



Grandstream Networks, Inc. GXE5102/5104/5108/5116 All-in-one Hybrid IPPBX Appliance User Manual

Grandstream Networks, Inc.

www.grandstream.com



GXE5102/5104/5108/5116 User Manual

Index

CHANGE LOG	5
FIRMWARE VERSION 1.0.0.19	5
WELCOME	6
PRODUCT OVERVIEW	7
FEATURE HIGHTLIGHTS TECHNICAL SPECIFICATIONS	7 7
INSTALLATION	10
EQUIPMENT PACKAGING CONNECTING YOUR GXE5102/5104/5108/5116 SAFETY COMPLIANCES WARRANTY	
GETTING TO KNOW GXE5102/5104/5108/5116	13
USING THE LCD MENU NAVIGATION IN LCD MENU LCD MENU OPTIONS USING THE WEB GUI ACCESSING WEB GUI SAVING AND APPLYING CHANGES	
GXE5102/5104/5108/5116 CONFIGURATIONS	16
STATUS PAGE DEFINITIONS STATUS/PBX STATUS STATUS/SYSTEM STATUS STATUS/CDR PBX PAGE DEFINITIONS BASIC/EXTENSIONS BASIC/ANALOG TRUNKS BASIC/OUTBOUND ROUTES BASIC/OUTBOUND ROUTES BASIC/ZERO CONFIG CALL CONTROL/CONFERENCE	16 16 17 18 18 18 18 20 20 20 21 21 21 22
CALL CONTROL/IVR	23



	CALL CONTROL/VOICEMAIL	.25
	CALL CONTROL/VOICEMAIL GROUPS	.25
	CALL CONTROL/RING GROUP	.25
	CALL CONTROL/PAGE AND INTERCOM GROUPS	.26
	CALL CONTROL/FOLLOW ME	.27
	CALL CONTROL/CALL QUEUE	.28
	INTERNAL OPTIONS/GENERAL	. 30
	INTERNAL OPTIONS/CALL FEATURES	. 31
	INTERNAL OPTIONS/MUSIC ON HOLD	. 32
	INTERNAL OPTIONS/IVR PROMPT	. 33
	INTERNAL OPTIONS/FAX T.38	. 34
	INTERNAL OPTIONS/RTP SETTINGS	. 34
	INTERNAL OPTIONS/HARDWARE CONFIG	. 34
	INTERNAL OPTIONS/STUN MONITOR	. 35
	INTERNAL OPTIONS/IAX GENERAL	. 35
	INTERNAL OPTIONS/CODECS	. 36
	INTERNAL OPTIONS/IAX JITTER BUFFER	. 36
	INTERNAL OPTIONS/IAX REGISTRATION	. 37
	INTERNAL OPTIONS/IAX SECURITY	. 37
	SIP SETTINGS/GENERAL	. 37
	SIP SETTINGS/SIP JITTER BUFFER	. 38
	SIP SETTINGS/SIP MISCELLANEOUS	. 39
	SIP SETTINGS/SIP SESSTION TIMER	. 39
	SIP SETTINGS/SIP TLS AND TCP SETTINGS	. 39
	SIP SETTINGS/SIP NAT	. 40
	SIP SETTINGS/SIP ToS	. 41
	SIP SETTINGS/DEBUG NOTIFY	. 42
SE	ITINGS PAGE DEFINATIONS	.42
	SETTINGS/NETWORK SETTINGS	. 42
	SETTINGS/CHANGE PASSWORD	. 43
	SETTINGS/LDAP SERVER	. 43
	SETTINGS/HTTP SERVER	. 43
	SETTINGS/EMAIL SETTINGS	. 44
	SETTINGS/TIME SETTINGS	. 44
MA	INTENANCE PAGE DEFINATIONS	45
	SYSLOG	. 45
	UPGRADE	. 46
	MAINTENANCE/BACKUP	. 47
	MAINTENANCE/RESET AND REBOOT	. 47
	MAINTENANCE/TROUBLESHOOTING	. 48



UPGRADING GXE5102/5104/5108/5116	
UPGRADE FROM NETWORK	
UPLOAD FIRMWARE LOCALLING	
NO LOCAL FIRMWARE SERVERS	
EXPERIENCING THE GXE5102/5104/5108/5116	51

Table of TablesGXE5102/5104/5108/5116 User Manual

Table 1: GXE5102/5104/5108/5116 TECHNICAL SPECIFICATIONS	7
Table 2: GXE5102/5104 EQUIPMENT PACKAGING	10
Table 3: GXE5108/5116 EQUIPMENT PACKAGING	10
Table 4: GXE5102/5104/5108/5116 LCD MENU OPTIONS	13

Table of Figures GXE5102/5104/5108/5116 User manual

. 10
. 11
.14
. 16
. 17
.18
.18
. 19
. 19
. 20
. 20



Figure 12: Create New Calling Rule	21
Figure 13: Zero Config: Auto Provision Setting	22
Figure 14: Zero Config: Provisioned Devices	22
Figure 15: Create New Conference Bridge	23
Figure 16: Create New IVR	24
Figure 17: Voicemail Settings	25
Figure 18: Voicemail Groups Settings	25
Figure 19: Ring Group Settings	26
Figure 20: Paging/Intercom Group Settings	27
Figure 21: Follow Me Settings	28
Figure 22: Call Queue Settings	29
Figure 23: Extension Preferences	
Figure 24: Call Features	
Figure 25: Music On Hold Settings	33
Figure 26: IVR Prompt Settings	33
Figure 27: FAX Settings	34
Figure 28: Hardware Configuration: Advanced Settings	35
Figure 29: Hardware Configuration: Advanced Settings	42
Figure 30: LDAP Server Configurations	43
Figure 31: HTTP Server Configurations	44
Figure 32: Email Settings	44
Figure 33: Syslog Settings	46
Figure 34: Backup	47
Figure 35: Reset and Reboot	48
Figure 36: Ethernet Capture	
Figure 37: Local Upgrade	49



CHANGE LOG

This section documents significant changes from previous versions of GXE5102/5104/5108/5116 user manuals. Only major new features or major document updates are listed here. Minor updates for corrections or editing are not documented here.

FIRMWARE VERSION 1.0.0.19

• This is the initial version.



WELCOME

Thank you for purchasing Grandstream GXE5102/5104/5108/5116. GXE5102/5104/5108/5116 is an innovative, all-in-one hybrid IP PBX appliance designed for small to medium business. Powered by an advanced hardware platform with robust system resources, the GXE5102/5104/5108/5116 offers a highly versatile state-of-the-art Unified Communication (UC) solution for converged voice, video, data, fax and video surveillance application needs. Incorporating industry-leading features and performance, the GXE5102/5104/5108/5116 offers quick setup, deployment with ease and unrivaled reliability all at an unprecedented price point.

A Caution:

Changes or modifications to this product not expressly approved by Grandstream, or operation of this product in any way other than as detailed by this User Manual, could void your manufacturer warranty.

Marning:

Please do not use a different power adaptor with the GXE5102/5104/5108/5116 as it may cause damage to the products and void the manufacturer warranty.

This document is subject to change without notice. The latest electronic version of this user manual is available for download here:

http://www.grandstream.com/support

Reproduction or transmittal of the entire or any part, in any form or by any means, electronic or print, for any purpose without the express written permission of Grandstream Networks, Inc. is not permitted.



PRODUCT OVERVIEW

FEATURE HIGHTLIGHTS

- 1GHz ARM Cortex A8 application processor, large memory (512MB DDR RAM, 4GB NAND Flash), and dedicated high performance multi-core DSP array for advanced voice processing
- Integrated 2/4/8/16 PSTN trunk FXO ports, 2 analog telephone FXS ports, and up to 50 SIP trunk options
- Gigabit network port with integrated PoE, USB, SD; integrated NAT router with advanced QoS support (GXE5102 only)
- Supports a wide range of popular voice codes (including G.711 A-law/U-law, G.722, G.723, G.726, G.729A/B, iLBC, GSM), video codec (including H.264, H.263, H.263+), and Fax (T.38)
- Hardware DSP based 128ms-tail-length carrier-grade line echo cancellation (LEC)
- Supports up to 60 concurrent calls and up to 32 conference attendees
- Flexible dial plan, call routing, site peering, call recording
- Automated detection and provisioning of IP phones, video phones, ATA and other endpoints for easy deployment
- Hardware encryption accelerator to ensure strongest security protection using SRTP, TLS, and HTTPS

TECHNICAL SPECIFICATIONS

Table 1: GXE5102/5104/5108/5116 TECHNICAL SPECIFICATIONS

Interfaces	
Analog Telephone FXS Ports	2 ports
PSTN Line FXO Ports	2 ports (GXE5102); 4 ports (GXE5104); 8 ports (GXE5108); 16 ports (GXE5116)
Network Interfaces	Single or Dual (GXE5102 only) 10M/100M/1000M RJ45 Ethernet port (s) with integrated PoE Plug (IEEE 802.3at-2009)
NAT Router	Yes (GXE5102 only)
Peripheral Ports	USB, SD
LED Indicators	Power/Ready, Network, PSTN Line, USB, SD
LCD Display	128x32 graphic LCD with DOWN and OK button
Reset Switch	Yes
Voice/Video Capabilities	



