CyberData
The IP Endpoint Company

Leap Configuration Guide: IP to Analog Devices

Leap Configuration Guide: IP to Analog Devices
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Revision Information

8/26/2022 – Initial Release

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1.0 Supported CyberData Products

This section describes the products used for interoperability testing with Leap.

Table 1-1: Supported CyberData Products

EQUIPMENT	MODEL or PART NUMBER	FIRMWARE VERSION
CYBERDATA SIP PAGING ADAPTER	011233	20.2.0 or later
CYBERDATA SIP PAGING SERVER	011146	20.1.0 or later

2.0 Before You Start

Network Advisories

Leap uses a Fully Qualified Domain Name (FQDN) for the SIP server address. The CyberData IP to Analog device needs to perform a DNS query to resolve the IP address of Leap's SIP Server FQDN. In addition, be sure to verify the following ports are available for the device to use:

- UDP 5060 (SIP)
- TCP 5060 (SIP)
- UDP 10500 (RTP)

The device will need to traverse the public internet in order to operate with Leap in the cloud.

The device's paging and Nightringer extension uses SIP port 5060 to send and receive SIP messages.

SIP ports 5060 and RTP port 10500 are the default values on all noted firmware levels. Alternatively, SIP ports are configurable on the **SIP** page of the web interface. The RTP port setting on the **SIP** page is used for both extensions.

Product Documentation and Utilities

Before you start, download the Operation and Quick Start guides from the device's product webpage:

SIP Paging Adapter:
https://www.cyberdata.net/collections/sip/products/011233

SIP Paging Server:
https://www.cyberdata.net/collections/sip/products/011146

The CyberData Discovery Utility can be used to locate CyberData devices on your network. You may download it from the following web address:
https://www.cyberdata.net/pages/discovery

> *Note: DHCP addressing mode is enabled on default on all noted firmware levels.*

3.0 Setting up a Device in the Leap Tel System

This section outlines how to create a device in the Leap Tel system.

1. Login to the Leap system
2. Mouse over instances and select the site/instance where the device will be used.

Figure 3-1: Instance Selection

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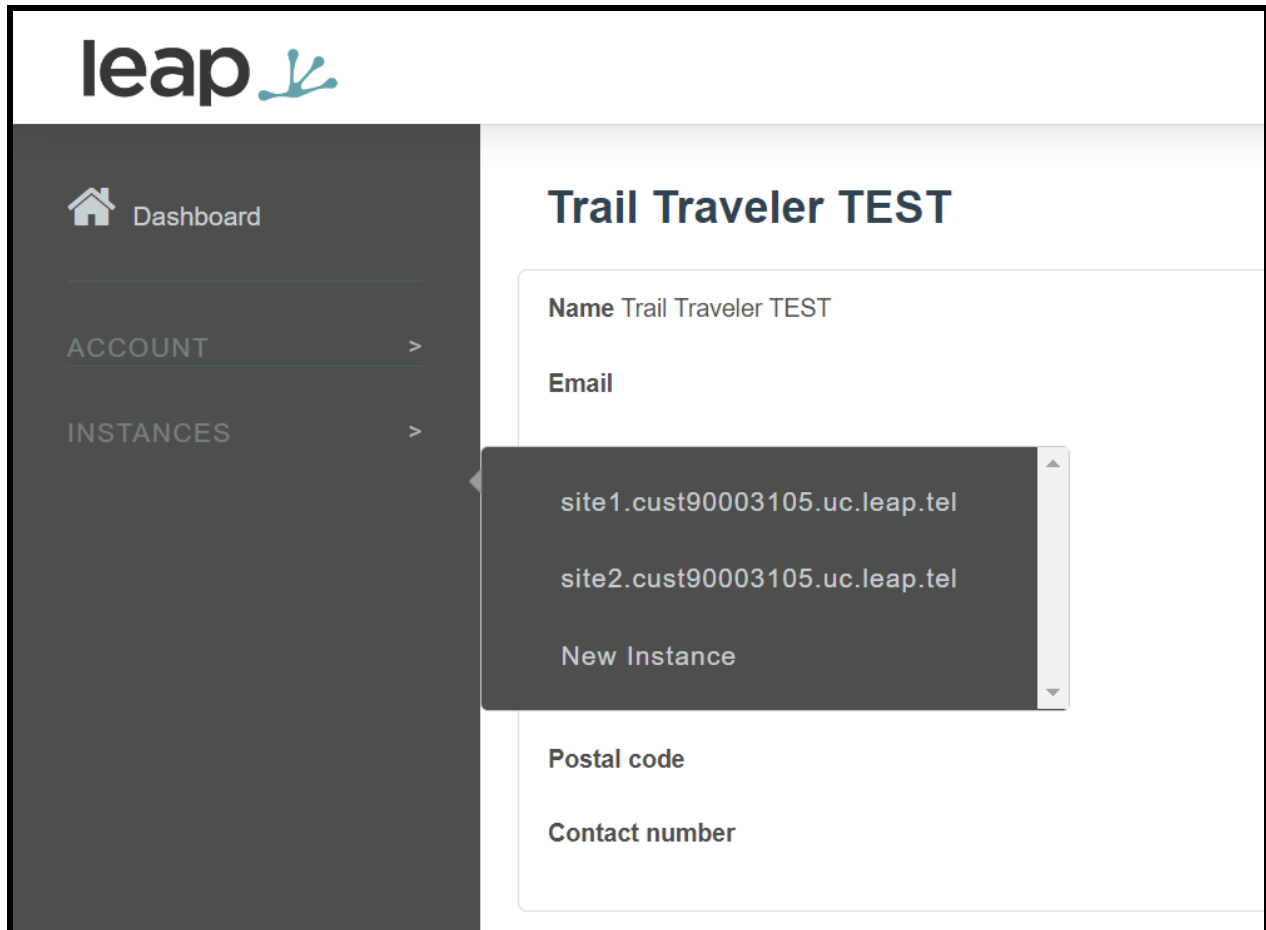
3. From the site page select **Devices**, then press the **+** button to create a new device.

