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# GXW450X Firmware Release Notes

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## IMPORTANT UPGRADE NOTE

- If your GXW450x is on firmware lower than 1.0.0.35, please upgrade to 1.0.0.35+ firmware immediately for the latest security patches.
- After upgrading to 1.0.0.35+, please change the web access passwords for all users created in the Maintenance→User Management page. This includes super admin and admins. It is also highly recommended to change the usernames to be different from previous usernames.

## FIRMWARE VERSION 1.0.1.11

### PRODUCT NAME

GXW4501/GXW4502/GXW4504

### DATE

05/05/2023

### FIRMWARE FILE INFORMATION

- GXW450X firmware file name: gxw4500fw.bin  
MD5 checksum: 4d2909345929ac4586ae938c47f95184

### CHANGES SINCE FIRMWARE 1.0.1.9

#### ENHANCEMENTS

- [System] Updated several internal processes
- [Interface Settings] Added new option *Original Called* when using SS7 signaling type. On SIP->PRI outbound calls, the SIP diversion header will be used as the original called party IE.
- [Interface Settings] SS7 now supports early ACM. *Early ACM* option has been added to Edit Digital Port->Advanced Settings.
- [Interface Settings] Added new option PROGRESS to the Edit Digital Port->Advanced Settings page. This determines whether PROGRESS or ALERTING message is sent to PRI trunks in PRI->SIP calls. If enabled, PROGRESS is sent to the PRI trunk. Otherwise, ALERTING is sent instead.
- [OpenVPN] Added auth-user and auth-pass parameter support.
- [Provisioning] TR-069 Settings can now be provisioned.
- [Security] Firewall rules will now apply to traffic between LAN and WAN interfaces.
- [VoIP Trunks] Added *E1/T1/J1 Error Code* option to allow users to send either 480 or 503 response to the VoIP trunk when the E1/T1/J1 interface is down or unavailable.

#### BUG FIXES

- [System] Fixed an issue with applying changes in certain cases.
- [System] Fixed system stability issues.

- [Interface Settings] Fixed an issue where the RX Gain/TX Gain settings would not take effect for the first call after configuration.
- [Routing] Fixed an issue with abnormal behavior occurring when an inbound PRI call has an anonymous CID and is forwarded out of a SIP trunk.
- [Routing] Fixed an issue with PRI->SIP calls where the VoIP trunk would not send the call's original CID if Set Caller ID Info is disabled.
- [SIP Settings] Fixed an issue where an INVITE's FROM header will not contain user=phone parameter even if configured.
- [VoIP Trunks] Fixed an issue with registering to Metaswitch via TLS.

#### **NEW LIMITATIONS**

- [Network Settings] Removed Dual network method option due to no actual support.
- [System] Removed port listening for 8088 and 7777.

## FIRMWARE VERSION 1.0.1.9

### PRODUCT NAME

GXW4501/GXW4502/GXW4504

### DATE

08/24/2022

### FIRMWARE FILE INFORMATION

- GXW450X firmware file name: gxw4500fw.bin  
MD5 checksum: 036db314aab08c6d4e0a5b1b05969f2a

### CHANGES SINCE FIRMWARE 1.0.1.7

#### BUG FIXES

- [System] Fixed system stability issues.
- [E1/T1] Fixed an issue with being unable to make calls when using MFC-R2 signaling.
- [VoIP Trunks] Reduced the amount of time it takes to fail over to the next IP address when using DNS SRV for a service provider's address.
- [VoIP Trunks] Fixed an issue with being sending duplicate 18x ringing messages causing no ringback to be heard.

