IbexOS Release Notes

Release 6.11.5-1

Westermo Network Technologies AB

May 19, 2025

Contents

1 General Information

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Westermo Network Technologies AB

Contact Support
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Release Number
6.11.5-1

Software Build Number
8816afd9c4367ec3061ea2e5b05bcd128ee25e6e

Date of this build
May 19, 2025

2 Release Highlights

2.1 6.11.5-0

- Session-Management: Fix leaking of session information
  - *Security Advisory: Westermo-24-12: IbexOS Web Interface/WebAPI Session hijacking*
- Cellular: Add support for FOTA (Firmware Over The Air) upgrade of the cellular radio firmware

2.2 6.11.5-1

- Wireless: Fix a crash of the wireless radio firmware (802.11ax products only)

3 Further Changes

3.1 6.11.5-0

- System: Fix major memory leak in switching engine (802.11ax products only)
- Wireless: Fix automatic MAC generation for multi BSSID (802.11ax products only)
- Wireless: T2Gv1 is no longer supported. Please use T2Gv2 or T2Gv3
- User Interface: Remove wifi analyzer app (802.11n products only)

3.2 6.11.5-1

- Wireless: Fix regression where frames are duplicated when 4addr is enabled
- Wireless: Fix legacy rate limiting when distance measuring is enabled (802.11n products only)
- Wireless: Fix power limits in MALAYSIA country code (802.11n products only)
- Network: Prevent potential broadcast storm on Ring devices on partial hardware failure (802.11n products only)

- Network: Fix handling of multiple DHCP-clients in the same subnet
- VPN: Add missing supported ciphers for IPsec (802.11ax products only)
- Bootloader: Handle larger firmware sizes (5G cellular products only)

4 Limitations

- When the device is reconfigured to Mesh with SAE as encryption, the device has to be rebooted after applying the configuration (802.11n products only)
- Multi-SSID with DFS channels does not work (802.11n products only)
- It is recommended to operate the wave 1 card (radio1) with a maximum of 60 active clients. (802.11ac products only)

5 Configuration Parameter Changes

The following configuration items have been added, changed, removed, deprecated or obsoleted:

- rpcCellFotaUpgrade (added)
- setCellFotaUrl (added)
- hwCellFwVersionPreferred (added)
- cfgWlanIfaceInactivityTimeout (changed)
- cfgWlanHoProfile (changed)
- cfgVpnOpenvpnRemote (changed)
- cfgWlanHoScanRateLimitTime (obsoleted)
- cfgWlanHoScanRateLimitTries (obsoleted)

6 Supported Cellular Firmware

This release supports and has been tested with the following cellular firmwares:

6.1 Ibex-RT-330, Ibex-RT-630

- EM12GPAR01A20M4G_01.003.01.003
- EM12GPAR01A21M4G_01.200.01.200

6.2 Ibex-RT-330-5G, Ibex-RT-630-5G

- RM520NGLAAR03A01M4G_01.202.01.202
- RM520NGLAAR03A03M4G_01.201.01.201

Other cellular firmware versions are not supported.

7 Changed Configuration Parameter Descriptions

7.1 MIB Reference: WESTERMO-SW6-MIB

7.1.1 cfgVpnOpenvpnRemote

Remote Host Name or IP Address

The OpenVPN client tries to connect to a server at the given remote host name or IP address.

The remote option will be omitted from the OpenVPN config file when set to 'none'. This allows to specify your own remote entries via the custom options (see `cfgVpnOpenvpnCustomOptions`).

Type	DisplayString
Range	4 - 255
Access	readwrite
OID	1.3.6.1.4.1.16177.1.400.1.1.1003.1.1.1.5

7.1.2 cfgWlanIfaceInactivityTimeout

Allowed idle time before station is removed

If a station does not send anything in ap_max_inactivity seconds, an empty data frame is sent to it in order to verify whether it is still in range. If this frame is not ACKed, the station will be disassociated and then deauthenticated. This feature is used to clear the station table of old entries when the STAs move out of range.

Applies to AP.

Range	15 - 65535
Access	readwrite
OID	1.3.6.1.4.1.16177.1.400.1.1.3.2.1.23

7.1.3 cfgWlanHoScanRateLimitTime

****OBSOLETE:** Scan Rate Limit Time**

This option used to be active when `cfgWlanHoProfile` was set to t2gv1(1). t2gv1(1) is no longer supported.

Range	4 - 65535
Access	noaccess
OID	1.3.6.1.4.1.16177.1.400.1.1.3.3.1.12

7.1.4 cfgWlanHoScanRateLimitTries

****OBSOLETE:** Scan Rate Limit Tries**

This option used to be active when `cfgWlanHoProfile` was set to t2gv1(1). t2gv1(1) is no longer supported.