Figure 3-2: Workspaces Page

Devices								8 -

Search:

Name	Login	SIP Caller ID name	SIP Caller ID number	Edit	Delete	Origins	Registration Status	Routing
Ted Home Phone	tedxxx	Traveler Traveler		✏	🗑	≢	●	📖
Home Speaker	cyb3r	Traveler Traveler		✏	🗑	≢	●	📖
Test device	fubar	Traveler Traveler		✏	🗑	≢	●	📖
Cyber Intercom	Intercom	Traveler Traveler		✏	🗑	≢	●	📖
CyberNight	CyberNight	Traveler Traveler		✏	🗑	≢	●	📖
CallButton	CallButton	Traveler Traveler		✏	🗑	≢	●	📖
PaulSoftphone	PaulSoftphone	Traveler Traveler		✏	🗑	≢	●	📖
KERRY'S DESK PHONE	kgarrison123	Traveler Traveler		✏	🗑	≢	●	📖

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4. Set the **Name** of the device, being descriptive can help for device management in the future.
5. Set the **Login** field as desired, CyberData recommends not using spaces, hyphens, or underscores.
6. Press **Save** at the bottom of the page.

Figure 3-3: Add a Device

New device

Name ⓘ

CyberData SIP Paging Adapter

Login ⓘ

PagingAdapter

Password ⓘ   REGENERATE PASSWORD

nQThnvcJSZU_aq1kAt01

7. After pressing save the page will refresh, click on **Extensions**.
8. In the **Extensions** section press the + to create a new extension.