Voice-over-Packet Capabilities	LEC with NLP Packetized Voice Protocol Unit, 128ms-tail-length carrier grade Line Echo Cancellation, Dynamic Jitter Buffer, Modem detection & auto-switch to G.711
Voice and Fax Codecs	G.711 A-law/U-law, G.722, G.723.1 5.3K/6.3K, G.726, G.729A/B, iLBC, GSM; T.38
Video Codecs	H.264, H.263, H.263+
QoS	Layer 3 QoS
Signaling and Control	
DTMF Methods	In Audio, RFC2833, and SIP INFO
Provisioning Protocol and Plug-and-Play	TFTP/HTTP/HTTPS, auto-discovery and auto-provisioning of Grandstream IP endpoints
Network Protocols	TCP/UDP/IP, RTP/RTCP, ICMP, ARP, DNS, DDNS, DHCP, NTP, TFTP, SSH, HTTP/HTTPS, PPPoE, SIP (RFC3261), STUN, SRTP, TLS/SIP
Disconnect Methods	Call Progress Tone, Polarity Reversal, Hook Flash Timing, Loop Current Disconnect, Busy Tone
Security	
Media	SRTP, TLS, HTTPS, SSH
Physical	
Physical Universal Power Supply	Output: 12VDC, 1.5A; Input:n 100-240VAC, 50-60Hz
Physical Universal Power Supply Environmental	Output: 12VDC, 1.5A; Input:n 100-240VAC, 50-60Hz Operating: 32 - 104°F / 0 - 40°C, 10-90% (non-condensing); Storage: 14 - 140°F / -10 - 60°C
Physical Universal Power Supply Environmental Dimensions	Output: 12VDC, 1.5A; Input:n 100-240VAC, 50-60Hz Operating: 32 - 104°F / 0 - 40°C, 10-90% (non-condensing); Storage: 14 - 140°F / -10 - 60°C GXE5102/5104: 226mm (L) x 155mm (W) x 34.5mm (H) GXE5108/5116: 440mm (L) x 185mm (W) x 44mm (H)
Physical Universal Power Supply Environmental Dimensions Mounting	Output: 12VDC, 1.5A; Input:n 100-240VAC, 50-60Hz Operating: 32 - 104°F / 0 - 40°C, 10-90% (non-condensing); Storage: 14 - 140°F / -10 - 60°C GXE5102/5104: 226mm (L) x 155mm (W) x 34.5mm (H) GXE5108/5116: 440mm (L) x 185mm (W) x 44mm (H) Wall mount and Desktop
PhysicalUniversal Power SupplyEnvironmentalDimensionsMountingAdditional Features	Output: 12VDC, 1.5A; Input:n 100-240VAC, 50-60Hz Operating: 32 - 104°F / 0 - 40°C, 10-90% (non-condensing); Storage: 14 - 140°F / -10 - 60°C GXE5102/5104: 226mm (L) x 155mm (W) x 34.5mm (H) GXE5108/5116: 440mm (L) x 185mm (W) x 44mm (H) Wall mount and Desktop
PhysicalUniversal Power SupplyEnvironmentalDimensionsMountingAdditional FeaturesCaller ID	Output: 12VDC, 1.5A; Input:n 100-240VAC, 50-60Hz Operating: 32 - 104°F / 0 - 40°C, 10-90% (non-condensing); Storage: 14 - 140°F / -10 - 60°C GXE5102/5104: 226mm (L) x 155mm (W) x 34.5mm (H) GXE5108/5116: 440mm (L) x 185mm (W) x 44mm (H) Wall mount and Desktop Bellcore/Telcordia, ETSI-FSK, ETSI-DTMF, SIN 227 - BT, NTT Japan (pending)
PhysicalUniversal Power SupplyEnvironmentalDimensionsMountingAdditional FeaturesCaller IDPolarity Reversal/ Wink	Output: 12VDC, 1.5A; Input:n 100-240VAC, 50-60HzOperating: 32 - 104°F / 0 - 40°C, 10-90% (non-condensing); Storage: 14 - 140°F / -10 - 60°CGXE5102/5104: 226mm (L) x 155mm (W) x 34.5mm (H) GXE5108/5116: 440mm (L) x 185mm (W) x 44mm (H)Wall mount and DesktopBellcore/Telcordia, ETSI-FSK, ETSI-DTMF, SIN 227 - BT, NTT Japan (pending)Yes, with enable/disable option upon call establishment and termination
PhysicalUniversal Power SupplyEnvironmentalDimensionsMountingAdditional FeaturesCaller IDPolarity Reversal/ WinkCall Center	Output: 12VDC, 1.5A; Input:n 100-240VAC, 50-60HzOperating: 32 - 104°F / 0 - 40°C, 10-90% (non-condensing); Storage: 14 - 140°F / -10 - 60°CGXE5102/5104: 226mm (L) x 155mm (W) x 34.5mm (H) GXE5108/5116: 440mm (L) x 185mm (W) x 44mm (H)Wall mount and DesktopBellcore/Telcordia, ETSI-FSK, ETSI-DTMF, SIN 227 - BT, NTT Japan (pending)Yes, with enable/disable option upon call establishment and terminationMultiple configurable call queues, automatic call distribution (ACD) based on agent skills/availability busy level, in-queue announcement
Physical Universal Power Supply Environmental Dimensions Mounting Additional Features Caller ID Polarity Reversal/ Wink Call Center Customizable Auto Attendant	Output: 12VDC, 1.5A; Input:n 100-240VAC, 50-60HzOperating: 32 - 104°F / 0 - 40°C, 10-90% (non-condensing); Storage: 14 - 140°F / -10 - 60°CGXE5102/5104: 226mm (L) x 155mm (W) x 34.5mm (H) GXE5108/5116: 440mm (L) x 185mm (W) x 44mm (H)Wall mount and DesktopBellcore/Telcordia, ETSI-FSK, ETSI-DTMF, SIN 227 - BT, NTT Japan (pending)Yes, with enable/disable option upon call establishment and terminationMultiple configurable call queues, automatic call distribution (ACD) based on agent skills/availability busy level, in-queue announcementUp to 5 layers of IVR (Interactive Voice Response)



	simultaneous calls
Conference Bridges	Up to 3 (GXE5102/5104) or 6 (GXE5108/GXE5116) password-protected conference bridges allowing up to 25 (GXE5102/5104) or 32 (GXE5108/5116) simultaneous PSTN or IP participants
Call Features	Call park, call forward, call transfer, DND, ring/hunt group, paging/intercom etc
Compliance	FCC: Part 15 (CFR 47) Class B, Part 68 CE: EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, EN60950-1, TBR21, RoHS A-TICK: AS/NZS CISPR 22 Class B, AS/NZS CISPR 24, AS/NZS 60950, AS/ACIF S002 ITU-T K.21 (Basic Level); UL 60950 (power adapter)



INSTALLATION

EQUIPMENT PACKAGING

Table 2: GXE5102/5104 EQUIPMENT PACKAGING

Main Case	Yes (1)
Power Adaptor	Yes (1)
Ethernet Cable	Yes (1)
Quick Start Guide	Yes (1)

Table 3: GXE5108/5116 EQUIPMENT PACKAGING

Main Case	Yes (1)
Power Adaptor	Yes (1)
Ethernet Cable	Yes (1)
Quick Start Guide	Yes (1)
Wall Mount	Yes (2)
Screws	Yes (6)

CONNECTING YOUR GXE5102/5104/5108/5116

The following example shows GXE5104 connection.



Figure 1: GXE5104 Front View





Figure 2: GXE5104 Back View

To set up the GXE5102/5104 (WAN port and LAN port), follow the steps below:

- 1. Connect one end of an RJ-45 Ethernet cable into the WAN port of the GXE5102/5104;
- 2. Connect the other end of the Ethernet cable into the uplink port of an Ethernet switch/hub;
- 3. Connect the 12V DC power adapter into the 12V DC power jack on the back of the GXE5102/5104. Insert the main plug of the power adapter into a surge-protected power outlet;
- 4. Let the GXE5102/5104 boot up for the first time. You will know it is finished with the boot process when the LCD is on. The model and hardware information will show up in the LCD.
- Once connected to network, the Network LED indicator is solid green and the LCD shows up the IP address;
- 6. Connect PSTN lines from the wall jack to the FXO ports, and analog lines (phone and fax) the FXS ports. IP phones will be connected in a later step.

To set up the GXE5108/5116 (LAN port only), follow the steps below:

- 1. Connect one end of an RJ-45 Ethernet cable into the LAN port of the GXE5108/5116;
- 2. Connect the other end of the Ethernet cable into the uplink port of an Ethernet switch/hub;
- 3. Connect the 12V DC power adapter into the 12V DC power jack on the back of the GXE5108/5116. Insert the main plug of the power adapter into a surge-protected power outlet;
- 4. Let the GXE5108/5116 boot up for the first time. You will know it is finished with the boot process when the LCD is on. The model and hardware information will show up in the LCD.
- 5. Once connected to network, the Network LED indicator is solid green and the LCD shows up the IP address;
- 6. Connect PSTN lines from the wall jack to the FXO ports, and analog lines (phone and fax) the FXS ports. IP phones will be connected in a later step.



SAFETY COMPLIANCES

The GXE5102/5104/5108/5116 complies with FCC/CE and various safety standards. The GXE5102/5104/5108/5116 power adapter is compliant with the UL standard. Use the universal power adapter provided with the GXE5102/5104/5108/5116 package only. The manufacturer's warranty does not cover damages to the device caused by unsupported power adapters.

WARRANTY

If the GXE5102/5104/5108/5116 was purchased from a reseller, please contact the company where the device was purchased for replacement, repair or refund. If the device was purchased directly from Grandstream, contact the Grandstream Sales and Service Representative for a RMA (Return Materials Authorization) number before the product is returned. Grandstream reserves the right to remedy warranty policy without prior notification.

Marning:

Use the power adapter provided with the GXE5102/5104/5108/5116. Do not use a different power adapter as this may damage the device. This type of damage is not covered under warranty.



GETTING TO KNOW GXE5102/5104/5108/5116

USING THE LCD MENU

NAVIGATION IN LCD MENU

- **Default LCD display**. By default, when the device is powered on, the LCD will show device model, hardware version and IP address.
- Enter Menu. Press "Down" or "OK" button to start browsing menu options.
- Navigate in the menu options. Press the "Down" arrow key to browser different menu options.
- Select menu entries. Press the "OK" button to select an entry.
- **Exit**. There is "Back" option in the menu. Select it to go back to previous menu.
- The LCD will come back to default display after being idle in menu for more than 20 seconds.

LCD MENU OPTIONS

The following table shows the LCD menu options.

