

# TOC

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## 22.8.33.54 - October 2022, Patch (EX12)

### Bug fixes

1. EX12/EX12 PR: Fixed issue preventing EX12/EX12-PR units from updating to firmware versions 22.8.33.50 or 22.5.50.62 if the device was running 21.2.39.67 or older firmware. [DAL-6935]

# 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 **PR<sup>1</sup>** 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.

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<sup>1</sup>Primary 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
<a href="#">Connect IT Mini</a>	<a href="#">EX12</a>	<a href="#">IX10</a>	<a href="#">IX15</a>	<a href="#">TX40</a>
	<a href="#">EX15</a>	<a href="#">IX20</a>		<a href="#">TX54</a>
<a href="#">Connect IT 4</a>	<a href="#">EX50</a>	<a href="#">IX25</a>		<a href="#">TX64</a>
		<a href="#">IX30</a>		<a href="#">TX64 RAIL</a>
		<a href="#">IX40</a>		

# 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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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

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**2FA**

Two Factor Authentication

**A**

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**AI**

Artificial Intelligence

**API**

Application Programming Interface

**AT**

Attention

**C**

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**CA**

Carrier Aggregation

**CLI**

Command Line Interface

**CMP**

Connectivity Management Portal

**CSV**

Comma Separated Values

**CTS**

Clear to Send

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## **D**

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### **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

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## **E**

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### **eID**

Embedded Identity Document

### **eIM**

eSIM IoT Remote Manager

### **eMBB**

Enhanced Mobile Broadband

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**ERC/CIP**

Ethereum Request for Comments/Cardano Improvement Proposal

**eSIM**

Embedded Subscriber Identity Module

**eUICC**

Embedded Universal Integrated Circuit Card

**EX**

Enterprise

**F**

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**FOTA**

Firmware Over-the-Air

**G**

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**GPS**

Global Positioning System

**GSMA**

Global System for Mobile Communications Association

**H**

---

**HTTPS**

Hypertext Transfer Protocol Secure

**I**

---

**IMSI**

International Mobile Subscriber Identity

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**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**

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**MBIM**

Mobile Broadband Interface Model

**MCP**

Model Context Protocol

**mDNS**

Multicast Domain Name System

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**MIoT**

Massive Internet of Things

**MNO**

Mobile Network Operator

**MSP**

Managed Service Provider

**MVNO**

Mobile Virtual Network Operator

**N**

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**NMEA**

National Marine Electronics Association

**NSA**

Non-Standalone

**O**

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**OTA**

Over the Air

**P**

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**PLC**

Programmable Logic Controller

**PLMN ID**

Public Land Mobile Network Identifier

**PR**

Primary responder

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## **Q**

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### **QoS**

Quality of Service

## **R**

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### **RSP**

Remote SIM Provisioning

### **RTU**

Remote Terminal Unit

## **S**

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### **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

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**T**

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**TAIP**

Trimble ASCII Interface Protocol

**TCP**

Transmission Control Protocol

**TX**

Transportation

**U**

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**UI**

User Interface

**UL**

Upload

**URL**

Uniform Resource Locator

**URLLC**

Ultra-Reliable Low Latency Communication

**V**

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**VLAN**

Virtual Local Area Network

**VR**

Virtual Reality

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## **W**

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### **WAN**

Wide Area Network

### **WLAN**

Wide Local Area Network

### **WWAN**

Wireless Wide Area Network