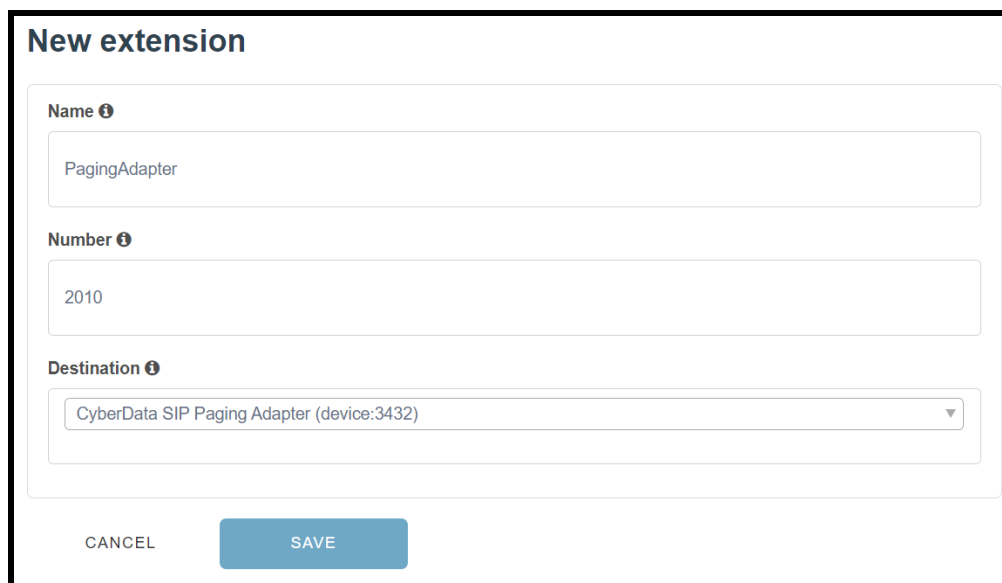**Figure 3-4:** Pick a device

Extensions   9   -

Search:

Name	Number	Edit	Delete	Origins	Routing
CyberData Ring Group	3004	✏	🗑	⌁	📖
Kerry Home Speaker	4001	✏	🗑	⌁	📖
Cyber Intercom	3006	✏	🗑	⌁	📖
CyberNight	3008	✏	🗑	⌁	📖
CallButton	3010	✏	🗑	⌁	📖
PaulSoftphone	3011	✏	🗑	⌁	📖
Sales Conference Room Ext	4002	✏	🗑	⌁	📖
Kerry	1002	✏	🗑	⌁	📖
Ted	2005	✏	🗑	⌁	📖

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9. In the New extension window set a **Name** for the extension. CyberData recommends having the name correlate to the device that will use the extension.
10. Set the **Number** as desired.
11. Set the **Destination** to the **Name** of the device set in step 4.
12. Press **Save.**

Figure 3-5: New Extension Creation

Configuration on the Leap Tel side is now complete and the CyberData device is ready to be configured. Values set on the Device tab are required for registration, CyberData recommends opening up the Device created in steps 3 - 6 for ease of copy and pasting.

4.0 Setting up the CyberData IP to Analog Device

This section outlines the required sections for the CyberData device and how the credentials supplied from Leap correlate to the CyberData settings. For the purposes of the document the SIP Paging Adapter is used to illustrate how to setup the device. There is no difference in configuration for the SIP Paging Adapter or SIP Paging Server.

Table 4-1: SIP Credential Explanation

Leap Credential	CyberData Setting
Instance	Primary SIP Server
Device Login	Primary SIP User ID
Device Login	Primary SIP Auth ID
Device Password	Primary SIP Auth Password

CyberData's default login credentials are:
Username: admin
Password: admin

1. Log into the web interface of the CyberData device.

Figure 4-1: Home Tab

2. Navigate to the SIP tab.
3. Set the **Primary SIP Server** field to the FQDN of the Instance.
4. Set the **Primary SIP User ID** to the Device Login set in step 3-5.
5. Set the **Primary SIP Auth ID** to the Device Login set in step 3-5.
6. Set the **Primary SIP Auth Password** to the Device Password.

Note: Leap Tel supports both UDP and TCP for SIP Transport. Please use either of the transport protocols, during testing CyberData found that TCP preforms best.

7. Save and Reboot.

Figure 4-2: SIP Tab

SIP Settings

Enable SIP operation:	☑
Register with a SIP Server:	☑
Buffer SIP Calls:	☐
Primary SIP Server:	site1.cust90003105.uc.leap.tel
Primary SIP User ID:	PagingAdapter
Primary SIP Auth ID:	PagingAdapter
Primary SIP Auth Password:	••••••••••••••••••
Re-registration Interval (in seconds):	360
Backup SIP Server 1:	Host or IP address
Backup SIP User ID:	User ID
Backup SIP Auth ID:	Auth ID
Backup SIP Auth Password:	Password
Re-registration Interval (in seconds):	360
Backup SIP Server 2:	Host or IP address
Backup SIP User ID:	User ID
Backup SIP Auth ID:	Auth ID
Backup SIP Auth Password:	Password
Re-registration Interval (in seconds):	360
Remote SIP Port:	5060
Local SIP Port:	5060
SIP Transport Protocol:	TCP
TLS Version:	1.2 only (recommended)
Verify Server Certificate:	☐
Outbound Proxy:	Host or IP address
Outbound Proxy Port:	0
Use Cisco SRST:	☐
Disable rport Discovery:	☐
Keep Alive Period:	10000

