad63a7ab2aa6747158131efb9bb07b84318517ab37	3a2bb459e216f723e389d00c657ff7c5
ConnectEZ2-21.11.60.63.bin	29f2983b2e4225b121c95331758231bb70749c2536be41376cf8b4110771ce9a28d8cf3a005d3f746c05dc6a53ec28aaada037ba63e05349ab8fb274c41b421a	d1a3cde5302237a47d95550d1d503b0c
ConnectEZ4-21.11.60.63.bin	a213a8a1fde092e2ce842c662adfdf922fcf4f683a5e8ce152654a76c923226a20e9cd96fb30401f04f22b7c3dec29927b41b96b749e67c91380fb1a26a89c9f	4829ce82228e0813e64840454fc1f8e1

BUG FIXES

1. Fixed bug where only the first policy would be applied if an IPsec IKEv2 tunnel was configured with multiple remote networks (bug present on firmware version 21.11.60.63 through 21.1.39.67) [DAL-5347]
2. Fixed bug preventing access to the local web UI and connectivity to Digi Remote Manager if the ConnectEZ was reset back to default settings (bug present on firmware version 21.11.60.63) [DAL-5739]

VERSION 21.11.60.63 (December 8, 2021)

This is a **mandatory** release

Firmware	sha512sum	md5sum
ConnectEZ1-21.11.60.63.bin	fedd384edbf3700017b6b5b628c43d11c4193c4f3fbcc3b39a234bda0b9613c5a58f2ee5efcde073ca0de19c9a4d3249c77375f2f345290290006587899dd66	0dc75be78f62820c70999d6f19bca169
ConnectEZ2-21.11.60.63.bin	09ffbc1826572a5dac45c85f3fba67e69c6daec9056d6c4d8b88b1af680cdfceb5636fdb084bfa3d5b065c496cdb7963983d0df77fc8f42b4f153e36957c6240	371425816d304d226822ab986360acc8
ConnectEZ4-21.11.60.63.bin	40e9c3f3a40108e2df8c9d30972c0be263286855258d2ddd1a71d6d0a00dcf610d15f4c142c7443e9e21a14743ffa49903cf08ca92a1e71b6f9590987ef2ec67	65917cda49e97eb2f9b32e5e0de6cd03

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. *1002-CMM1 CORE modems*: Use CID context 3 for any type of Verizon SIM when used with a ME910c1-WW modem [DAL-5428]
5. Include the mode indicator field in NMEA messages constructed when a GPS fix isn't obtained [DAL-5464]
6. Add support for auto-completing a parameter or AT command provided to the **xbee set|get|execute** Admin CLI commands [DAL-5196]
7. Change default IPsec IKE DH group to 14 for enhanced compatibility with industry standard settings [DAL-5344]
8. Disable serial history in remote access mode by default [DAL-5494]
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 character sets [DAL-5505]

BUG FIXES

The below bugs are all present on firmware versions 21.8.24.139 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 taken 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]
14. 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**

1. Update to python version 3.6.15 [DAL-3190]
2. Update stunnel to version 5.60 [DAL-5291]
3. Update busybox to version 1.33.1 [DAL-5290]
4. Update to Linux kernel version 5.14 [DAL-5360]
5. Update OpenSSL to version 1.1.1l [DAL-5242]
6. Fixed issue where the TACACS shared secret was included in the system logs [DAL-5470]
7. Update libunbound to version 1.13.2 [DAL-5420]
8. Update libidn2 to version 2.3.2 [DAL-5439]
9. Update muslv to version 1.2.2 [DAL-5452]
10. Update rsync to version 3.2.3 [DAL-5431]

11. Update OpenVPN to version 2.5.4 [DAL-5435]

VERSION 21.8.24.139 (November 12, 2021)

This is a **mandatory** release

Connect EZ Mini

SHA-1: 069160b3c5d47ebfbbbb964da96b87c820ea491c

SHA-512:

f9d044c2393f6b8c99deea2e7cb141f45fc4f94c59ff144370cdea60a14ab8e72e8de972d6
a109001ae1a8ffcde703895a4456115513ef7981f4eb5c7fdfa9f4

Connect EZ 2

SHA-1: 408f3b1e3209bcf0cf2992470c7d69737b6b99d1

SHA-512:

432bf292165f635fbb3e38e08a90e7c1a56b6a48a0738c86285e4318ee5bee4ad1e0e7ba13
c9da022e618bf08fd5001f7a195610a1bfb182ab878a8b89197443d

Connect EZ 4 / Connect EZ 4i

SHA-1: 9434c8e2efe91d71c214c8eb5347ce730260213f

SHA-512:

264ddb85165f712be099fc0b4f3561ba00f1088a925d8298f143389095461a342c03e2d7e
a80f14556ab8eb27804760d7d9c0a772d8920f1703f3e36255f557a

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 21.2.39.67 (March 1, 2021)

Connect EZ Mini

SHA-1:

748c4f92df2c1ba0c3918ceb792d35229720fd2b

SHA-512:

eedc041aac7d5cf531e14fe3ca71bbd28545484c7b5f7ecddb901dce5c392781a88b97808f87b
2044fb968435247ddb74ddc02bb8501ae1c4597bbbf6dacd499

Connect EZ 2

SHA-1:

7822e097f4cb3fc44f561c2360995cebbdf93db5

SHA-512:

f805990877e252806f7a4c91eb9c737fc54601d7f71496e56a7602e045b3f21a547d127d7c111
a3d772a4021894176c324be1f0b3509054aa11a3b4a05a97570

Connect EZ 4 / Connect EZ 4i

SHA-1:

60571448d09cfac38337df7093390b135a89f649

SHA-512:

08aa6139a139485ef406acf8bcfd82d2f6ca8423b7c97688c437345dc9a499c62b907435d8cd2
e0172b3f37be1b2f6ea15f09a772aec6485c463703e05087f9f

This is the initial release of the Connect EZ family of products.

FEATURES

None

ENHANCEMENTS

None

BUG FIXES

None

SECURITY FIXES

None