Table 4: GXE5102/5104/5108/5116 LCD MENU OPTIONS

View Events	Critical EventsOther Events
Device Info	 Hardware: Hardware version number Software: Software version number P/N: Part number MAC: MAC address Uptime: System up time
Network Info	 Mode: DHCP, Static IP, or PPPoE IP: IP address Subnet Mask
Network Menu	LAN Mode Select LAN mode as DHCP, Static IP or PPPoE
Factory Menu	LCD Test Patterns



- Fan Mode: Auto or On
- Language Test

USING THE WEB GUI

The GXE5102/5104/5108/5116 embedded Web server responds to HTTP/HTTPS GET/POST requests. Embedded HTML pages allow users to configure the GXE through a Web browser such as Microsoft's IE, Mozilla Firefox, Google Chrome and etc.



Figure 3: GXE5102/5104/5108/5116 Web GUI - Login

ACCESSING WEB GUI

To access the Web GUI:

- 1. Connect the computer to the same network as the GXE5102/5104/5108/5116;
- 2. Make sure the GXE is turned on and shows its IP address on the LCD;
- 3. Open a Web browser on your computer;
- 4. Enter the GXE's IP address in the address bar of the browser. The Web GUI URL format is:

http(s)://GXE-IP-Address:Port



where the GXE-IP-Address is the IP address displayed on the GXE5102/5104/5108/5116 LCD. By default, the protocol is HTTPS and the Port number is 8089.

For example, if the GXE LCD shows 192.168.40.167, please enter:

https://192.168.40.167:8089

5. Enter the administrator's login and password to access the Web Configuration Menu. The default administrator's username and password is "admin" and "admin".

SAVING AND APPLYING CHANGES

After configuring from web GUI options, click on Save to save the change. Then click on "Apply Changes" button (if displayed) on the top right of the web page to submit the changes. Follow the prompted message to reboot the GXE if it's required.



GXE5102/5104/5108/5116 CONFIGURATIONS

This section describes the options in the GXE5102/5104/5108/5116 Web GUI.

- Status: Displays PBX status, System Status and CDR.
- **PBX:** To configure extensions, trunks, call control options (inbound routes, conference, IVR, Ring Group and etc), internal options (call features, music on hold, IVR Prompt, FAX and etc), IAX Settings and SIP Settings.
- **Settings:** To configure network settings, change password, LDAP Server, HTTP Server, Email Settings and Time Settings.
- Maintenance: To configure syslog, upgrade, backup, reset, reboot, and perform troubleshooting.

STATUS PAGE DEFINITIONS

STATUS/PBX STATUS

In PBX Status page, there are different sections to display status for Trunks, Extensions, Queues, Conference Rooms, Interfaces and Parking lot.

\mathcal{O}								Apply Chan	iges Logout
Standstream	Status	PBX Settings	Maintenance						
	Status >> PBX Sta	tus >> PBX Status 🧿						_	_
PBX Status	Trunks 🖸			[-]	Conference	Rooms 😳			[-]
- PBX Status	Status	Trunk Type	Username	Port/Hostname/IP		101 x + x + x + x + x + x + x + x + x + x			100.00
System Status	_				Interfaces S	tatus 🖸			[-]
000	Extensions 🔾			t-1	USB	ψ	SD Card		
CDR	All Analog	Features IAX SIP			LAN				
	Extension	Name/Label	Status	Туре	FXS				
	6000 6001 6002 6003 6003	GXE6000 GXE6001 GXE6002 GXE6003 GXE6004	Messages 0/0/0 Messages 0/0/0 Messages 0/0/0 Messages 0/0/0 Messages 0/0/0	SIP User SIP User SIP User SIP User SIP User	FXO		0 0 1 8 9 1 1 8		
	 6005 6006 6007 	GXE6005 GXE6006 GXE6007	Messages : 0/0/0 Messages : 0/0/0 Messages : 0/0/0	SIP User SIP User Analog User (FXS 1)	Parking Lot	0			[-]
	6008 197 198 181 181 183 184 Queues 🔿	GKS6008 Check My Voicemail Check Specific Voicem Call Pickup Paging(1-37ag) Paging(1-37ag) Agent Pausy Agent Unpause	Messages - 0/1/0	Analog User (753 2) Features Features Features Features Features Features	Caller	D Channe	Extension No Parked Cala	Ti	imeout

Figure 4: Status->PBX Status



STATUS/SYSTEM STATUS

Status ->System Sta	tus -> General
Model	Product model of the GXE.
Part Number	Product part number.
System Time	System time of the GXE.
Up Time	System up time since the last reboot.
Idle Time	System idle time since the last reboot.
Boot	Boot version.
Core	Core version.
Base	Base version.
Program	Program version. This is the main software release version.
Recovery	Recovery version.
Status -> System Sta	atus -> Network
MAC Address	Global unique ID of device, in HEX format. The MAC address will be used for provisioning and can be found on the label coming with original box and on the label located on the back of the device.
IP Address	IP address of the device.
Gateway	Default gateway of the device.
Subnet Mask	Subnet mask of the device.
DNS	DNS Server of the device.
Status -> System Sta	atus -> Disk Usage
Disk cfg	Displays total, available and used space for disk cfg.
Disk data	Displays total, available and used space for disk data.
Status -> System Sta	atus -> Resource Usage
CPU Usage	Displays percentage of CPU usage.
Memory Usage	Display available and used space for memory.