Nightringer Settings

SIP Server:	Host or IP address
SIP User ID:	User ID
SIP Auth ID:	Auth ID
SIP Auth Password:	Password
Re-registration Interval (in seconds):	360

Call Disconnection

Terminate Call after delay:	0

Audio Codec Selection

Codec: Auto Select

RTP Settings

RTP Port (even):	10500
Asymmetric RTP:	☐
Jitter Buffer:	50
RTP Encryption (SRTP):	Disabled

Save   Reboot   Toggle Help

If the credentials have been entered correctly the device should now be registered with Leap. This can be verified on the home tab of the web interface or on the Leap Device page.

Figure 4-3: Home Tab – Registered

5.0 Using the CyberData SIP Paging Adapter in a Leap Tel environment.

CyberData SIP Paging Adapters are designed as an interface to an existing analog paging system. Connecting to the analog speaker system is crucial and CyberData has a matrix of different compatible amplifiers available on our website. If your amplifier is not on our website please reach out to our support department to see if and how to connect to the amplifier.

5.1 Setting up stored messages

Once the adapter has been registered with Leap it is possible to either make a live announcement or play a stored message. Follow these steps to setup a stored message.

5.1.1 Creating the Audiofile

CyberData devices require audio files to be in a specific format. CyberData recommends using a free tool like Audacity to convert an audio file into the specific required format.

- RIFF (little-endian) data,
- WAVE audio, Microsoft PCM
- 16 bit, mono 8000 Hz

5.1.2 Uploading the Audiofile

Once the audiofile is created it must then be uploaded to the CyberData device.

1. Navigate to the **Audiofiles** tab.

Figure 5-1: <u>Audiofiles Tab</u>
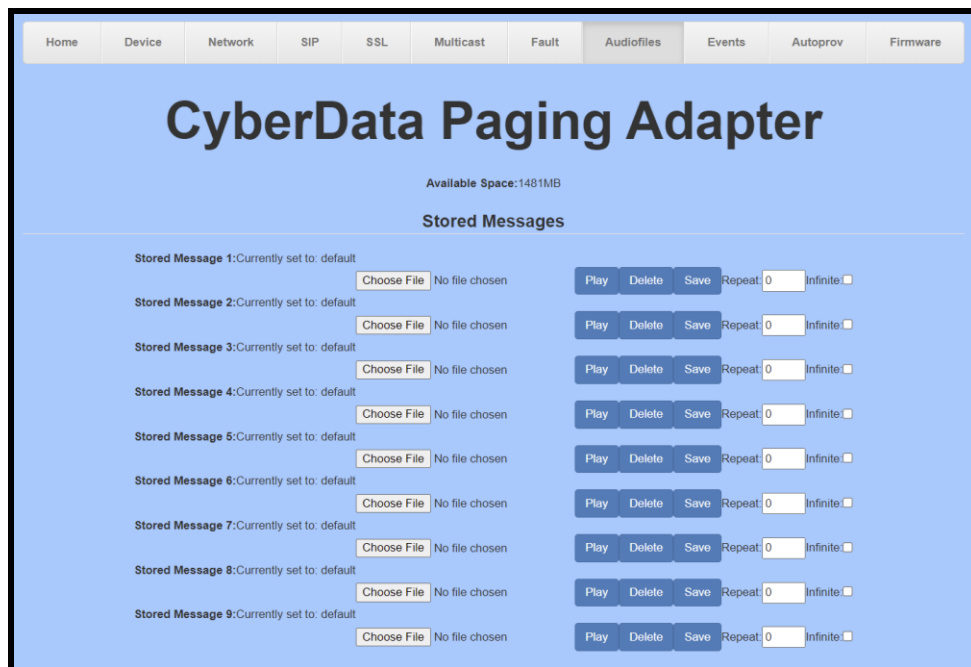
2. Upload the audiofile to one of the 9 stored message options by pressing **Choose File**.
3. Select the desired audiofile and press **open.**
4. Click **Save** to upload the audiofile.