## FIRMWARE VERSION 1.0.1.7

### PRODUCT NAME

GXW4501/GXW4502/GXW4504

### DATE

01/28/2022

### FIRMWARE FILE INFORMATION

- GXW450X firmware file name: gxw4500fw.bin  
MD5 checksum: 2f81613f05a1710eaf36b5386f5b79b8

### CHANGES SINCE FIRMWARE 1.0.0.35

#### ENHANCEMENTS

- [System] Added TR-069 support and settings under *System Settings* section.
- [Digital Trunks] Added the *Enabled the Linkage of SIP Trunk Fault* option to automatically set E1 ports as unavailable when a specified SIP trunk is down.
- [Gateway Settings] Added the ability to customize call failure tone settings.
- [GDMS] Added GDMS support. GXW450x can now be added in GDMS.
- [Interface Settings] Added ability to group E1 lines with single DATA channel.
- [Interface Settings] Added the ability to assign channel groups to digital trunks.
- [Interface Settings] Added T1 E&M signaling support.
- [Interface Settings] Added Redirection info header to outbound E1/T1/J1 calls made via SS7 signaling.
- [Maintenance] Added User-Agent parameter to HTTP GET request for firmware.
- [Provisioning] Added new options for provisioning [NEW PROVISIONING OPTIONS]
- [Security Settings] Added the *Enable Remote SSH via GDMS* option to the *SSH Access* page. After enabling, the GXW450x device can be accessed via SSH from GDMS for 1 hour, after which it will be closed automatically. Access can be opened again by toggling the option off and on.
- [User Management] *Administrator* level users can now view the SNMP page.



- [VoIP Trunks] Added Secondary SIP Server option to Register SIP Trunks.

## BUG FIXES

- [Security] Fixed several security vulnerabilities.
- [Maintenance] Removed irrelevant syslog modules.
- [Routing] Fixed an issue with the outbound calls via Failover Trunks not carrying CID info.
- [Routing] Fixed an issue with the display of the CID when the Edit Inbound Rule->CallerID Number contains certain characters.
- [Routing] Fixed an issue where users could not input colon (:) when editing the Set CallerID Info->CallerID Number field.
- [Setup Wizard] Fixed an issue with some configurations made in the Setup Wizard not applying properly.
- [SIP Settings] Fixed an issue where a 480 Temporarily Unavailable response would be sent when dialing a busy number instead of 486 Busy Here.
- [Web] Fixed an issue with the language of the Minimum and Maximum TLS version fields not changing to the system language.
- [Web] Fixed several error prompt issues.

## NEW FEATURES OVERVIEW

### NEW PROVISIONING OPTIONS

The following parameters can now be added to the GXW450x XML configuration file:

- Under digital\_trunks→Digital\_X section:
  - ChannelGroup – Enter the name of the channel group
  - EnabledTheLinkageOfSIPTrunkFault - Supported values: yes, no
  - LinkedSIPTrunk - Enter the name of the SIP trunk to link to the digital trunk's related E1 port.
- Under gateway\_settings→spanX section:
  - DataChannelSlot (SS7 only) – Enter which data channel the E1/T1/J1 port will use.
- Under security\_settings
  - tls\_security
    - Maximum\_TLS\_Version – Supported values: 0, 1, 2
    - Minimum\_TLS\_Version – Supported values: 0,1, 2
  - The values 0, 1, and 2 correspond to TLS versions 1.0, 1.1, and 1.2 respectively.

## FIRMWARE VERSION 1.0.0.35

### PRODUCT NAME

GXW4501/GXW4502/GXW4504

### DATE

04/20/2020

### FIRMWARE FILE INFORMATION

- GXW450X firmware file name: gxw4500fw.bin
- MD5 checksum: a506c2558c747ac7653bd7a2598c1c59

### IMPORTANT UPGRADING NOTES

- **Please upgrade to 1.0.0.35 immediately for the latest security patches.**
- **After upgrading to 1.0.0.35, please change the web access passwords for all users created in the Maintenance→User Management page. This includes super admin and admins. It is also highly recommended to change the usernames to be different from previous usernames.**

### CHANGES SINCE FIRMWARE 1.0.0.29

#### ENHANCEMENTS

- [Interface Settings] Added ability to select a different E1/T1 port to use for the line's data channel when SS7 is selected as the signaling type. [SS7 PORT SELECTION FOR DATA CHANNEL]
- [Provisioning] Added provisioning support for the following parameters: VoIP Trunks->From User, Send PPI Header, PPI Mode, DOD as From Name, DOD settings, Outbound Route->Enable Filter on Source Caller ID and Custom Dynamic Route, Inbound Route->Set Caller ID Info/CallerID Name/CallerID Number, Interface Settings->Tone Region, SNMP, DDNS, Login Whitelist, and Alert Events List.
- [Security] Added ability to select the minimum and maximum TLS versions to support. [CONFIGURABLE TLS VERSION SUPPORT]
- [SNMP] Added SNMP support. [SNMP SUPPORT]
- [VoIP Trunks] Added options *From User*, *Send PPI Header*, *PPI Mode*, and *DOD as From Name*.