Figure 5: Status->System Status -> Disk Usage



STATUS/CDR

											Ą	pply Changes	Logout
	itatus PBX	Settings	Mainte	tenance									
Status >>	CDR >> CDR O	_	_	_	_			_	_	_	_		
Call Det	ail Report												
🕑 Inboun	d calls	😢 Outbound d	calls										
🖉 Interna	/ calls	🕑 External ca	alls										
E Show	all fields	📰 Show syst	tem calls										
Source:		Destination:											
Start Time:		IT To:											
the second se													
Duration:													
Duration:		() To:		(second	(5)								
Duration:	umn header to sort by that	Column. Click on row to d	display full recr	(second	ls)							Vie	w: 25 💌
Duration:	umn header to sort by that Start time	Column. Click on row to d	display full reco Juration	(second cord. Source	is) Destination	Caller ID	Disposition		Operations	1	-	Vie	w: 25 💌
Duration: From: Click on col	umn header to sort by that Start time 2013-01-26 01:4	Column. Click on row to d	display full reco Duration 00:01	(second cord. Source 6003	Destination 6002	Caller ID "GXE6003" <6003>	Disposition NO ANSWER	play	Operations download d	s Sellata	ŕ	Vie	w: 25 💌
Duration:	umn header to sort by that Start time 2013-01-26 01:4 2013-01-26 01:4	To: column. Click on row to d D 125 0.0 123 0.0	display full reco Duration 00:01 00:01	(second cord. 6003 6003	Destination 6002 6002	Caller ID "GXE6003" <6003> "GXE6003" <6003>	Disposition NO ANSWER NO ANSWER	play	Operations download d download d	s Selete	ŕ	Vie	w 25 💌
Duration: From: Click on col 1 2 3	umn header to sort by that Start tim 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4	To: Column. Click on row to d D 125 0 0 123 0 0	display full rect Juration 00:01 00:01 00:17	(second cord. 6003 6003 6007	Destination 6002 6002 6002	Caller 1D "GXE6003" <6003- "GXE6003" <6003- "GXE6003" <6003-	Disposition NO ANSWER NO ANSWER ANSWERED	play play play	Operations download d download d	s Selete Selete Selete	•	Vie	w: 25 💌
Duration: From: Cick on col 1 2 3 4	umn header to sort by that Start tim 2013-01-28 01:4 2013-01-28 01:4 2013-01-28 01:4 2013-01-28 01:4	To: column. Click on row to d b 1.25 0 0 1.23 0 0 1.03 0 0 0.55 0 0	display full reco Duration 00:01 00:01 00:17 00:05	(second cord. 6003 6003 6007 6003	Destination 6002 6002 6002 6002 6002 6002	Caller ID "GXE5003" -6003> "GXE5003" -6003+ "GXE5007" -6007- "GXE5003" -6003-	Disposition NO AISWER NO AISWER ANSWERED ANSWERED	play play play play play	Operations download d download d download d	solata Solata Solata Solata Solata	Í	Vie	w: 25 💌
Duration: Click on col 1 2 3 4 5	Start tim 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4	To: column. Click on row to d 125 000 123 000 103 000 055 000 047 000	display full rect Duration 00:01 00:01 00:17 00:05 00:02	(second cord. 6003 6007 6003 6000	Destination 6002 6002 6002 6002 6002 6002 6002 6001	Caller 10 "GKE8003" +8003- "GKE8003" +8003- "GKE8007" +8007- "GKE8007" +8007- GKE8007 -8000-	Disposition NO ANSWER NO ANSWER ANSWERED ANSWERED	play play play play play play	Operations download d download d download d download d	s Seleta Seleta Seleta Seleta Seleta	-	Vie	w: 25 💌
Duration: From: Click on col 1 2 3 4 5 6	Start time 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4	Te: column. Click on row to d 2125 000 123 00 123 00 055 00 047 00 037 00	display full rect Duration 00:01 00:01 00:17 00:05 00:02 00:05	(second) cord. 6003 6003 6007 6003 6000 6006	Destination 6002 6002 6002 6002 6002 6001 6005	Caller ID "GXE8007 -6035 "GXE8007 -6005 "GXE8007 -6007- "GXE8007 -6007- "GXE8007 -6000- "GXE8007 -6000-	Disposition NO AISWER NO AISWER ANSWERD ANSWERD ANSWERD	ptay ptay ptay ptay ptay ptay	Operations download d download d download d download d download d download d	solata Solata Solata Solata Solata Solata		Vie	w: 25 💌
Duration: From: Click on col 1 2 3 4 5 6 7	umn header to sort by that Start tim 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4 2013-01-26 01:4	Te: colum. Click on row to d 125 000 123 00 100 00 55 00 047 00 037 00 224 00	display full reco Duration 00:01 00:01 00:05 00:05 00:02 00:05 00:05 00:04	(second)	Destination 6002 6002 6002 6002 6002 6002 6005 6000	Catter ID 'GXE6003' -6003- 'GXE6007' -6003- 'GXE6007' -6003- 'GXE6007' -6003- 'GXE6007' -6003- 'GXE6007' -6008- 'GXE6004' -6004-	Disposition NO ANSWER NO ANSWER ANSWERED ANSWERED ANSWERED ANSWERED	ptay ptay ptay ptay ptay ptay ptay	Operations download d download d download d download d download d download d	solata Solata Solata Solata Solata Solata Solata	E	Vie	w: 25 💌
Duration: P From: Click on col 1 2 3 4 5 6 7 8	umn header to sort by that Start tim 2013-01-28 014 2013-01-28 014 2013-01-28 014 2013-01-28 014 2013-01-28 014 2013-01-28 014 2013-01-28 014 2013-01-28 014	To: colume. Click on row to d 0 125 000 123 000 100 000 055 000 047 000 040 000 040 000 040 0000 040 0000 040 000000 040 0000 040 000	display full reco operation 00:01 00:01 00:01 00:05 00:02 00:05 00:04 00:02	(second) cord. Source 6003 6003 6000 6000 6000 6000 6000 600	Destination 6002 6002 6002 6002 6002 6001 6005 6005 6000 6000	Caller ID "GX58003" -6803- "GX58003" -6803- "GX58003" -6803- "GX58003" -6803- "GX58003" -6808- "GX58004" -6808- "GX5804" -6801-	Disposition NO ANSWER NO ANSWER ANSWERED ANSWERED ANSWERED ANSWERED ANSWERED	play play play play play play play play	Operations download d download d download d download d download d download d	e telete delete delete delete delete delete delete		Vie	w. 25 💌
Duration: From: Cleck on col 1 2 3 4 5 6 7 8 9	umn header to sort by that Start tim 2013-01-26 014 2013-01-26 014 2013-01-26 014 2013-01-26 014 2013-01-26 014 2013-01-26 014 2013-01-26 014 2013-01-26 014 2013-01-26 014	To: Colume. Click on row to d 125 000 123 001 123 0000 123 00000000000000000000000000000	display full reco buration 00:01 00:01 00:05 00:02 00:04 00:02 00:03	(second) Source 6003 6003 6007 6003 6000 6006 6006 6004 6001	b) Destination 6002 6002 6002 6002 6001 6005 6000 6000 6000 6000	Caller ID "GXE8007 -603- "GXE8007 -603- "GXE8007 -603- "GXE8007 -603- "GXE8007 -600- "GXE8007 -600- "GXE8001 -600- "GXE8001 -601- "GXE801 -601-	Disposition NO ANSWER NO ANSWER ANSWERD ANSWERD ANSWERD ANSWERD ANSWERD ANSWERD	play play play play play play play play	Operations download d download d download d download d download d download d download d download d	Selete Selete Selete Selete Selete Selete Selete Selete		Vie	w: 25 💌
Duration: From: Cick on col 1 2 3 4 5 6 7 8 9 10	um header to sort by that Start tim 2013-01-26 014 2013-01-26 014	To: colume. Click on row to d a b 123 123 047 047 042 051 024 021 021 021 021	display full recc buration 00:01 00:01 00:01 00:05 00:02 00:05 00:04 00:02 00:03 00:02	(second) Source 6003 6003 6003 6003 6000 6006 6004 6001 6001 6001	b) Destination 6002 6002 6002 6002 6001 6005 6000 6000 6000 6000 6000 6000	Catter ID "GXE6003" -6003- "GXE6003" -6003- "GXE6003" -6003- "GXE6003" -6003- "GXE6003" -6003- "GXE6004" -6004- "GXE6004" -6004- "GXE6004" -6004- "GXE6001" -6001- "GXE6001" -6001-	Disposition NO ANSWER NO ANSWER ANSWERED ANSWERED ANSWERED ANSWERED ANSWERED ANSWERED ANSWERED ANSWERED NO ANSWER	play play play play play play play play	Operations download d download d download d download d download d download d download d download d download d	alite Solete Solete Solete Solete Solete Solete Solete Solete Solete	E	Ve	w. 25 💌
Duration:	unn header ib sort by that Sart tim 2013-01-26 014 2013-01-26 014	To: Colum. Clean or we to d 125 000 123 00 123 00 123 00 123 00 123 00 047 000 047 00 047 00 040 000 040 00 040 000 040 000 040 000 040 000 040 0000000000	display full reco buration 00:01 00:01 00:01 00:05 00:05 00:04 00:02 00:03 00:02 00:03	(second) cond. Source 6003 6003 6003 6003 6003 6003 6000 6004 6004 6004 6004 6001 6004 6001 6004 6003	Destination 6002 6002 6002 6002 6002 6001 6005 6000 6000 6000 6000 6000	Caller 10 "GX55003" -6003- "GX55003" -6003- "GX55003" -6003- "GX55000" -6005- "GX55000" -6006- "GX5500" -6006- "GX5500" -6001- "GX55001" -6001- "GX55001" -6001- "GX55001" -6001- "GX55001" -6001-	Disposition NO ALSWER ANDWERED ANSWERED ANSWERED ANSWERED ANSWERED ANSWERED NO ALSWERED NO ALSWERED NO ALSWERED	play play play play play play play play	Operations download d download d download d download d download d download d download d download d download d	alista Soleta Soleta Soleta Soleta Soleta Soleta Soleta Soleta Soleta	E	Vie	w 25 💌
Duration:	um hedder to sort by that Start tim. 2013.01.26 014 2013.01.26 014 2013.01.26 014 2013.01.26 014 2013.01.26 014 2013.01.26 014 2013.01.26 014 2013.01.26 014 2013.01.26 014 2013.01.26 013	To: column. Click on row to de 125 000 123 000 123 000 123 000 123 000 123 000 123 000 124 000 124 000 124 000 124 000 124 000 125 000 126 000 127 000 128 00000 128 000 128 0000 128 0000 128 0000 128 0000 128 00000	display full reco buration 00:01 00:05 00:05 00:05 00:02 00:03 00:04 00:02 00:03 00:02 00:03 00:02 00:03	(second) cord. Source 6003 6007 6003 6000 6000 6004 6001 6001 6004 6001	b) Destination 6002 6002 6002 6002 6005 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6000 6002 6000 6002 6000 6	Caller ID "GXXE003" -6033 "GXXE003" -6033 "GXXE003" -6003- "GXXE003" -6003- "GXXE003" -6004- "GXXE004" -6004- "GXXE04" -6004-	Disposition NO ANSWER NO ANSWER ANSWERED ANSWERED ANSWERED ANSWERED ANSWERED ANSWERED NO ANSWERED NO ANSWERED ANSWERED ANSWERED	piey piay piay piay piay piay piay piay pia	Operations download d download d download d download d download d download d download d download d	E Seleta Seleta Seleta Seleta Seleta Seleta Seleta Seleta Seleta		Ve	w 25 💌

CDR status page shows call detail information as well as statistics. This can be used for business analysis.

Figure 6: Status->System Status -> CDR



Figure 7: Status->System Status -> CDR Statistics

PBX PAGE DEFINITIONS

BASIC/EXTENSIONS

In this page, users could view, create, edit and delete extensions. The extension status will show in the list with Caller ID Name, IP: Port, connection status and etc.



List of User Extensions

Create	New User Modify S	Selected Users Delete Selecte	ed Users Batch Add Users			
	Extension	CallerID Name	Technology	IP and Port	Status	Options
1	6000	GXE6000	SIP	192.168.40.102:12111	Online	Reboot Edit Delete
	6001	GXE6001	SIP	192.168.40.225:24150	Online	Reboot Edit Delete
3	6002	GXE6002	SIP	192.168.40.191:5060	Online	Reboot Edit Delete
1	6003	GXE6003	SIP	192.168.40.177:5060	Online	Reboot Edit Delete
1)	6004	GXE6004	SIP	192.168.40.181:5060	Online	Reboot Edit Delete
1	6005	GXE6005	SIP	192.168.40.179:5060	Online	Reboot Edit Delete
1	6006	GXE6006	SIP	192.168.40.184:5060	Online	Reboot Edit Delete
3	6007	GXE6007	FXS1		Offline	Reboot Edit Delete
1	6008	GXE6008	FXS2	-	Offline	Reboot Edit Delete

Figure 8: PBX->Basic->Extensions

Click on "Create New User" button, the following window will show.

Create New User			x
General			
(j) Extension:	6009	(j) CallerID Name:	
() CallerID Number:		(i) Permission:	Local
SIP/IAX Password:	6009	Enable Voicemail:	
VoiceMail Password:	6009	Email Address:	
Technology			
SIP:		(j) IAX:	
(i) Analog Station:	None 💌		
SIP Settings			
() NAT:		(i) Can Reinvite:	
(i) DTMF Mode:	RFC2833 💌	(j) Insecure:	Port 💌
Other Options			
SRTP:		(j) FaxDetect:	
(i) Strategy:	Allow all	(i) Disable Pin:	
(j) Codec Preference:	Selected Codecs PCMU PCMA GSM G.726 H.264 Cancel	Available Codec ILBC G.722 ADPCM LPC10 G.729 Save	
	Figure 9: C	reate New User	



BASIC/ANALOG TRUNKS

In this page, users could view, create and manage analog trunks. To create new trunk, click on "Create New Analog Trunk" and fill out the information in the prompted window as below.

