

TOC

24.3.28.88 - March 2024, Feature	2
New features	2
Enhancements	2
Security fixes	5
Bug fixes	7
Deprecation	10
DAL OS firmware update guidelines	11
Known issues	12
Primary Responder mode considerations	13
Devices that use DAL OS firmware	15
Step updates	16
DAL OS firmware update guidelines	17
Glossary	18

24.3.28.88 - March 2024, Feature

Release category: **Recommended**

New features

1. Support for Wireguard VPNs has been added.
2. Support for a new Ookla based speed test has been added.

Note: This is a Digi Remote Manager exclusive feature.

3. Support for GRETap Ethernet tunneling has been added.

Enhancements

1. The **WAN Bonding** support has been updated
 - a. Support for a WAN Bonding backup server has been added.
 - b. The WAN Bonding UDP port is now configurable.
 - c. The WAN Bonding client has been updated to 1.24.1
2. Support for configuring which **4G and 5G cellular bands** can and cannot be used for a cellular connection has been added.

Note: This configuration should be used with care as it could lead to poor cellular performance or even preventing the device from connecting to the cellular network.

3. The **System Watchdog** has been updated to allow for monitoring of interfaces and cellular modems.
4. The **DHCP server support** has been updated
 - a. To offer a specific IP address for a DHCP request received on a particular port.
 - b. Any requests for the **NTP server and WINS server options** will be ignored if the options is configured to none.
5. Support for **SNMP traps** to be sent when an event occurs has been added. It can be enabled on a per-event type basis.
6. Support for **Email notifications** to be sent when an event occurs has been added. It can be enabled on a per-event type basis.
7. A button has been added to the Web UI **Modem Status** page to update the modem to the latest available modem firmware image.
8. The OSPF support has been updated to add the capability to link OSPG routes through a DMVPN tunnel. There are two new configuration options
 - a. A new option has been added to **Network > Routes > Routing services > OSPFv2 > Interfaces > Network type** to specify the network type as a DMVPN tunnel.
 - b. A new Redirect setting has been added to **Network > Routes > Routing services > NHRP > Network** to allow redirection of packets between spokes.
9. The location service has been updated

- a. To support an `interval_multiplier` of 0 when forwarding NMEA and TAIP messages. In this case, the NMEA/TAIP messages will be forwarded immediately rather than caching and waiting for the next interval multiple.
 - b. To only display the NMEA and TAIP filters depending on the select type.
 - c. To display the HDOP value in Web UI, show location command and in the metrics pushed up to Digi Remote Manager.
10. A configuration option has been added to the Serial interface support to disconnect any active sessions if the serial port DCD or DSR pins are disconnected.
- A new CLI command `system serial disconnect` has been added to support this.
- The Serial status page in the Web UI has also been updated with the option.
11. The Digi Remote Manager keepalive support has been updated to more quickly detect stale connections and so can recover the Digi Remote Manager connection more quickly.
12. The redistribution of connected and static routes by BGP, OSPFv2, OSPFv3, RIP and RIPng has been disabled by default.
13. The **`show surelink`** command has been updated to have a summary view and an interface/tunnel specific view.
14. The **Web UI serial status page** and the **`show serial`** command have been updated to display the same information. Previously some information was only available on one or the other.
15. The **LDAP support** has been updated to support a group name alias.

16. Support for connecting a **USB printer** to a device via a USB port has been added. This feature can be used via Python or socat to open a TCP port to process printer requests.
17. The default timeout of the Python digidevice cli.execute function has been updated to 30 seconds to prevent command timeouts on some platforms.
18. The Verizon 5G V5GA01INTERNET APN has been added to the fallback list.
19. The help text for modem antenna parameter has been updated to include a warning that it may cause connectivity and performance issues.
20. The help text for the DHCP hostname option parameter has been updated to clarify its use.
21. EX50: The EX50 support has been updated to run with a dynamic CPU clock speed between 864 MHz and 1.8 GHz.
 - a. CPU throttling will occur if the system temperature goes above 100C
 - b. The device will shut down at 125C

A new power configuration setting **system power profile** allows the user to select the CPU frequency. The options are **auto**, **performance**, **powersave**, **manual**. The default setting is **auto**.

