

TOC

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23.9.20.63 - October 2023, Feature

This is a **recommended** release.

Features

1. EX12: Add WAN Bonding support under Network → SD-WAN → WAN Bonding configuration settings [DAL-8101]
2. TX PR devices: A new **Primary Responder** mode has been added which, when enabled, will increase the security suitable for devices with used on the FirstNet network or similar. For example, it will prevent shell access, disable older cryptographic functions and features that are no longer considered as safe.

For the PR devices (e.g. TX54-A146, TX54-A246, TX64-A141, TX64-A161-PR, TX64-R210-PR), this mode will be automatically enabled when updated to the 23.9.20.63 release and a FirstNet SIM is being used.

Note that the 23.9.20.63 release will be the final PR specific DAL firmware release. Going forward the PR devices will use the same DAL firmware release as the equivalent non-PR device.

3. Added support for setting up a Wi-Fi hotspot captive portal, including integration with hotspotsystems.com, under the **Network** → **Hotspots** configuration settings [DAL-6825]
4. Support for **DNS allow list** which allows the user to control which domains are accessible through the device has been added. By default, all domains are allowed.
5. Added **Status** → **Premium Features** page to the web UI for locally viewing and managing subscription licenses available from Digi Remote Manager [DAL-6636]

6. Added a link to the Dashboard of the local web UI to register and add the device to Digi Remote Manager [DAL-6787]
7. Updated the layout of the Dashboard page of the web UI to combine the network interface and cellular modem details into a single **Network Activity** panel [DAL-7361]
8. Added MACsec (802.1ae) support and configuration options under **VPN** → **MACsec** [DAL-6825]
9. Improved support for integration with HotspotSystems [DAL-7722]
 - a. PSD2 SessGarden
 - b. Login/Logout URL
 - c. Configurable remote webserver FQDN
10. Added new **System** → **Primary Responder mode** setting to lock down the device to comply with AT&T FirstNet and Verizon Response Verify security options (disabled by default) [DAL-7849]
11. Added new **Services** → **DNS** → **Domain allowlist** configuration settings to control what domains are accessible through the Digi device (default is to allow all domains) [DAL-6741]

Enhancements

1. TX54 and LR54: The FIPS mode support has been added to these platforms.
2. The **persistent files directory** available in the Files tab in Digi Remote Manager have been renamed to **persistent-files**.

3. Added new **Services** → **DNS** → **Fallback** server setting to control what DNS server is used as the fallback in the event that no configured or DHCP-obtained DNS servers are available [DAL-7439]
4. Removed mention of DHCP set in **System** → **Containers** → **Address** help text [DAL-6453]
5. Add nrbroadband APN to the fallback list for AT&T SIMs [DAL-8038]
6. Add NFOD-INET-APN01.com.attz APN to fallback list for AT&T SIMs [DAL-8337]
7. Add fbb.home APN to fallback list for T-Mobile SIMs [DAL-8105]
8. Add iot.tmowholesale APN to fallback list for T-Mobile SIMs [DAL-8026]
9. Updated PLMN and ICCID prefix list for T-Mobile SIMs [DAL-8105]
10. Added a new DHCP option to **Network** → **Interface** → **WWAN** → Type configuration setting to support advertising the device's hostname over a cellular network [DAL-7641]
11. Added new **Network** → **Interface** → **IPv4** → **Force link** option to keep the IP network interface up even when the physical Ethernet link for that interface is down (disabled by default) [DAL-8066]
12. Added symlinks in / root directory for file system directories accessible remotely through Digi Remote Manager [DAL-7646]
13. Add serial number to SNMP MIB [DAL-7720]
14. Added new configuration settings under **Services** → **SNMP** to provide a dynamic set of properties and values to add as OIDs to the SNMP query response

15. Added new **PDP context index** setting when configuring an APN to control what PDP context the APN gets written to within the SIM [DAL-6573]
16. Added **network.modem.modem.dhcp_relay** debug setting to enable DHCP relay support within the cellular modem (disabled by default) [DAL-7312]
17. Updated the input voltage and system/CPU temperature metrics to limit the measurement to one decimal point of accuracy [DAL-7958]
18. Updated the Containers status page in the web UI to validate the name of the container file being uploaded [DAL-7617]
19. Added help text to the pop-up modem when performing modem firmware updates on the **Status → Modems** page in the web UI [DAL-8174]
20. Update **Status → Serial** web UI page to show Log button in modem emulator mode
21. Updated the **System → Firmware** page in the web UI and the pop-up notification in the CLI/webUI to include the build date of the firmware [DAL-8022]
22. Updated the setup of serial ports configured with remote TCP listeners to utilize the SSL version specified in the **Services → Web administration → Minimum TLS version** configuration setting (Default TLS v1.2) [DAL-7915]
23. Added new **System → Containers → Working directory** configuration setting to specify the path within the container to use as the initial working directory when starting the container [DAL-8007]
24. Renamed the title and updated the help text of the **System → Containers → Clone DAL** configuration setting, which is now titled **Clone host system libraries** [DAL-7989]