Cre	ate New Analog Trunk				x
(i)	Channels: Trunk Name:	D 1 D 2 D 3 D 4 D	5 6 6 6 7 6 8 9 9 10 11 6	12 🗖 13 🗖 14 🗖 15 🗖 16	
3	Advanced Options				
1	Busy Detection:	Yes 💌	(i) Enable Polarity Reversal:	No	
1	Busy Count:	4	O Polarity On Answer Delay:	600	
1	Busy Pattern:	500,500	(i) Ring Timeout:	8000	
1	Use CallerID:	Yes 💌	(i) Caller ID Start:	Ring 💌	
1	Echo Canceller:	ON 💌	() CID Signalling:	Bell - USA	
			Cancel Save		

Figure 10: Create New Analog Trunk

BASIC/VOIP TRUNKS

In this page, users could view, create and manage SIP/IAX trunks. To create new trunk, click on "Create New SIP/IAX Trunk" and fill out the information in the prompted window as below.

Crea	ate New SIP/IAX Tr	runk	x
		More details will be shown when editing trunk.	<u>^</u>
1	Туре:		
(j)	Provider Name:	Peer SIP Trunk Register SIP Trunk Peer IAX Trunk	E
1	Host Name:	Register IAX Trunk	





BASIC/OUTBOUND ROUTES

In this page, users could view, create and manage calling rules. To create new route, click on "Create New Calling Rule" and fill out the information in the prompted window as below.

Create New Calling Rule		x
Calling Rule Name:		
(i) Pattern:		
Priviledge Level:	Local	
i) Pin Set:		
Send this call through trunk		
(j) Use Trunk:		
(j) Strip:	digits from front	
🗌 🛈 Use Fail Over Trunk:		
(j) Fail Over Trunk:		
(j) Strip:	digits from front	
	Cancel	

Figure 12: Create New Calling Rule

BASIC/ZERO CONFIG

By default, zero config feature is turned on in GXE5102/5104/5108/5116 so the devices connected in the same LAN will be auto provisioned by the GXE. There are three methods of auto provision: SIP subscribe, DHCP option 66 and mDNS. Basically, when the device boots up, it will send the SUBSCRIBE to LAN. The GXE will find it, create and assign an extension to the device, and then return the url of config file for the device to download.

Here is the Auto Provision Setting:



Auto Provision Setting

Auto provision is automatically provides a extension to device. There are three methods of auto provision: SIP subscribe, DHCP option 66, mDNS.

For extension, one devices boot, it will send the subscribe broadcast, the server will find it and create an account, then return it a url of config file.

	Module Name	Version
]	mdns	-
2	dhcp	
2	sip	
Automatically As	ssign User: 🗹	
) User Starting Nu	imber: 6000	
) Generate Rando	om Password:	
) Default Passwo	rd: admin	

Figure 13: Zero Config: Auto Provision Setting

The following picture shows the provisioned devices from the GXE zero config feature.

List	of De	vices	Extensions									
A	ito Pro	vision	Auto Discover	Create New Device	Delete Se	elected Devices						
	Filter:	All										
	No.		Mac	IP	Extension	Version	Vendor	Model	Connect State	Config File		
	1.	0	00B823E1D8B	192.168.40.225	6001	1.0.1.33	Grandstream	GXP2200	Connected	Yes	Edit	Delete
	2.	0	00B823E175D	192.168.40.102	6000	1.0.1.33	Grandstream	GXP2200	Connected	Yes	Edit	Delete
	3.	0	00B822B1641	19 <mark>2.168.40.179</mark>	6005	1.0.5.15	Grandstream	GXP2100	Connected	Yes	Edit	Delete
	4.	0	00B8240E529	192.168.40.184	6006	1.0.5.15	Grandstream	GXP1160	Connected	Yes	Edit	Delete
	5.	0	00B822B2A24	192.168.40.181	6004	1.0.5.15	Grandstream	GXP2110	Connected	Yes	Edit	Delete
	6.	0	00B823AB2E1	192.168.40.157	6002	1.0.5.15	Grandstream	GXP2124	Connected	No	Edit	Delete
	7.	0	00B8233A045	192.168.40.177	6003	1.0.5.15	Grandstream	GXP1450	Connected	Yes	Edit	Delete

Figure 14: Zero Config: Provisioned Devices

CALL CONTROL/CONFERENCE

In this page, users could view, create, edit and delete conference rooms. The conference room status and activity will show in the list. Click on "Create New Conference Bridge" to create and configure conference room.



Confe	erence Rooms						
Crea	ate New Conference	Bridge					
	Room	Create New Conference	Bridge		x	Activity	Options
	6300						🕹 🔓 🖉 🛅
	User	(i) Extension:	6301			Activity	Options
		Password Options					
		Pin Code:		() Admin Pin Code:			
		Conference Room Option	ons				
		(i) Enable caller menu:		Record conference:			
		() Quiet Mode:		() Wait for admin:			
		() Enable user invite:		 Announce callers: 			
		Play hold music for first o	aller: 🔲				
				Cancel Save			

Figure 15: Create New Conference Bridge

CALL CONTROL/IVR

The IVR in the PBX system can be configured under **Call Control**->**IVR** page. Click on "Create New IVR" and fill in the information in the window as below.



х

Create New IVR

()	Name:	
()	Extension:	7000
()	Dial Other Extensions:	
()	Welcome Prompt:	None Prompt
()	Timeout:	10
()	Timeout Prompt:	None 💌
()	Invalid Prompt:	None 💌
()	Repeat Loops:	1
K	KeyPress Events	
	Press 0:	Select an Option 💌
	Press 1:	Select an Option 💌
	Press 2:	Select an Option 💌
	Press 3:	Select an Option 💌
	Press 4:	Select an Option 💌
	Press 5:	Select an Option 💌
	Press 6:	Select an Option 💌
	Press 7:	Select an Option 💌
	Press 8:	Select an Option 💌
	Press 9:	Select an Option 💌
	Press #:	Select an Option 💌
	Press *:	Select an Option 💌
		Cancel Save

Figure 16: Create New IVR



CALL CONTROL/VOICEMAIL

General Voicemail settings can be configured under **Call Control**->**Voicemail** page. Users could also set up email for the voicemails. Click on "Create New IVR" and fill in the information in the window as below.

General VoiceMail Settings			
	Email Settings for Vo	iceMails	ĸ
Email Settings for VoiceMails			٦
(j) Max Greeting (in seconds):	 Send Messages by E Only: 	-mail	
(i) Dial '0' for Operator:	(j) Attach Recordings to	E-mail: 🔽	
Message Options	Template for Voicer	nail Emails	
(j) Max Messages Per Folder:	Template Variables:	tt : TAB \${VM_NAME} : Recipient's firstname and lastname \$VM_DUB2 : The duration of the voice mail message	
(j) Max Message Time:		\${VM_CALLERID}`: The caller id of the person who left the message \${VM_CALLERID}`: The caller id of the person who left the message	
(i) Min Message Time:		<pre>\${VM_MSGNUM}: The message number in your mailbox \${VM_DATE}: The date and time the message was left</pre>	
Playback Options	From:	pbx@yourcompany.null	
() Say Message Caller-ID:	Subject:	New voicemail from \${VM_CALLERID} for \${VM_MAILBOX}	
(j) Say Message Duration:	Message:	Hello \${VM_NAME}, you received a message lasting	
 Play Envelope: 		<pre>\${VM_DUR} at \${VM_DATE} from, (\${VM_CALLERID}). This is message \${VM_MSGNUM} in your voicemail Inbox.</pre>	
(j) Allow Users to Review:			
		Cancel Save	

Figure 17: Voicemail Settings

CALL CONTROL/VOICEMAIL GROUPS

In this page, users could create extension for voicemail group which contains members that will receive the voicemail if the group extension has voice messages. Click on "New VoiceMail Group" to add groups.

List of VoiceMail Groups				
New VoiceMail Group				
Extension for VoiceMail Group	Label	Member MailBoxes		
6600	GXE_VM1	6000, 6001, 6002	Edit Delete	



CALL CONTROL/RING GROUP

In this page, users could create extension for ring group which contains members that will receive the call with specific ring strategy if the group extension has incoming calls.



Create New Ring Group		x
Ring Group Name: Extension:	Tech Support 6400	
Ring Group	Members Avaliable Use	rs
 ⁶⁰⁰⁰ "GXE6000" ⁶⁰⁰¹ "GXE6001" ⁶⁰⁰² "GXE6002" ⁶⁰⁰³ "GXE6003" [⊗] ⁸⁰⁰⁰ ⁸⁰⁰⁰⁰ ⁸⁰⁰⁰⁰⁰ ⁸⁰⁰⁰⁰ ⁸⁰⁰⁰⁰⁰ ⁸⁰⁰⁰⁰⁰ ⁸⁰⁰⁰⁰ ⁸⁰⁰⁰⁰⁰ ⁸⁰⁰⁰⁰⁰ ⁸⁰⁰⁰⁰⁰ ⁸⁰⁰⁰⁰⁰⁰ ⁸⁰⁰⁰⁰⁰⁰ ⁸⁰⁰⁰⁰⁰⁰⁰⁰ ⁸⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰ ⁸⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰⁰	 6004 "GXE6004" 6005 "GXE6005" 6006 "GXE6006" 6007 "GXE6007" 6008 "GXE6008" 6009 	* III +
Ring Group Options		
Ring Strategy:	Ring in Order	
 Seconds to Ring Each Member: 	30	
(i) Enable Voicemail:		
Secret:		
Email Address:		
	Cancel Save	

Figure 19: Ring Group Settings

CALL CONTROL/PAGE AND INTERCOM GROUPS

Paging and intercom can be configured in group level or per extension. In this page, users could add paging and intercom groups.



Create New Page/Intercom Group



Paging/Intercom Group S	ettings	x
Settings for Paging & Inte	ercom	
() Alert-Info Header:	Intercom	
Settings For Paging Indiv	vidual Extensions	
Please go to <u>Call Features</u> fo	or seting paging individual extensions.	
	Cancel Save	

Figure 20: Paging/Intercom Group Settings

CALL CONTROL/FOLLOW ME

Follow Me feature allows users to add internal extensions or external numbers to follow existed extensions when there is incoming call. If the main extension has incoming call rejected or unanswered, the call will be routed to the FollowMe numbers in specified order or simultaneously. The caller will hear music on hold when calling the main extension number.