## BUG FIXES

- [Security] Fixed several security vulnerabilities.
- [Digital Trunks] Fixed an issue with E1 SS7 connections.
- [HTTP Server] Fixed an issue where HTTP server settings could not be modified after toggling on *Enable Address Whitelist*.
- [Provisioning] Fixed an issue with changes made via provisioning not being reflected in the web portal.
- [Provisioning] Fixed an issue where inbound routes could still be provisioned even if it exists, creating duplicate inbound routes.
- [Routing] Fixed an issue with extension CID being used when *Keep Trunk CID* is enabled.
- [SIP Settings] Fixed an issue where 183 Ringing would be sent in calls through PRI even if *Generate In-band Ringing* is set to "Never".
- [Web] Fixed an issue where *RTP Timeout* and *RTP Hold Timeout* fields would still be highlighted red after entering valid values.

## NEW FEATURES OVERVIEW

### SS7 PORT SELECTION FOR DATA CHANNEL

Users can now specify a different E1/T1 port to use for each port's data channel when SS7 is selected as the signaling type. The first dropdown list specifies the E1/T1 port to use. The second dropdown list specifies the channel to use for data connections.

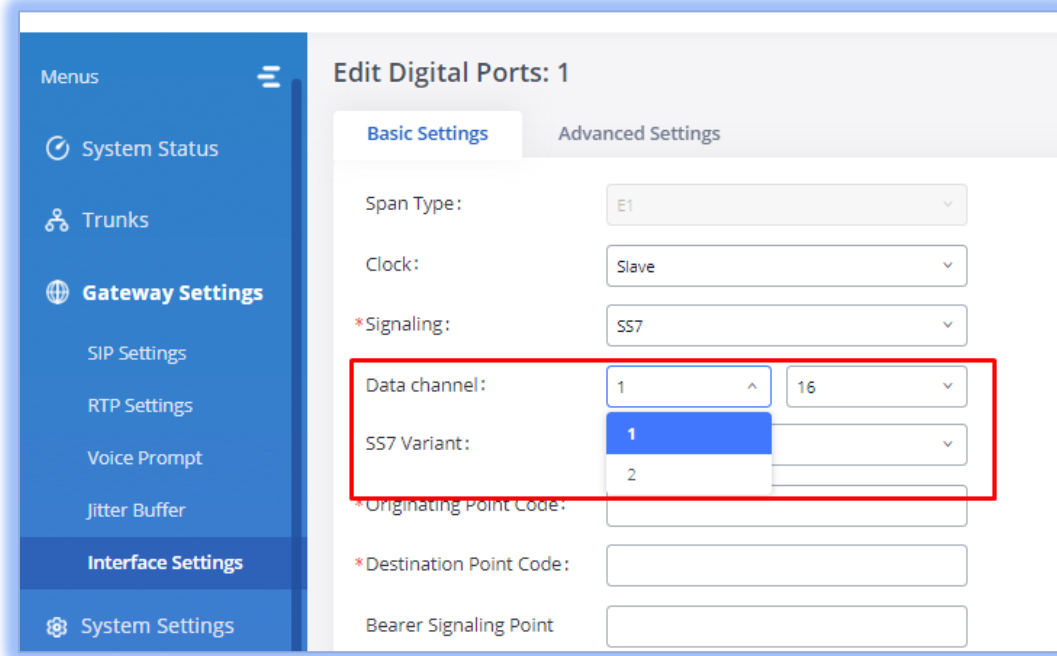


Figure 1 - SS7 Data Channel Selection

### CONFIGURABLE TLS VERSION SUPPORT

Users can now select the minimum and maximum versions of TLS for the GXW450x to support. The setting can be found under *System Settings* → *Security Settings* → *TLS Security* page.

