

TOC

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22.11.48.16 - January 2023 (EX/IX)

Release category: **Recommended**

Enhancement

1. Add support for SHA2-512 and SHA2-256 hash algorithms for IKEv2 IPsec tunnels for interoperability with Cisco ASA devices [DAL-7071]

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