Edit Extension: 6000)
(j) Status:	🖲 Enable 🔘 Disable	
() 'Music On Hold' Class:	default 💌	
Follow Me Numbers		
6000 (30 seconds)		
6001 & 6002 (30 seconds)		$\odot \odot \otimes$
New FollowMe Number:	Oial Local Extension Dial Outside Number	
	6003 "GXE6003" 💌 for 30 Seconds	
(j) Dial Order:	 Ring after Trying previous extension/number Ring along with previous extension/number 	
	Cancel ↑ Add	
	Figure 21: Follow Me Settings	

CALL CONTROL/CALL QUEUE

Call queues can be configured under **Call Control**->**Call Queue**. The login and logout code can be configured under "Agent Login Settings".



х

Creat	e N	ew	Q	ueu	е

i) Extension:i) Strategy:	6500 Ringall	() ()	Name: Music On Hold:	Customer_Service
Leave When Empty:	Strict -	<u>(</u>)	Join Empty:	No
O Dynamic Login PIN:				
Queue Options				
(i) TimeOut:	15	i	Wrapup Time:	15
(j) Max Len:	0	()	Report Hold Time:	
(j) Wait Time:				
Agents (j)				
	Static Agents		A	valiable Users
 ⊗ SIP/6000 "GXE SIP/6001 "GXE SIP/6002 "GXE ⊗ 	6000" 6001" 6002"	*	 SIP/6003 "GXE SIP/6004 "GXE SIP/6005 "GXE SIP/6006 "GXE SIP/6009 SIP/6010 	6003" 6004" 6005" 6006"
	Can	cel	Save	

Agent Login Settings		x
Agent Login Settings		
(i) Agent Login Extension Postfix:		
 Agent Logout Extension Postfix: 		
Example:	If Queue Extension is 6500, Agent Login Extension Postfix is * , Agent Logout Extension Postfix is **, Dial [6500 *] to Login, [6500 **] to Logout.	
	Cancel Save	
	Figure 22: Call Queue Settings	



INTERNAL OPTIONS/GENERAL

Global OutBound CID	This is the default global CallerID that is used for all outgoing calls when no other CallerID is defined. If ther "User" tab or "VoIP Trunks" tab does not have defined CallerID neither, this Global OutBound CID will be used for CallerID.
Global OutBound CID Name	This is the global CallerID Name that is used for all outgoing calls. If this value is defined, all outgoing calls will have a "CallerId Name" set to this value. Usually this value could be your company name. Leave this value blank if you would like to have the users' "CallerID Name" display on outbound calls.
Operator Extension	The operator extension is the number dialed when users press "0" to exit Voicemail. It's also available in IVR option.
Ring Timeout	Number of seconds to ring an extension before sending to the user's voicemail box.

Users could also configure the extension preference for different functions. It is recommended to keep this feature on so the extensions could be properly arranged and used.



Figure 23: Extension Preferences



INTERNAL OPTIONS/CALL FEATURES

In this page, users could configure feature code for the following call features in the PBX. The default setting is listed in the following table.

Blind Transfer	#1
Attended Transfer	*2
Disconnect	*0
Call Parking	#72
Audio Record	*1
Audio Mix Record	*3
Do Not Disturb (DND) Active	*77
Do Not Disturb (DND) Deactive	*78
Call Forward Busy Active	*71
Call Forward Busy Deactive	*72
Call Forward No Answer Active	*73
Call Forward No Answer Deactive	*74
Call Forward Uncondition Active	*75
Call Forward Uncondiion Deactive	*76
Feature Digit Timeout	1000
Extension to Dial to Park a Call	700
Extensions for Parked Calls	701-720
Parked Call Timeout (in secs)	120
Dial Voice Mail	*98
Voice Mail Main	*97
Agent Pause	*83
Agent Unpause	*84
Paging Prefix	*81
Intercom Prefix	*80
Call Pickup	**



Call Features					
Feature Maps					
Reset All Default All					
Blind Transfer:	#1 Neither 💌	(i) Attended Transfer:	*2 Neither 💌	(j) Disconnect:	*0 Neither 💌
(j) Call Parking:	#72 Neither 💌	Audio Record:	*1 Neither 💌	(j) Audio Mix Record:	*3 Neither 💌
Feature DND/Forward					
Reset All Default All					
(i) Do Not Disturb (DND) Active:	*77	() Do Not Disturb (DND) Deactive:	*78	(i) Call Forward Busy Active:	*71
 Call Forward Busy Deactive: 	*72	 Call Forward NoAnswer Active: 	*73	 Call Forward NoAnswer Deactive: 	*74
 Call Forward Uncondition Active: 	*75	 Call Forward Uncondition Deactive: 	*76		
Feature Misc					
Reset All Default All					
Feature Digit Timeout:	1000	Extension to Dial to Park a Call:	700	Extensions for Parked Calls:	701-720
Parked Call Timeout (in secs):	120				
Feature Code					
Reset All Default All					
 Dial Voice Mail: 	*98	Voice Mail Main:	*97	Agent Pause:	*83
 Agent Unpause: 	*84	Paging Prefix:	*81	(i) Intercom Prefix:	*80
(j) Call Pickup:	**				
	Cancel				

Figure 24: Call Features

INTERNAL OPTIONS/MUSIC ON HOLD

In this page, users could configure music on hold class and the music files. The music file uploaded has to be 8 KHz Mono format with size less than 5M.



Mana	Manage 'Music On Hold' Classes				
Crea	ate New MOH class				
М	anage Music-on-Hold Classes: default 💌 🔇 Delete				
Upl	oad an 8 KHz Mono Music file (size less then 5M):				
С	hoose file to Upload:	 Upload 			
Lis	t of Sound Files				
	Sound File	Options			
	macroform-cold_day.wav	Delete			
	macroform-robot_dity.wav	Delete			
	macroform-the_simplicity.wav Delete				
	manolo_camp-morning_coffee.wav Delete				
	reno_project-system.wav Delete				

Figure 25: Music On Hold Settings

INTERNAL OPTIONS/IVR PROMPT

In this page, users could record new IVR prompt or upload a new file for IVR prompt. The uploaded file has to be small than 5M in 8KHz mono, 16 bits GSM or WAV format. Or it could be raw ulaw/alaw file with the .ulaw/.alaw suffix.

List of Custom IVR Prompts	
Record New IVR prompt Upload IVR prompt	
No custom IVR prompts found !! You can record a new IVR Prompt by clicking on the 'Record a new IVR prompt ' or click on the 'Upload a IVR prompt' button to upload a custom IVR.	
Upload IVR prompt X Choose voice prompt to upload : Each file uploaded must be less than 5 megabytes, in 8KHz mono, 16bits and in GSM or WAV format, or raw ulaw/alaw file with the .ulaw/.alaw suffix. Choose file to Upload: Image: Choose file to Upload	

Figure 26: IVR Prompt Settings



INTERNAL OPTIONS/FAX T.38

In this page, users could create and configure FAX extensions on the GXE.

Fax Extension				
Create New Fax Settings for Fax Fax extension can receive T38 fax to the specified email addr				
Extension	Name	Email		
8000	Settings for Fax		X Edit	Delete
	Enable Error Correction Mode(ECM): Maximum Transfer Rate: Minimum Transfer Rate: Defaut Email Address:	2 1440 • 2400 • Cancel Save		

Figure 27: FAX Settings

INTERNAL OPTIONS/RTP SETTINGS

RTP Start	RTP port starting address. The default setting is 10000.
RTP End	RTP port ending address. The default setting is 20000.
Strict RTP	Enables/disables strict RTP protection. When enabled, RTP packets that do not come from the source of the RTP stream will be dropped. The default setting is "Disable".
RTP Checksums	Enables/Disables RTP Checksums. The default setting is "Disable".

INTERNAL OPTIONS/HARDWARE CONFIG

In this page, users could configure the signaling preference for each FXS and FXO ports, as well as region preference for Tone and Opermode. Other advanced settings such as PCMA Override, FXS Honor Mode, Boost Ringer, Fast Ringer, Low Power, Ring Detect, MWI Mode and etc can also be configured here as the figure shown below.



()	Tone Region:	United States/North America
A	dvanced Settings	
()	Opermode:	USA 💌
()	PCMA Override:	PCMU 👻
()	FXS Honor Mode:	Apply Opermode to FXS Modules Only
i	Boost Ringer:	Normal 💌
()	Fast Ringer:	Normal 💌
i	Low Power:	Normal 💌
()	Ring Detect:	Standard 👻
i	MWI Mode:	None 💌
		Cancel Save

Figure 28: Hardware Configuration: Advanced Settings

INTERNAL OPTIONS/STUN MONITOR

STUN Server	Configures the STUN server to query. Valid format:
	[(hostname IP-address) [':' port]
	The default port number is 3478 if not specified.
	Leave this field blank to disable STUN.
STUN Refresh	Number of seconds between STUN Refreshes. The default setting is 30 seconds.

INTERNAL OPTIONS/IAX GENERAL

Bind Port	Allows iax2 to listen to another port. The default setting is 4569.
Bind Address	Forces iax2 to bind to a specific address instead of all addresses. The default setting is 0.0.0.0.
IAX1 Compatibility	Enables/disables iax1 style compatibility.
No Checksums	Enables/disables checksums.
Delay Reject	Enables/disables iax2 to delay reject of calls to avoid DOS.
ADSI	Enables/disables ADSI phone compatibility.
Music On Hold Interpret	Specifies Music On Hold class.



Music On Hold Suggest	Suggests Music On Hold for the channel.
Language	Configures default language for the channel. This can be used by prompts.
Bandwidth	Configures allowed codecs for different bandwidth requirement. The default setting is "Low".

INTERNAL OPTIONS/CODECS

The following codes are supported in GXE5102/5104/5108/5116.