Security fixes

1. The Linux kernel has been updated to version 6.7 [DAL-9078]
2. The Python support has been updated to version 3.10.13 [DAL-8214]
3. The Mosquitto package has been updated to version 2.0.18 [DAL-8811]

CVE-2023-28366 CVSS Score: 7.5 High

4. The OpenVPN package has been updated to version 2.6.9 [DAL-8810]

CVE-2023-46849 CVSS Score: 7.5 High

CVE-2023-46850 CVSS Score: 9.8 Critical

5. The rsync package has been updated to version 3.2.7 [DAL-9154]

CVE-2022-29154 CVSS Score: 7.4 High

CVE-2022-37434 CVSS Score: 9.8 Critical

CVE-2018-25032 CVSS Score: 7.5 High

6. The DNSMasq package has been patched to resolve CVE-2023-28450. [DAL-8338]

CVE-2023-28450 CVSS Score: 7.5 High

7. The udhcpc package has been patched to resolved CVE-2011-2716. [DAL-9202]

CVE-2011-2716 CVSS Score: 6.8 Medium

8. The default SNMP ACL settings have been updated to prevent access via External zone by default if the SNMP service is enabled. [DAL-9048]

9. The netif, ubus, uci, libubox packages have been updated to OpenWRT version 22.03 [DAL-8195]

Bug fixes

1. The following **WAN Bonding** issues have been resolved
 - a. The WAN Bonding client is not restarted if the client stops unexpectedly. [DAL-9015]
 - b. The WAN Bonding client was being restarted if an interface went up or down. [DAL-9097]
 - c. The WAN Bonding interface staying disconnected if a cellular interface cannot connect. [DAL-9190]
 - d. The **show route** command not displaying the WAN Bonding interface. [DAL-9102]
 - e. The **show wan-bonding** command displaying incorrect interface status. [DAL-8992, DAL-9066]
 - f. Unnecessary ports being opened in the firewall. [DAL-9130]
 - g. An IPsec tunnel configured to tunnel all traffic whilst using a WAN Bonding interface causing the IPsec tunnel to not pass any traffic. [DAL-8964]
2. An issue where **data metrics** being uploaded to Digi Remote Manager being lost has been resolved. [DAL-8787]
3. An issue that caused **Modbus RTUs** to unexpectedly timeout has been resolved. [DAL-9064]
4. An **RSTP** issue with the bridge name lookup has been resolved. [DAL-9204]
5. The following issues with cellular status information have been resolved

- a. Cellular signal strength percentage not being reported correctly. [DAL-8504]
 - b. Cellular signal strength percentage being reported by the /metrics/cellular/1/sim/signal_percent metric. [DAL-8686]
 - c. TX40: The 5G signal strength being reported for the TX40 5G devices. [DAL-8653]
 - d. EX50/IX40/TX64: The 5G bandwidth being reported for the EX50/IX40/TX64 5G devices. [DAL-9249]
6. The following issues with the **SNMP Accelerated MIB** have been resolved
- a. The cellular tables not working correct on devices with cellular interfaces not called “modem” has been resolved. [DAL-9037]
 - b. Syntax errors that prevented if from being correctly parsed by SNMP clients. [DAL-8800]
 - c. The runValue table not being correctly indexed. [DAL-8800]
7. The following **PPPoE** issues have been resolved
- a. The client session was not being reset if the server goes away has been resolved. [DAL-6502]
 - b. Traffic stopping being routed after a period of time. [DAL-8807]
8. An issue with the DMVPN phase 3 support where firmware rules needed to the disabled in order to honor default routes inserted by BGP has been resolved. [DAL-8762]

9. An issue with the DMVPN support taking a long time to come up has been resolved. [DAL-9254]
10. The Location status page in the Web UI has been updated to display the correct information when the source is set to user-defined.
11. An issue with the Web UI and **show cloud** command displaying an internal Linux interface rather than the DAL interface has been resolved. [DAL-9118]
12. An issue where devices using a Viaero SIM could not connect to 5G networks has been resolved. [DAL-9039]
13. An issue with the SureLink configuration migration resulting some blank settings has been resolved. [DAL-8399]
14. An issue where configuration was been committed at boot-up after an update has been resolved. [DAL-9143]
15. The **show network** command has been corrected to always display the TX and RX bytes values.
16. The NHRP support has been updated to not log messages when disabled. [DAL-9254]
17. IX40 TX40: An issue with the IX40/TX40 5G antenna diversity which would cause the modem to go into a “dump” state has been resolved. [DAL-9013]
18. EX15/TX54: A Wi-Fi DMA issue that could cause the EX15/TX54 device to crash has been resolved. [DAL-9250]
19. IX40: An issue with the GNSS active antenna support on the IX40 4G has been resolved. [DAL-7699]

Deprecation

1. LR54 and LR54W platforms are no longer supported.

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.

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.

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