25. Improved the log messages while the cellular modem is connecting to better reflect the Surelink state and why Surelink tests were skipped [DAL-8085]
26. Add WAN Bonding status and details to support report information [DAL-8371]
27. Updated the help text for TACACS+ under **Authentication** config settings to note that the # character cannot be used in the TACACS secret key [DAL-8273]
28. Add **#swpkgv** AT command to support report for additional firmware details from Telit modems

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 all product firmwares to use OpenSSL version 3.0.8, including configuration setting to enable FIPS 140-2 compliance
2. Updated OpenSSH to version 9.3p2 [DAL-8097]
 1. CVE-2023-38408 (9.8 Critical)

Bug fixes

All bugs listed affect firmware versions 23.6.1.118 and older unless specified.

1. EX12: Load the appropriate carrier firmware image when using Telus or Bell Canada SIM inside an EX12, otherwise the cellular speeds of the connection would be severely reduced [DAL-8243/DAL-8396]

2. EX15/EX15W: Fixed issue preventing users from configuring an Ethernet speed other than auto [DAL-7052]
3. EX15W/EX50: Fixed missing LAN & WAN metrics reported to Digi Remote Manager [DAL-8106]
4. Fixed issue preventing modem firmware OTA updates from completing when initiated via Digi Remote Manager and the update was done over the device's cellular connection [DAL-8333]
5. Fixed race condition where the NTP server failed to start if an active NTP sync was in progress [DAL-8122]
6. Fixed issue where Surelink fail_count metric was not reported to Digi Remote Manager when Surelink tests were passing [DAL-7975]
7. Fixed rare issue where the cellular carrier reported to DigiRM would be "0" instead of the carrier name [DAL-7924]
8. Fixed occasional issue where the device would not update Digi Remote Manager with the new firmware revision after a modem firmware update was initiated from Digi Remote Manager [DAL-7983]
9. Fixed issue where Surelink metrics weren't reported properly to Digi Remote Manager for bridge interfaces on the device [DAL-7990]
10. Fixed issue where the cellular APN metric was not being reported to Digi Remote Manager (affects firmware versions 23.3.x through 23.6.1.105) [DAL-8055]

11. Removed meaningless warning in system logs stating that there was an invalid key for the anywhereusb service (affects firmware versions 23.6.1.x) [DAL-8000]
12. Fixed issue where the Digi device could connect with the configured APN list out of order if it had previously connected with one of the configured APNs [DAL-8335]
13. 1003-CM07 CORE modem: Fixed issue preventing failover to secondary SIM slot with EM7411 modems (affects firmware versions 23.6.1.x) [DAL-8191]
14. 1003-CM07 CORE modem: Fixed rare issue where the EM7411 and EM7511 cellular modems could initialize in the wrong mode and prevent cellular connectivity [DAL-7923]
15. Fixed issue preventing cellular connections with the secondary SIM slot if multiple network interfaces were configured per-SIM slot (affects firmware versions 23.3.x through 23.6.1.x) [DAL-8115]
16. Fixed issue where the wrong destination IP and MAC address was used for Surelink ping tests on GRE tunnels [DAL-8385]
17. Fixed issue where cellular utilization reports in Digi Remote Manager would be skewed due to the device reporting incorrect Rx/Tx data usage metrics to Digi Remote Manager (affects firmware versions 23.6.1.x) [DAL-8380]
18. Fixed issue where WPA2 mixedmode Wi-Fi client-mode connections would revert to WPAonly and prevent connection to WPA2 APs [DAL-8443]

DAL OS firmware update guidelines

Digi recommends that users of DAL OS devices update firmware in Digi Remote Manager.



TIP If you are updating many routers, see [Best practice | Update the firmware on multiple routers using a template](#).

It is also recommended that you review the following:

- Release information
- [What's new](#) and [release notes](#) for the current firmware version running on your devices, as well as any newer ones as this information may affect your update plan.

Known issues

- **TX54 product models**

The Serial status and statistics for the TX54 are incorrect on the Web UI and CLI (DAL-5763).

- **Bridging traffic from devices connected on an Ethernet port or Wi-Fi AP**

Due to the changes in the firewall, it is currently not possible to bridge traffic from devices connected on an Ethernet port or Wi-Fi AP in a bridged interface to a remote IP device via a gateway connected to an Ethernet port in the same bridged interface [DAL-9799].