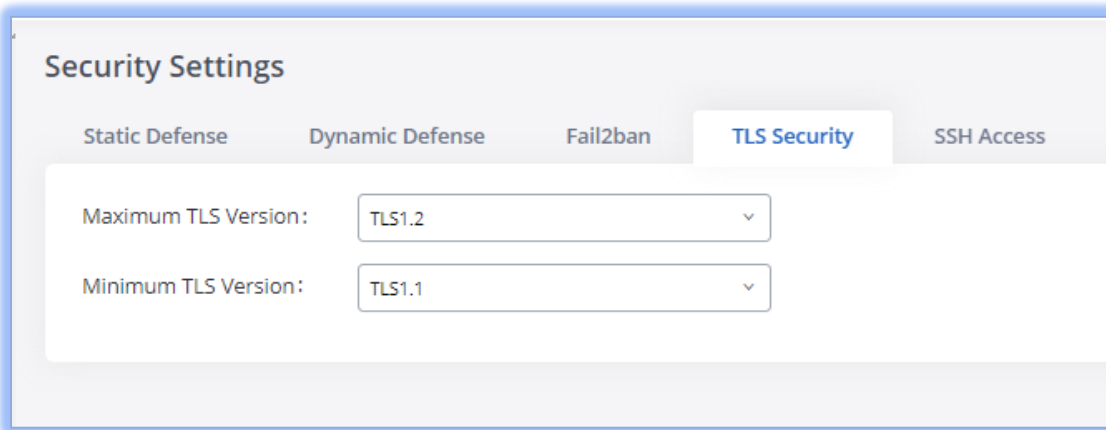


Figure 2 - TLS Security

### SNMP SUPPORT

SNMP is now available and can be configured from *System Settings* → *SNMP*.

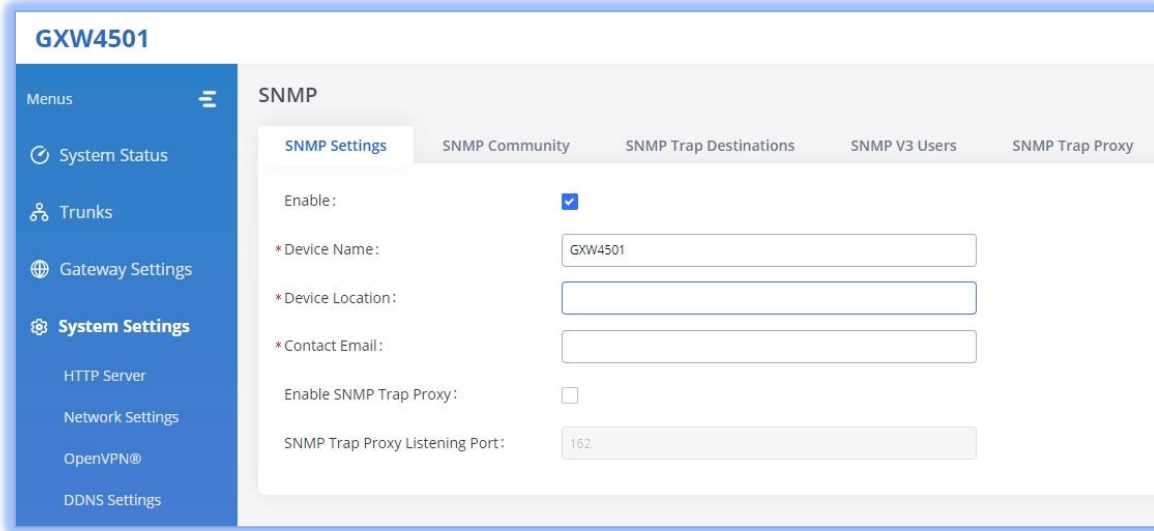


Figure 3 - SNMP page

SNMP support allows GXW450x to be monitored by network management tools. GXW450x can send traps (alert messages) directly to an SNMP manager or can serve as a proxy server for traps.