Range	1 - 255
Access	noaccess
OID	1.3.6.1.4.1.16177.1.400.1.1.3.3.1.13

7.1.5 cfgWlanHoProfile

Handoff Profile

A description of available handoff profiles in terms of use case, functionality and associated parameters.

t2gv2(2) Train to Ground v2 (background scan)

Performs a background scan that optimizes operation in ISO-frequency systems. If neighbor reporting is enabled on the AP `cfgWlanIfaceNeighbourReport`, the STA will scan directly. Intended for operation with third-party products.

- Encryption: psk/eap/sae (WPA2/WPA3)
- Scanning: Background
- Neighbour reporting: Frequency
- Associated Parameters: `cfgWlanHoScanningLevel`

t2gv2fg(3) Train to Ground v2 (foreground scan)

Performs a foreground scan that optimizes operation in multi-frequency systems. If neighbor reporting is enabled on the AP `cfgWlanIfaceNeighbourReport`, the STA will scan directly. Intended for operation with third-party products.

- Encryption: psk/eap/sae (WPA2/WPA3)
- Scanning: Foreground
- Neighbour reporting: Frequency
- Associated Parameters: `cfgWlanHoScanningLevel`

t2gv3(4) Train to Ground v3 (RSSI low/high, Distance near/far)

If neighbor reporting is enabled on the AP `cfgWlanIfaceNeighbourReport`, the STA will scan directly and set the handoff parameters according to the received AP values. Otherwise, or if a neighbour report is lost, the handoff values for RSSI and Distance defined on the STA are used as backup. To enable distance handoff, the measurement period must be set.

Note: The RSSI handoff in t2gv3(4) is only active if a `cfgWlanHoLevelLow` greater than 0 is defined.

- Encryption: psk/eap/sae (WPA2/WPA3)
- Scanning: Foreground
- Neighbour reporting: Frequency, RSSI low/high, Distance near/far
- Associated Parameters: `cfgWlanHoLevelLow`, `cfgWlanHoLevelHigh`, `cfgWlanHoDistanceNear`, `cfgWlanHoDistanceFar`, `cfgWlanHoDistanceMeasurementPeriod`

Applies to STA and AP. 802.11n products only.

Enumeration	t2gv2 (2), t2gv2fg (3), t2gv3 (4)
Access	readwrite
OID	1.3.6.1.4.1.16177.1.400.1.1.3.3.1.3

7.1.6 rpcCellFotaUpgrade

FOTA Upgrade Cellular Module

The Firmware Over The Air (FOTA) upgrade for the cellular module checks for the availability of a new firmware package and installs it.

Check the `hwCellFwVersionPreferred` status if a firmware upgrade is required.

By default the firmware package is downloaded from a Westermo web service. If the device operates in a private network without internet access, the URL `setCellFotaUrl` must be set to override the public domain with a local web server.

Please contact support for instructions on how to set up the web server and obtain the required fw packages.

NOTE: The FOTA upgrade requires a cellular connection. The firmware download may incur additional data subscription charges.

Writing **upgrade(1)** to this parameter will download the firmware and put the module into download mode. The upgrade will start automatically if the download is successful. During the download and upgrade, remote access is not available. The unit will reboot automatically and connectivity will be restored.

The parameter returns **error(-1)** if the download fails. After the reboot the parameter will return **nop(0)**. To check that the firmware upgrade is complete, `hwCellFwVersionPreferred` should return **true(1)**.

**IMPORTANT: Do not turn off the unit during the cellular firmware is being upgraded. The upgrade may take several minutes and remote access will be restored when it is complete. If there is a power failure during the upgrade, the module will attempt to restore the previous firmware.

Enumeration	error (-1), nop (0), upgrade (1)
Access	readwrite
OID	1.3.6.1.4.1.16177.1.400.1.3.101.4

7.1.7 setCellFotaUrl

Cellular FOTA URL

By default the firmware package is downloaded from a Westermo web service. If the device operates in a private network without internet access, the URL must be set to override the public domain with a local web server.

Please contact support for instructions on how to set up the web server and obtain the required fw packages. The package name must be in the specified format, the URL points to the package folder.

Example:

- http://192.168.1.1/path/to/upgrade/packages/

Type	DisplayString
Range	1 - 255
Access	readwrite
OID	1.3.6.1.4.1.16177.1.400.1.4.50.3

7.1.8 hwCellFwVersionPreferred

Cellular Module Firmware Version Preferred State

The parameter returns **true(1)** if the latest cellular firmware is installed. Otherwise it returns **false(0)** if a firmware upgrade is available.

Enumeration	false (0), true (1)
Access	readonly
OID	1.3.6.1.4.1.16177.1.400.1.5.50.7