- **IPsec using Default Router as the Local Endpoint**

There is an issue with IPsec where the tunnel will not come up when the default route is used as the Local Endpoint and the tunnel is not acting as the initiator. Specifying the interface type for the local endpoint should resolve the issue. [DAL-11361].

- **SSH / SCP login slow when FIPS mode is enabled**

Logging into SSH or SCP when FIPS mode is enabled can take more than 20 seconds. [DAL-12606].

Primary Responder mode considerations

DAL OS 23.9 and later supports a **PR¹** mode that can be enabled on any device. When enabled, the device acts as a Primary Responder PR device with a security-hardened, feature-restricted firmware targeted to comply with AT&T FirstNet® and Verizon ResponseVerify™ security requirements.

Features not available	Features available but disabled by default	Features enabled when PR mode is enabled
Telnet	SSH*	FIPS mode
Raw TCP listeners for serial ports	Wi-Fi pre-configured access points	
Wi-Fi WPA1 encryption	Internal serial console port	
Backup configuration file restore	USB ports	

*For DAL OS 25.8 feature release and newer, Primary Responder mode now requires key-based SSH authorization.

Additional considerations

- Users are prompted to enable two-factor authentication.
- A notification will appear in both the Web UI and CLI if the DAL device has Primary Responder mode enabled, but there are local users who do not have two-factor authentication enabled.

¹Primary responder

- The system `custom-default-config` CLI command available in release 24.12 cannot be run in Primary Responder mode.

Devices that use DAL OS firmware

Changes to DAL OS firmware for supported Cellular business unit devices are documented in this documentation portal and in the corresponding device user guides:

Console server	Enterprise	Industrial	IoT gateway and cellular router	Transportation
Connect IT Mini	EX12	IX10	IX15	TX40
	EX15	IX20		TX54
Connect IT 4	EX50	IX25		TX64
		IX30		TX64 RAIL
		IX40		


Step updates

If your devices are running a firmware version **earlier than 24.6.17.54** and you want to update them to version **24.9.79.151** or newer:

1. Do a step update to version **24.6.17.69**.
2. Proceed with updating to newer versions.

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Glossary

#

2FA

Two Factor Authentication

A

AI

Artificial Intelligence

API

Application Programming Interface

AT

Attention

C

CA

Carrier Aggregation

CLI

Command Line Interface

CMP

Connectivity Management Portal

CSV

Comma Separated Values

CTS

Clear to Send

D

DAL OS

Digi Accelerated Linux Operating System

DANI

Digi Artificial Network Intelligence

DCD

Data Carrier Detect

DL

Download

DRM

Digi Remote Manager

DSR

Data Set Ready

DSSS

Dual SIM Single Standby

E

eID

Embedded Identity Document

eIM

eSIM IoT Remote Manager

eMBB

Enhanced Mobile Broadband

ERC/CIP

Ethereum Request for Comments/Cardano Improvement Proposal

eSIM

Embedded Subscriber Identity Module

eUICC

Embedded Universal Integrated Circuit Card

EX

Enterprise

F

FOTA

Firmware Over-the-Air

G

GPS

Global Positioning System

GSMA

Global System for Mobile Communications Association

H

HTTPS

Hypertext Transfer Protocol Secure

I

IMSI

International Mobile Subscriber Identity

IP

Internet Protocol

IPA

IoT Profile Assistant

IX

Industrial

J

JSON

JavaScript Object Notation

L

LAN

Local Area Network

LPA

Local Profile Assistant

LTS

Long Term Support

M

MBIM

Mobile Broadband Interface Model

MCP

Model Context Protocol

mDNS

Multicast Domain Name System

MIoT

Massive Internet of Things

MNO

Mobile Network Operator

MSP

Managed Service Provider

MVNO

Mobile Virtual Network Operator

N

NMEA

National Marine Electronics Association

NSA

Non-Standalone

O

OTA

Over the Air

P

PLC

Programmable Logic Controller

PLMN ID

Public Land Mobile Network Identifier

PR

Primary responder

Q

QoS

Quality of Service

R

RSP

Remote SIM Provisioning

RTU

Remote Terminal Unit

S

SA

Standalone

SGP

Standardized Global Platform (for Secure Remote SIM Provisioning)

SIM

Subscriber Identity Module

SPN

Service Provider Name

SSH

Secure Shell or Secure Socket Shell

SSO

Single Sign On

T

TAIP

Trimble ASCII Interface Protocol

TCP

Transmission Control Protocol

TX

Transportation

U

UI

User Interface

UL

Upload

URL

Uniform Resource Locator

URLLC

Ultra-Reliable Low Latency Communication

V

VLAN

Virtual Local Area Network

VR

Virtual Reality

W

WAN

Wide Area Network

WLAN

Wide Local Area Network

WWAN

Wireless Wide Area Network