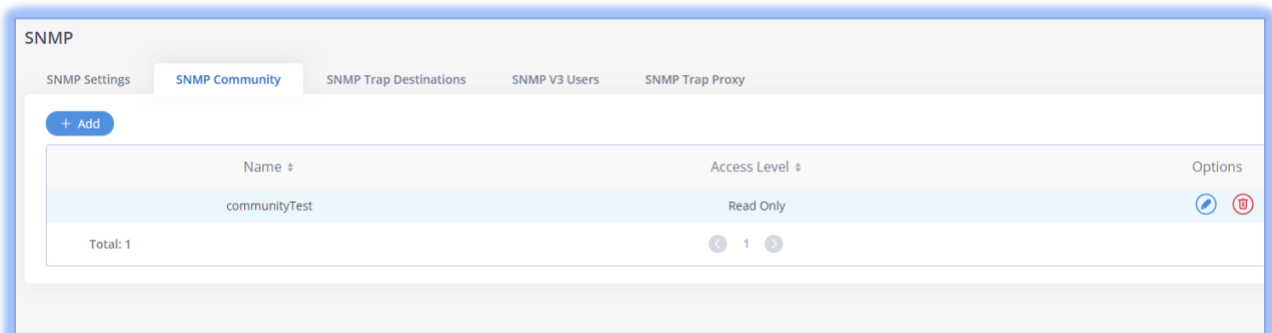


Figure 4 - SNMP Community

The SNMP Community page allows users to configure the GXW450x's community strings, allowing it to determine whether or not to respond to SNMP requests from clients. Two access levels are available: Read Only and Read/Write.

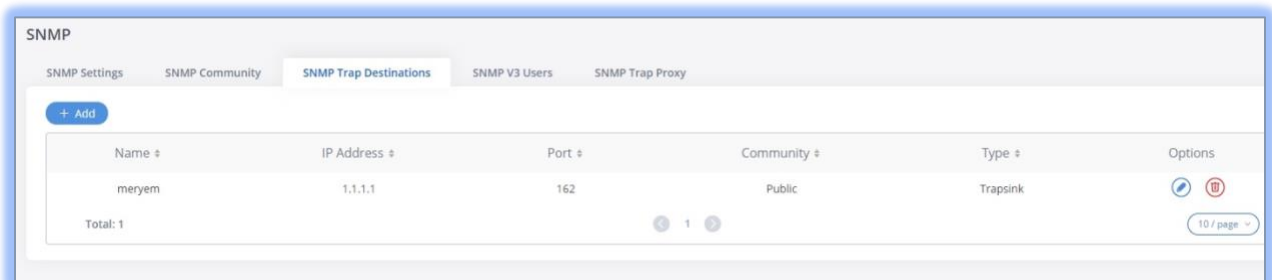
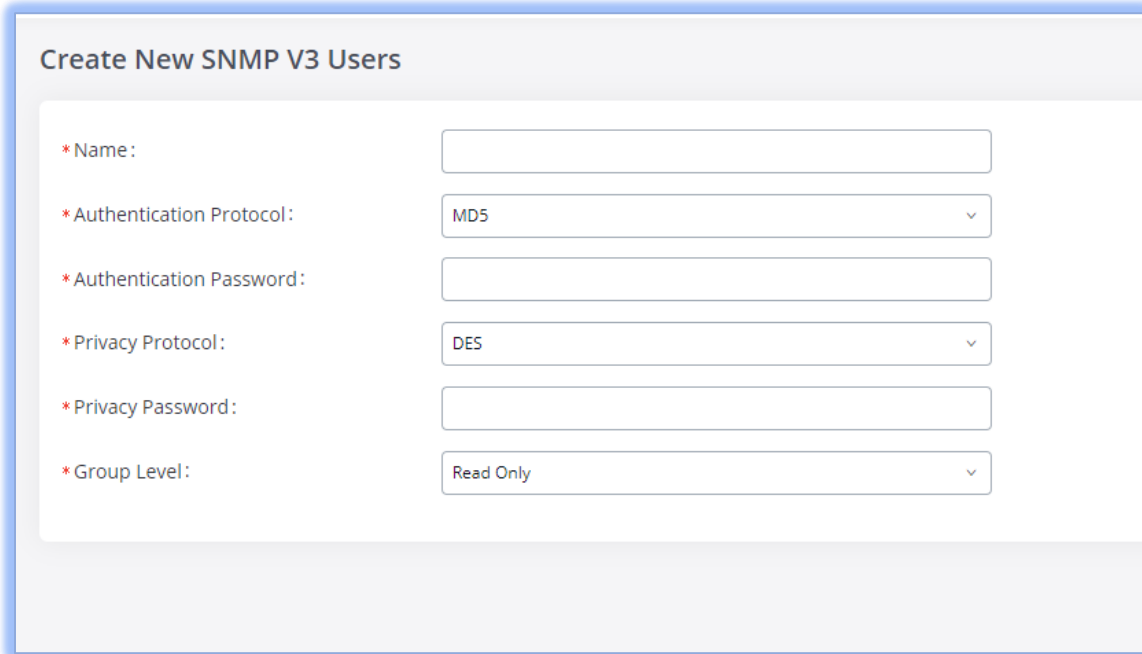