Figure 5-2: <u>Audiofile Uploaded</u>

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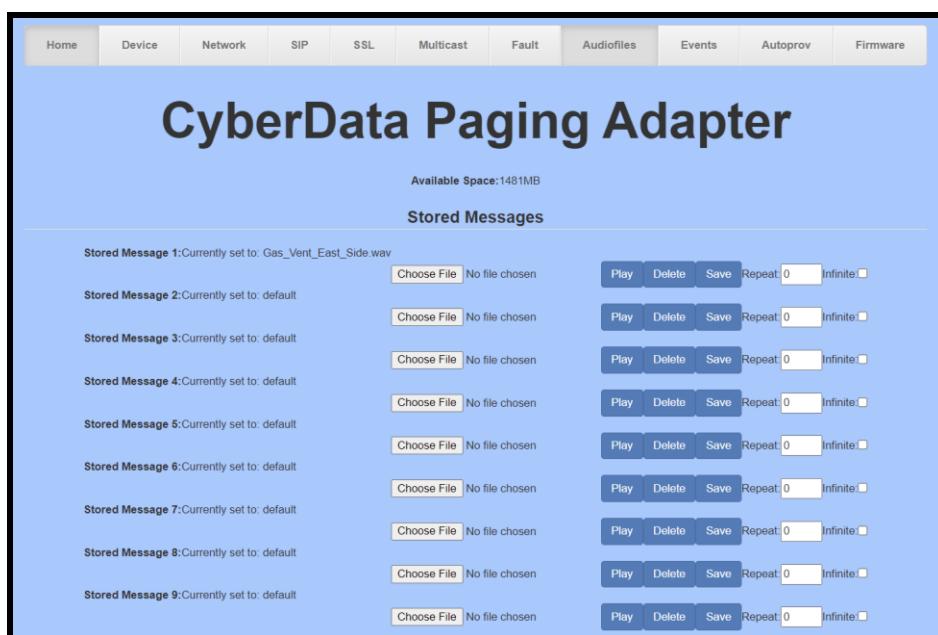
5.2 Manual DTMF for Analog Zone

Some analog amplifiers require a DTMF pattern to select a physical zone. In those situations, the setting "Manual DTMF Entry for Analog Zone" is required. Follow these steps to enable the setting.

1. Navigate to the **Device** tab.
2. Check the box for "**Manual DTMF Entry for Analog Zone**" located in the DTMF settings section (Bottom Right).
3. Save.

Figure 5-3: Device Tab

6.0 Using the CyberData SIP Paging Server in a Leap Tel system.

CyberData's SIP Paging Server is designed as a SIP to Multicast style device that can receive a SIP call and convert the audio to Multicast to send across the local area network. The SIP Paging Server supports up to 100 Multicast Groups or Zones, CyberData refers to these as 'PGroups'.

6.1 Setting up a PGroup.

Once the SIP Paging Server is registered with the platform, use the PGroups tab to configure the Paging Group.

1. After Logging into the Paging Server go to the **PGroups** Tab.
2. On the PGroups Tab press **edit** on the group to be configured, for the purpose of this document group 0 will be edited.