- PCMU
- PCMA
- GSM
- ILBC
- G.722
- G.726
- ADPCM
- LPC10
- G.729
- G.723
- H.263
- H.263p
- H.264

INTERNAL OPTIONS/IAX JITTER BUFFER

Enable Jitter Buffer	Enables the use of jitter buffer on the receiving side of a SIP channel.
Force Jitter Buffer	Forces the use of jitter buffer on the receiving side of a SIP channel.
Drop Count	Configures drop count.
MAX Jitter Buffer	Configures the maximum time (in milliseconds) 0 for the buffer.
MAX Interpolation Frames	Configures the maximum number of interpolated frames the jitter buffer should return consecutively.
Recync Threshold	Jumps in the frame timestamps over where the jitter buffer is resynchronized. This feature is useful to improve the quality of voice with big jumps in/broken timestamps sent from exotic devices and programs. The default setting is 1000.
Max Excess Buffer	Configures the maximum number (in milliseconds) to pad the jitter buffer.
Min Excess Buffer	Configures the minimum number (in milliseconds) to pad the jitter buffer.



Configures the jitter shrink rate.

INTERNAL OPTIONS/IAX REGISTRATION

Min Reg Expire	Minimum duration (in seconds) of registrations/subscriptions. The default setting is 60.
Max Reg Expire	Maximum duration (in seconds) of incoming registration/subscriptions. The default setting is 3600.
IAX Thread Count	Configures number of IAX threads.
IAX Max Thread Count	Configures maximum number of IAX threads.
Auto Kill	When set to "yes", the connection will be terminated if ACK for the NEW message is not received in 2000ms. Users could also specify number (in milliseconds) in addition to "yes" and "no".
Authentication Debugging	Enables/disables IAX related debug output in log messages.
Codec Priority	Configures codec negotiation priority to Caller, Host, Disabled or Reqonly.
Type of Service	Configures ToS bit for preferred IP routing.
Trunk Frequency	Configures frequency of trunk frames measured in milliseconds.
Trunk Time Stamps	Enables/disables attaching time stamps to trunk frames.

INTERNAL OPTIONS/IAX SECURITY

Call Toke	en Optional		A single IP	add	ress	or a range	of IP	addre	sses for	which call to	ken
			validation	is	not	required	in	the	form	11.11.11.11	or
			11.11.11.11	/22.2	2.22	.22.					
Max Cal	Numbers		Limits the ar	nour	nt of c	call numbers	s allow	ed for	a single	IP address.	
Max	Nonvalidated	Call	Limits the a	mou	int of	f nonvalidat	ed ca	ll num	bers for	all IP addres	ses
Numbers	3		combined.								
Call Nun	nber Limits		Limits the ca	all nu	Imbei	rs for a give	n IP ra	nge.			

SIP SETTINGS/GENERAL

Realm	For	Digest	Realms MUST be globally unique according to RFC 3261. Configure this
Authenticatio	n		value as your host or domain name. The default setting is <code>\"asterisk\". If</code>
			a system name is configured in asterisk.conf, this value will be set to the
			configured system name.
UDP Port to E	Bind to		The default setting is 5060.



IP Address to Bind to	The default setting is 0.0.0.0, which means binding to all addresses.
Domain	Use comma to separate a list of domains that the GXE will be responsible for.
Allow Guest Calls	Enables/disables guest calls.
Overlap Dialing Support	Enables/disables dialing support.
Allow Transfer	Enables/disables all transfers (unless enabled in peers or users) initiated by the endpoint. The Dial() options 't' and 'T' are not related to whether SIP transfers are allowed or not.
Enable DNS SRV Lookups (on outbound calls)	Enables/disables DNS SRV lookups on calls.
MWI From	When sending MWI NOTIFY requests, this value will be used in the "From:" header as the \"name\" part. If no "fromuser" is configured, the \"user\" part of the URI in the "From:" header will be filled with this value as well.
From Domain	Configures the domain in the "From:" field of the SIP header. It may be required by some providers for authentication.
Auto Domain	When turned on, the GXE will add local host name and local IP to domain list.
Allow External Domains	Allow requests for domains that are not served by the GXE.

SIP SETTINGS/SIP JITTER BUFFER

Enable Jitter Buffer	Enables/disables the use of jitter buffer on the receiving side of a SIP channel.
Force Jitter Buffer	Forces the use of jitter buffer on the receiving side of a SIP channel.
Log Frames	Enable/disables jitter buffer frame logging.
Max Jitter Buffer	Configures max length of the jitter buffer in milliseconds.
Resync Threshold	Jumps in the frame timestamps over where the jitter buffer is resynchronized. This feature is useful to improve the quality of voice with big jumps in/broken timestamps sent from exotic devices and programs. The default setting is 1000.
Implementation	The Jitter buffer implementation used on the receiving side of a SIP channel. Users could select "Fixed" (with size always equals to jbmaxsize) or "Adaptive" (with variable size which is the new jb of IAX2).



SIP SETTINGS/SIP MISCELLANEOUS

Register	Register as a SIP user agent to a SIP proxy (provider).
Register Timeout	The interval (in seconds) for the GXE to retry registration. The default setting is 20.
Register Attempts	Number of registration attempts before the GXE gives up. The default setting is 0 (keep trying until the server side accepts the registration request).
Video Max Bitrate (kb/s)	Maximum bitrate (kb/s) for video calls. The default setting is 384.
Support for SIP Video	Enables/disables SIP video support.
Generate Manager Events	Generates manager events when SIP UA performs events (e.g. hold).
Reject NonMatching Invites	When rejecting an incoming INVITE or REGISTER request, always reject with "401 Unauthorized" instead of notifying the requester that if there is a matching user or peer for the request.
NonStandard G.726 Support	If the peer negotiates G726-32 audio, use AAL2 packing order instead of RFC3551 packing order (this is required for Sipura and Grandstream ATAs).

SIP SETTINGS/SIP SESSTION TIMER

Session Timers	 Originate: always request and run session-timers. Accept: Run session-timers only when requested by other UA. Refuse: Do not run session timers. The default setting is "Accept".
Session Expires	The maximum session refresh interval (in seconds). The default setting is 1800.
Min SE	The minimum session refresh interval (in seconds). The default setting is 90.
Session Refresher	Selects the session refresher to be UAC or UAS. The default setting is UAC.

SIP SETTINGS/SIP TLS AND TCP SETTINGS

TCP Enable	Enables/disables server for incoming TCP connections. The default setting is "No".
TCP Bindaddr	IP address for TCP server to bind to (0.0.0.0: binds to all interfaces). The default port number is 5060 if not specified.
TLS Enable	Enables/disables server for incoming TLS (secure) connections. The



	default setting is "No".	
TLS Bindaddr	IP address for TLS server to bind to (0.0.0.0: binds to all interfaces). The default port number is 5061 if not specified.	
	Note:	
	The IP address must match the common name (hostname) in the certificate. Please do not bind a TLS socket to multiple IP addresses. For details on how to construct a certificate for SIP, please refer to the following document:	
	http://tools.ietf.org/html/draft-ietf-sip-domain-certs	
TLS Self Signed CA	This is the CA certificate is the TLS server being connected to requires self signed certificate, including server's public key. This file will be renamed as "asterisk.ca" automatically.	
	Note:	
	The size of your ca file can't be larger than 2MB.	
TLS Cert	This is the Certificate file (*.pem format only) used for TLS connections. This file will be renamed as "asterisk.pem" automatically.	
	Note:	
	The size of your certificate can't be larger than 2MB.	
TLS CA Cert	This file must be named with the CA subject name hash value. It contains CA's (Certificate Authority) public key, which is used to verify the accessed servers.	
	Note:	
	The size of your certificate can't be larger than 2MB.	
TLS CA List	The list of files under the CA Cert directory.	

SIP SETTINGS/SIP NAT

External Address	A static address (and port) that will be in outbound SIP messages if the GXE is behind NAT. If it's a hostname, it will only be looked up only.
External Host	Specifies an external host, which is similar to External Address except the hostname will be looked up every "External Refresh" interval and Asterisk will perform DNS queries periodically.
External Refresh	Configures the refresh interval for the external host.
External TCP Port	Configures the externally mapped TCP port when the GXE is behind a



	static NAT or PAT.	
External TLS Port	Configures the externally mapped TLS port when GXE is behind a static NAT or PAT. The default value is 5061.	
Local Network Address	A list of network addresses that are considered inside of the NAT network. Multiple entries are allowed, e.g., a reasonable set could be as follows: 192.168.0.0/255.255.0.0	
NAT Mode	 This is a global NAT setting that will affects all peers and users. No: Use rport if the remote side requires it. Force rport: Force rport to always be on. This is the default setting. Yes: Force rport to always be on and perform comedia RTP handling. Comedia: Use rport if the remote side requires it and perform comedia RTP handling. Note: "comedia RTP handling" refers to the technique of sending RTP to the port where the other endpoint's RTP comes from. This can also be rephrased as "connection-oriented media".	
Allow RTP Reinvite	 When turned on, the GXE will try to redirect the RTP media stream (audio) to go directly from the caller to the callee. Yes: Enables RTP Reinvite. NoNAT: Allows media path redirection (reinvite) but only when the peer is not be behind NAT. The RTP core can determine if the peer is behind NAT or not based on the IP address where the media comes from. Update: use UPDATE for media path redirection, instead of INVITE. Note:	

SIP SETTINGS/SIP ToS

The following options are provided to configure SIP ToS on the GXE5102/5104/5108/5116.



SIP TOS





SIP SETTINGS/DEBUG NOTIFY

Enable SIP Debugging	Enables/disables SIP debugging.
Record SIP History	Records SIP history.
Dump SIP History	Dumps SIP history at the end of SIP dialog.
Subscribe Context	Configures a specific context for SUBSCRIBE requests. This setting is useful to limit subscriptions to local extensions.
Allow Subscribe	Enables/disables support for subscriptions.
Notify on Ringing	Sends out NOTIFY on ringing status.