Figure 5 - SNMP Trap Destinations

In the **SNMP Trap Destinations** page, users can point to where the device's traps should be sent to, set

the community string to use, and specify the type of notifications to send.



**Create New SNMP V3 Users**

\* Name:

\* Authentication Protocol: MD5

\* Authentication Password:

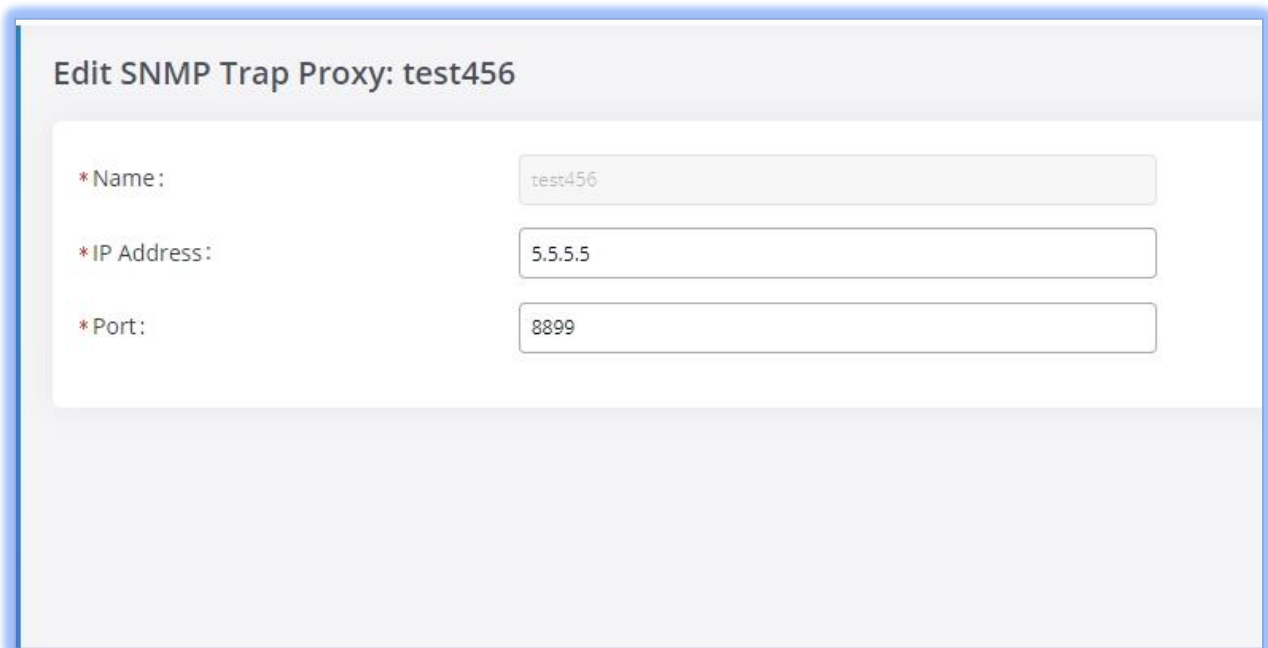
\* Privacy Protocol: DES

\* Privacy Password:

\* Group Level: Read Only

*Figure 6 – SNMP v3 Users*

The **SNMP V3 Users** page will allow the configuration of SNMPv3 users for enhanced security.



