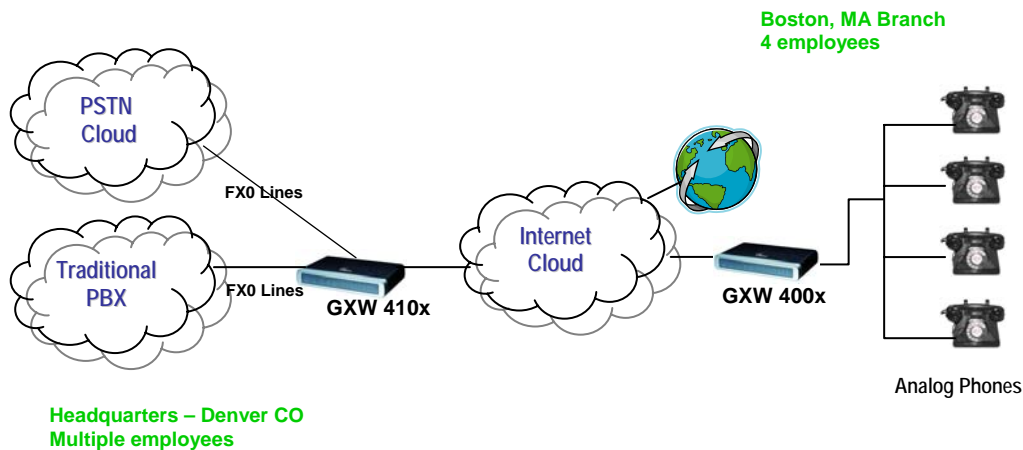


EXTENDING ANALOG LINES USING THE GXW SERIES



EXTENDING ANALOG LINES OVER IP USING GXW410x FXO GATEWAY & GXW400x FXS GATEWAY

This is a popular scenario which does not involve any SIP Server or IP PBX. This scenario allows an organization with a remote location to access the local FXO trunks (Traditional PBX trunks or PSTN lines) through the IP network.

In the diagram, remote users in Boston have standard analog phones connected to the GXW400x FXS Analog Gateway, while corporate users in the Denver location use a traditional PBX whose FXO trunks are connected to a GXW410x FXO Analog Gateway. With the help of the IP infrastructure and Grandstream GXW FXO and FXS Series, the remote users in Boston are able to make as well as receive calls from Denver as if they were at the same location.

NOTE: Please upgrade the firmware of the GXW4004 to **1.0.0.39 version** (point the device to 168.75.215.189 **OR** by downloading the firmware from www.grandstream.com and upgrading locally using TFTP or HTTP) and upgrade the firmware of the GXW410x to **1.0.0.53 version** (available at www.grandstream.com/BETATEST).

CONFIGURATION OF THE GXW410x & GXW400x SCENARIO

Configure the following settings for each of the devices using the Grandstream Web Configuration pages for each device.

GXW400x	GXW410x
<p>Profile 1</p> <ul style="list-style-type: none"> • SIP Server - Set it to IP Address of GXW410x • SIP Registration - No • Outgoing Call without Registration - Yes • NAT traversal – No 	<p>Advanced Settings</p> <ul style="list-style-type: none"> • STUN Server - Blank • Use Random Port - No
<p>Advanced Settings</p> <ul style="list-style-type: none"> • STUN Server - Blank 	<p>FXO lines</p> <ul style="list-style-type: none"> • Wait for Dial Tone - Y or N (whichever suits your FXO lines) • Stage Method - 1 • Off-hook Auto Dial - 444 @ch1-8:p1; ch1-8:5060++ <i>(444 is a dummy number, not a valid contact)</i>
	<p>Channels</p> <ul style="list-style-type: none"> • Channel - 1 • SIP User ID - 100 • Profile ID - Profile 1 • Local SIP Listen port - 5060++ <i>(100 is a dummy number, not a valid contact)</i>
	<p>Profile 1</p> <ul style="list-style-type: none"> • SIP Server - Set it to IP Address of GXW400x • SIP Registration - No • NAT traversal - No

NOTE : In order for this setup to work, it is extremely important that both gateways (GXW410x and GXW400x) are located on the same LAN OR Public Static IPs. In short, the GXWs should be able to locate each other.

HOW THIS WORKS

All the physical ports on each gateway correspond to a network port.

Physical FXO / FXS Port	GXW410x n/w Port	GXW400x n/w Port
1	5060	5060
2	5062	5062
3	5064	5064
4	5066	5066
5	5068	5068
6	5070	5070
7	5072	5072
8	5074	5074

When configured as previous section instructions, incoming calls from FXO gateway will be forwarded to the same port on FXS gateway. Thus calls coming to FXO line 1 will be forwarded to FXS line1 and so on.

For outgoing calls you will need to configure as mentioned below.

ONE TO ONE MAPPING BETWEEN FXS PORT AND FXO PORTS

If your setup requires that FXS port 'x' user be able to access only FXO port 'x' for outbound calls, use this setting under Channels Webpage on the GXW410x.

2. Prefix to Specify Port(1 stage dialing method):

(default 99)

(Syntax: prefix# + ch# + dialing# will request the ch# per call)

(Note that this code has to prefix dialplan number and prefix doesn't impact round-robin)

By default the value is 99.

This setting allows you the power to send an outbound call to a specific FXO line.

For example:

Bob is in the Boston office (GXW400x) on FXS port 1 and he needs to make an outbound call to Alice in the Denver office on her extension 9300 through FXO port 1. So Bob needs to dial **99-1-9300**, which forces the call to go through FXO line 1 only.

Since the FXS gateway has a *Dial Plan* feature, you can configure all calls to have a prefix (such as 99) appended automatically so Bob could just dial 1-9300 and the FXS gateway would append 99 to it before dialing.

If you need further information or have any questions related to this setup, please email us at support@grandstream.com