SETTINGS PAGE DEFINATIONS

SETTINGS/NETWORK SETTINGS

LAN	Set up IP method as Static, DHCP or PPPoE.	
	• Static IP: Enter IP Address, Gateway IP, Subnet Mask, Primary	



	DNS, Secondary DNS.DHCP: Enter alternative DNS Server.PPPoE: Enter User Name and Password.
802.1X	To enable 802.1X, select 802.1X mode as "EAP-MD5", "EAP-TLS" or "EAP-PEAPv0/MSCHAPv2". Then enter the following information for the selected mode: • Identity • MD5 Password • 802.1X CA Certificate • 802.1X Client Certificate

SETTINGS/CHANGE PASSWORD

To change the web access password, enter the old password and new password in this page. Once the web page comes back to the login interface again, enter the new password to login.

SETTINGS/LDAP SERVER

The GXE5102/5104/5108/5116 allows LDAP clients to connect to the LDAP Server in the GXE. The following options need to be configured first in the GXE.

LDAP Server Configurations		
Base DN:	dc=pbx,dc=com	
Root DN:	cn=manager,dc=pbx,dc=com	
Root Password:	•••••	
Root Password Confirm:		
Allow anonymous:		
	Cancel Save	

Figure 30: LDAP Server Configurations

SETTINGS/HTTP SERVER



The GXE5102/5104/5108/5116 embedded Web server responds to HTTP/HTTPS GET/POST requests. In this page, users could configure the HTTP server protocol type (HTTP or HTTPS) as well as the port number.

HTTP Server	
Protocol Type:	
Port	8089
	Cancel Save

Figure 31: HTTP Server Configurations

SETTINGS/EMAIL SETTINGS

The Email settings in this page configures transport protocol, type (MTA or Client) and Domain for the emails sent for FAX, Voicemail in the GXE5102/5104/5108/5116. embedded Web server responds to HTTP/HTTPS GET/POST requests. In this page, users could configure the HTTP server protocol type (HTTP or HTTPS) as well as the port number.

Email settings	
(j) TLS Enable:	Yes 💌
(ј) Туре:	MTA 💌
(i) Domain:	GSAA.com
	Cancel Save

Figure 32: Email Settings

NTP Server	Defines the URL or IP address of the NTP server. The GXE may obtain the date and time from the server
Enable DHCP Option 2	Allows device to get provisioned for Time Zone from DHCP Option 2 in

SETTINGS/TIME SETTINGS



	the local server automatically. The default setting is "Yes".		
Enable DHCP Option 42	Defines whether DHCP Option 42 should override NTP server or not. When enabled, DHCP Option 42 will override the NTP server if it's set up on the LAN. The default setting is "Yes".		
Time Zone	Controls the date/time display according to the specified time zone.		
Self-Defined Time Zone	This parameter allows the users to define their own time zone. The syntax is: std offset dst [offset], start [/time], end [/time] Default is set to: MTZ+6MDT+5,M4.1.0,M11.1.0 MTZ+6MDT+5 This indicates a time zone with 6 hours offset with 1 hour ahead which is U.S central time. If it is positive (+) if the local time zone is west of the Prime Meridian (A.K.A: International or Greenwich Meridian) and negative (-) if it is east.		
	The 1st number indicates Month: 1,2,3, 12 (for Jan, Feb,, Dec) The 2nd number indicates the nth iteration of the weekday: (1st Sunday, 3rd Tuesday) The 3rd number indicates weekday: 0,1,2,,6 (for Sun, Mon, Tues,,Sat) Therefore, this example is the DST which starts from the First Sunday of April to the 1st Sunday of November.		

MAINTENANCE PAGE DEFINATIONS

SYSLOG

In this page, users could configure syslog server with different levels. Select the modules you would like to send syslog to the server for different syslog levels.



Syslog Configura	tion					
Syslog Server:	log.ipvideotalk.com					
PBX Modules						
all level	module	error	warn	notic	verb	debug
	all modules	V				
	ami	✓				
	app_adsiprog	V				
	app_alarmreceiver	✓				
	app_amd	V				
	app_authenticate	V				
	app_controlplayback	✓				
	app_dictate	V				
	app_directed_pickup					
	app_directory					
	app_disa					
	app_echo					
	app_exec	V				

Figure 33: Syslog Settings

UPGRADE

The GXE5102/5104/5108/5116 can be upgraded via network or local uploading.

Upgrade Via	Allows users to choose the firmware upgrade method: TFTP, HTTP or HTTPS.
Firmware Server Path	Defines the server path for the firmware server.
Firmware File Prefix	If configured, only the firmware with the matching encrypted prefix will be downloaded and flashed into the GXE.
Firmware File Suffix	If configured, only the firmware with the matching encrypted postfix will be downloaded and flashed into the GXE.
HTTP/HTTPS User Name	The user name for the HTTP/HTTPS server.
HTTP/HTTPS Password	The password for the HTTP/HTTPS server.



MAINTENANCE/BACKUP

Users could backup the configurations on the GXE for restore purpose. Before creating new backup file, select the backup option first.

- If the Config-File is selected only, the backup file will be saved in the flash of the device.
- If Voice-File, Voicemail-File, Voice-Records or CDR is selected, external storage devices (USB Flash drive or SD Card) will be required because the backup file might be too large.

Once backup is done, the list of the backups will be displayed with date and time. Users then can download, restore or delete it from the GXE or the external device.

Manag	ge Configuration Backups					
Bac	kup Configuration					
Crea	te New Backup					
			FILE TYPE	BACKUP OPTION		
			Config-File			
			Voice-File			
			Voicemail-File			
			Voice-Records			
			CDR			
List	of Previous Configuration Back	ups				
S.No	Name	Date			Options	
1	backup_2013jan25_184047	18:40:49 Jan	25, 2013	Download	Restore Delete	



MAINTENANCE/RESET AND REBOOT

To factory reset the device, select the mode type first. There are three different types for reset.

- User Configuration: All the Extensions, Trunks and Routing configurations, as well as the local settings (network settings, upgrading setting and etc) will be cleared.
- User Data: All the data including voicemail, recordings, IVR Prompt, Music on Hold, CDR and backup files will be cleared.
- All: All the configurations and data will be reset to factory default.



Reset & Reboot		
Factory Reset		
Mode Type:	User Configuration User Configuration User Data	Reset
Reboot	All	
	Reboot	

Figure 35: Reset and Reboot

MAINTENANCE/TROUBLESHOOTING

On the GXE, users could capture traces, ping remote host and traceroute remote host for troubleshooting purpose. The captured trace can be downloaded for analysis. Also the instructions or result will be displayed in the web GUI output result.

Ethernet Capture	
() Interface Type:	LAN
(j) Capture Filter:	
	► Start = Stop
Output Result	
capture Dignostic run! Package capturing Done! Click on 'Download' to downlo	oad the captured packages.

Figure 36: Ethernet Capture



UPGRADING GXE5102/5104/5108/5116

UPGRADE FROM NETWORK

The GXE5102/5104/5108/5116 can be upgraded via TFTP/HTTP/HTTPS by configuring the URL/IP Address for the TFTP/HTTP/HTTPS server and selecting a download method. Configure a valid URL for TFTP, HTTP or HTTPS; the server name can be FQDN or IP address.

Examples of valid URLs:

firmware.grandstream.com

UPLOAD FIRMWARE LOCALLING

If there is no HTTP/TFTP server, users could also upload the firmware to the GXE5102/5104/5108/5116 directly via Web GUI. Please follow the steps below to upload firmware locally.

Download the latest GXE5102/5104/5108/5116 firmware file from the following link and save it in your PC;

http://www.grandstream.com/support/firmware

- Log in the Web GUI as administrator in the PC;
- Go to Web GUI->**Maintenance**->**Upgrade**, Upload the firmware file by clicking on _____ and select the firmware file from your PC;
- Click on 1 to start upgrading;
- Wait until the upgrading process is done and the GXE boots up again.

Local Upgrade	
Firmware File Path:	🧮 🚯 Upgrade
	Figure 37: Local Upgrade

A Note:

Please do not interrupt or power cycle the GXE5102/5104/5108/5116 when the upgrading process is on.



NO LOCAL FIRMWARE SERVERS

For users that would like to use remote upgrading without a local TFTP server, Grandstream offers a NAT-friendly HTTP server. This enables users to download the latest software upgrades for their devices via this server. Please refer to the webpage:

http://www.grandstream.com/support/firmware.

Alternatively, users can download a free TFTP or HTTP server and conduct a local firmware upgrade. A free windows version TFTP server is available for download from : http://support.solarwinds.net/updates/New-customerFree.cfm http://tftpd32.jounin.net/.

Instructions for local firmware upgrade via TFTP:

- 1. Unzip the firmware files and put all of them in the root directory of the TFTP server;
- Connect the PC running the TFTP server and the GXE5102/5104/5108/5116 device to the same LAN segment;
- 3. Launch the TFTP server and go to the File menu->Configure->Security to change the TFTP server's default setting from "Receive Only" to "Transmit Only" for the firmware upgrade;
- 4. Start the TFTP server and configure the TFTP server in the GXE's web configuration interface;
- 5. Configure the Firmware Server Path to the IP address of the PC;
- 6. Update the changes and reboot the GXE5102/5104/5108/5116.

End users can also choose to download a free HTTP server from <u>http://httpd.apache.org/</u> or use Microsoft IIS web server.



EXPERIENCING THE GXE5102/5104/5108/5116

Please visit our website: <u>http://www.grandstream.com</u> to receive the most up- to-date updates on firmware releases, additional features, FAQs, documentation and news on new products.

We encourage you to browse our <u>product related documentation</u>, <u>FAQs</u> and <u>User and Developer Forum</u> for answers to your general questions. If you have purchased our products through a Grandstream Certified Partner or Reseller, please contact them directly for immediate support.

Our technical support staff is trained and ready to answer all of your questions. Contact a technical support member or <u>submit a trouble ticket online</u> to receive in-depth support.

Thank you again for purchasing Grandstream GXE5102/5104/5108/5116, it will be sure to bring convenience and color to both your business and personal life.



FCC Warning

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC 15.105 Class B

(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a

particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help.