**Edit SNMP Trap Proxy: test456**

\* Name: test456

\* IP Address: 5.5.5.5

\* Port: 8899

*Figure 7 - Trap Proxy*

The GXW450x can act as a proxy server for trap messages. To use this feature, users will need to first

toggle on the *Enable SNMP Trap Proxy* setting and configure the *SNMP Trap Proxy Listening Port* field in the *SNMP Settings* tab. They will then need to go to the *SNMP Trap Proxy* → *Edit SNMP Trap Proxy* page to configure the server address and listening port of the SNMP manager the traps will be forwarded to.

## FIRMWARE VERSION 1.0.0.29

### PRODUCT NAME

GXW4501/GXW4502/GXW4504

### DATE

09/24/2019

### FIRMWARE FILE INFORMATION

- GXW450X firmware file name: gxw4500fw.bin
- MD5 checksum: 3c117760837283146d8bc61aa60063fb

### CHANGES SINCE FIRMWARE 1.0.0.27

#### ENHANCEMENTS

- [Interface Settings] Added the ability to configure tone region.
- [VoIP Trunks] Added the ability to configure DODs for VoIP trunks.

#### BUG FIXES

- [Basic Call] Fixed an issue with audio cutoff when there is simultaneous audio from both caller and callee.
- [Provisioning] Fixed an issue with receiving configuration updates and firmware upgrades when the device is using PPOE.

#### KNOWN ISSUES

- [Jitter Buffer] Jitter buffer does not work occasionally when buffer size is set to *Adaptive*.
- [HTTP Server] When *HTTP → Enable IP Address Whitelist* is toggled on, users will be unable to modify the page.
- [Routing] When receiving a call from a peer trunk and when outbound routes to the peer trunk and an E1/T1 trunk use the same pattern rules, the call may loop back to the peer trunk.
- [Routing] Calls will drop if there is a comma in the *Trunks → Inbound Routes → Edit Inbound Route → Set CallerID Info → CallerID Name* field.



- [Routing] Unsupported characters \ ; “ can be entered into the *Trunks* → *Inbound Routes* → *Edit Inbound Route* → *Set CallerID Info* → *CallerID Name* field.
- [Time Settings] When using 12-hour format, times between 12PM – 1PM will display AM instead of PM.

## FIRMWARE VERSION 1.0.0.27

### PRODUCT NAME

GXW4501/GXW4502/GXW4504

### DATE

08/22/2019

### FIRMWARE FILE INFORMATION

- GXW450X firmware file name: gxw4500fw.bin
- MD5 checksum: 382d338e39e22388e1ca9e44f2001780

### CHANGES SINCE FIRMWARE 1.0.0.24

#### ENHANCEMENTS

- [Provisioning] All configuration options can now be provisioned except for those in the following pages: Digital/VoIP Trunks, Inbound/Outbound Routes, Interface Settings, and DDNS Settings.
- [Provisioning] Added GAPS provisioning support.
- [Routing] Added the **Set Caller ID** option to the *Edit Inbound Rule* page. [MANIPULATING CALLER ID FOR INBOUND CALLS]
- [Routing] Added the **Enable Filter on Source Caller ID** option to the *Edit Outbound Rule* page. This option will allow only callers with the specified CID pattern to use the outbound route. BUG FIXES
- [Provisioning] Fixed several provisioning issues.
- [System Events] Fixed an issue with periodic alerts not sending properly after upgrading firmware.
- [Web] Fixed an issue with the "Apply Changes" button not appearing in the Maintenance->Upgrade page after making changes.
- [Web] Fixed an issue with the Dashboard->Interface Status->Digital indicator displaying incorrectly when the Gateway Settings->Interface Settings->Basic Settings->Data Channel is set to "1".

## NEW FEATURES OVERVIEW

### MANIPULATING CALLER ID FOR INBOUND CALLS

Users can now manipulate the callerID number and names for inbound calls by editing a syntax.