Figure 6-1: PGroups Tab

3. Adjust the Multicast Address if necessary.
4. Adjust the Multicast Port if necessary.
5. Name the PGroup.
6. If required set a security code for the group.
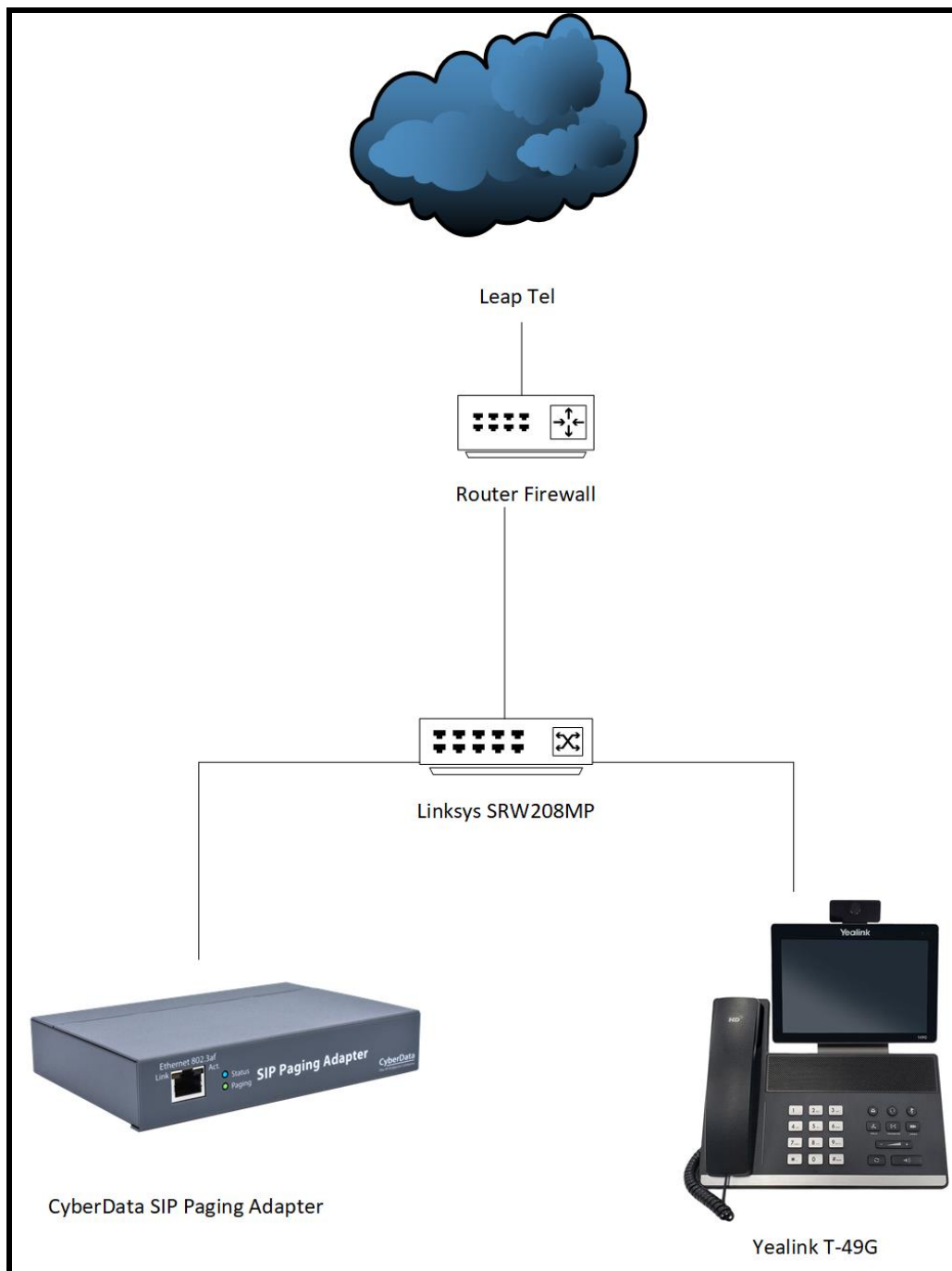7. Press **OK** to finish editing.

Figure 6-2: Edit PGroup

8. Save the changes.

7.0 Setup Diagram

Figure 7-1: <u>Interoperability Test Infrastructure</u>

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8.0 Contact CyberData Corporation

Sales

For sales-related questions, please visit our Contact CyberData Sales web page for more information.

Technical Support

For CyberData Technical Support, please submit a Contact CyberData VoIP Technical Support form on our website.

The CyberData VoIP Technical Support Contact form initiates a troubleshooting ticket which CyberData uses for quality assurance purposes.

Additionally, the Contact VoIP Tech Support form tells us which phone system you are using, the make and model of the network switch, and other essential troubleshooting information we need to efficiently assist with a resolution. Please also include as much detail as possible in the Describe Problem section of the form. Your installation is extremely important to us.

Documentation Feedback

We realize changes to the software or hardware of the Leap Tel platform may render this document obsolete. We welcome and encourage documentation feedback to ensure continued applicability.