**Create New Inbound Rule**

\*Trunks:

\*Pattern:

CallerID Pattern:

Set CallerID Info:

\*CallerID Name:

\*CallerID Number:

#### CallerID Number Syntax Explanation:

- **`\${CALLERID(num)}`**: Default value which indicates the number of an incoming caller (CID). The CID will not be modified.
- **`\${CALLERID(num);n}`**: Skips the first n characters of a CID number, where n is a number.
- **`\${CALLERID(num);-n}`**: Takes the last n characters of a CID number, where n is a number.
- **`\${CALLERID(num);s;n}`**: Takes n characters of a CID number starting from s+1, where n is a number and s is a character position (e.g. ``${CALLERID(num);2;7}`` takes 7 characters after the second character of a CID number).
- **n`\${CALLERID(num)}`**: Prepends n to a CID number, where n is a number.

#### CallerID Name Syntax Explanation:

- **`\${CALLERID(name)}`**: Default value. Indicates the name of an incoming caller.
- **A`\${CALLERID(name)}B`**: Prepend a character 'A' and append a character 'B' to ``${CALLERID(name)}``.
- Inputting text without any syntax will set a fixed name for CID Name.

## KNOWN ISSUES

- [Routing] When receiving a call from a peer trunk and when outbound routes to the peer trunk and an E1/T1 trunk use the same pattern rules, the call may loop back to the peer trunk.

## **FIRMWARE VERSION 1.0.0.24**

### **PRODUCT NAME**

GXW4501/GXW4502/GXW4504

### **DATE**

06/06/2019

### **FIRMWARE FILE INFORMATION**

- GXW450X firmware file name: gxw4500fw.bin

MD5 checksum: c1319547317e5571b12a79e497c97e02

### **CHANGES/ENHANCEMENT**

- Internal bug fixes

## FIRMWARE VERSION 1.0.0.22

### PRODUCT NAME

GXW4501/GXW4502/GXW4504

### DATE

04/26/2019

### FIRMWARE FILE INFORMATION

- GXW450X firmware file name: gwx4500fw.bin

MD5 checksum: 8988e06dd7730439d1a0623438e5dc45

### CHANGES/ENHANCEMENT

- Fixed issue that E1 option "PRI Indication" can't take effect
- Fixed issue that enabled static route may turn to disabled in few circumstances, including upgrading firmware, changing router/switch mode, or rebooting unit.
- Internal bug fixes

### KNOWN ISSUE

- Static IPv6 configuration page has no default gateway option. Need to manually add static route with destination ::/0 as default route.

## FIRMWARE VERSION 1.0.0.20

### PRODUCT NAME

GXW4501/GXW4502/GXW4504

### DATE

04/04/2019

### FIRMWARE FILE INFORMATION

- GXW450X firmware file name: gxw4500fw.bin

MD5 checksum: 46b423b21550e9043bbc042026618669

### CHANGES/ENHANCEMENT

- Fixed issue that Dynamic IPv6 WAN mode will need manually adding default gateway into static route. Now Dynamic IPv6 on WAN should work without need of manual configuration of static route.
- Fixed issue that importing inbound report csv file will fail if no existing inbound route configured.
- Fixed issue that Router model with PPPoE WAN setting will cause LAN device fail to connect internet.
- Internal bug fixes

### KNOWN ISSUE

- Static IPv6 configuration page has no default gateway option. Need to manually add static route with destination ::/0 as default route.
- Enabled static route may turn to disabled in few circumstances, including upgrading firmware, changing router/switch mode, or rebooting unit. However, the static route still functioning as enabled, and reboot will fix the display issue.
- E1 option "PRI Indication" can't take effect

## **FIRMWARE VERSION 1.0.0.18**

### **PRODUCT NAME**

GXW4501/GXW4502/GXW4504

### **DATE**

03/22/2019

### **FIRMWARE FILE INFORMATION**

- GXW450X firmware file name: gxw4500fw.bin
- MD5 checksum: f62de1499dbec183cd779a052f321459

### **IMPORTANT UPGRADING NOTE**

- This is first release of GXW450X

### **KNOWN ISSUE**

- Router model with PPPoE WAN setting will cause LAN device fail to connect internet.
- After upgrade from older firmware version to 1.0.0.18. Enabled static route may turn to disabled. However, it's still functioning as enabled. Reboot will fix the display issue.
- Import inbound report csv file will fail if no existing inbound route configured. Manually add one inbound route will fix the issue.
- Dynamic IPv6 WAN mode will need manually adding default gateway into static route.