

Webex Calling Configuration Guide: IP66 Horns

Document Part #932013A

CyberData Corporation
3 Justin Court
Monterey, CA 93940
(831) 373-2601

Webex Calling Configuration Guide: IP66 Horns

Document #932013A

COPYRIGHT NOTICE:

© 2022, CyberData Corporation, ALL RIGHTS RESERVED.

This configuration guide and related materials are the copyrighted property of CyberData Corporation. No part of this configuration guide or related materials may be reproduced or transmitted, in any form or by any means (except for internal use by licensed customers), without prior express written permission of CyberData Corporation. This configuration guide, and the products, software, firmware, and/or hardware described in this configuration guide are the property of CyberData Corporation, provided under the terms of an agreement between CyberData Corporation and recipient of this configuration guide, and their use is subject to that agreement and its terms.

DISCLAIMER: Except as expressly and specifically stated in a written agreement executed by CyberData Corporation, CyberData Corporation makes no representation or warranty, express or implied, including any warranty or merchantability or fitness for any purpose, with respect to this configuration guide or the products, software, firmware, and/or hardware described herein, and CyberData Corporation assumes no liability for damages or claims resulting from any use of this configuration guide or such products, software, firmware, and/or hardware. CyberData Corporation reserves the right to make changes, without notice, to this configuration guide and to any such product, software, firmware, and/or hardware.

OPEN SOURCE STATEMENT: Certain software components included in CyberData products are subject to the GNU General Public License (GPL) and Lesser GNU General Public License (LGPL) “open source” or “free software” licenses. Some of this Open Source Software may be owned by third parties. Open Source Software is not subject to the terms and conditions of the CyberData COPYRIGHT NOTICE or software licenses. Your right to copy, modify, and distribute any Open Source Software is determined by the terms of the GPL, LGPL, or third party, according to who licenses that software. Software or firmware developed by CyberData that is unrelated to Open Source Software is copyrighted by CyberData, subject to the terms of CyberData licenses, and may not be copied, modified, reverse-engineered, or otherwise altered without explicit written permission from CyberData Corporation.

TRADEMARK NOTICE: CyberData Corporation and the CyberData Corporation logos are trademarks of CyberData Corporation. Other product names, trademarks, and service marks may be the trademarks or registered trademarks of their respective owners.

Revision Information

11/11/2022 – Initial Release

Table of Contents

Revision Information	2
Table of Contents	3
1.0 Supported CyberData Products	4
2.0 Before You Start	5
3.0 Setting up a Workspace in Webex Calling	7
4.0 Setting up the CyberData IP66 Horn	12
5.0 Using the CyberData IP66 Horn in a Webex Calling system.	15
5.1 Setting up a Multicast priority	15
5.2 Creating a paging group in Webex Calling	16
6.0 Setup Diagram	20
7.0 FAQ	21
8.0 Contact CyberData Corporation.....	22

1.0 Supported CyberData Products

This section describes the products used for interoperability testing with Webex Calling.

Table 1-1: Supported CyberData Products

EQUIPMENT	MODEL or PART NUMBER	FIRMWARE VERSION
CYBERDATA SIP ENABLED IP66 INDOOR/OUTDOOR HORN	011457	20.5.2 or later
INFORMACAST ENABLED IP66 INDOOR/OUTDOOR HORN	011472	20.5.2 or later

2.0 Before You Start

Network Advisories

Webex Calling uses a Fully Qualified Domain Name (FQDN) for the SIP server and Outbound Proxy addresses. The CyberData horn needs to perform a DNS query to resolve the IP address of Webex's Outbound Proxy FQDN.

In addition, be sure to verify the following ports are available for the device to use:

- TCP 5060, 5061 (SIP)
- UDP 10500 (RTP)

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

The horn'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.

InformaCast

Singlewire's InformaCast uses SLP (Service Location Protocol) for devices to discover the InformaCast server. CyberData recommends using SLP for the easiest deployment of intercoms to use with InformaCast. SLP requires multicast support on the LAN and a local InformaCast server for devices to connect with.

For assistance setting up SLP please contact Singlewire.

<https://support.singlewire.com/s/article/IP-Speaker-Registration-and-Troubleshooting-Guide>

Product Documentation and Utilities

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

SIP IP66 Indoor/Outdoor Horn:

<https://www.cyberdata.net/collections/sip/products/011457>

InformaCast Enabled IP66 Indoor/Outdoor Horn:

<https://www.cyberdata.net/collections/singlewire/products/011472>

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.

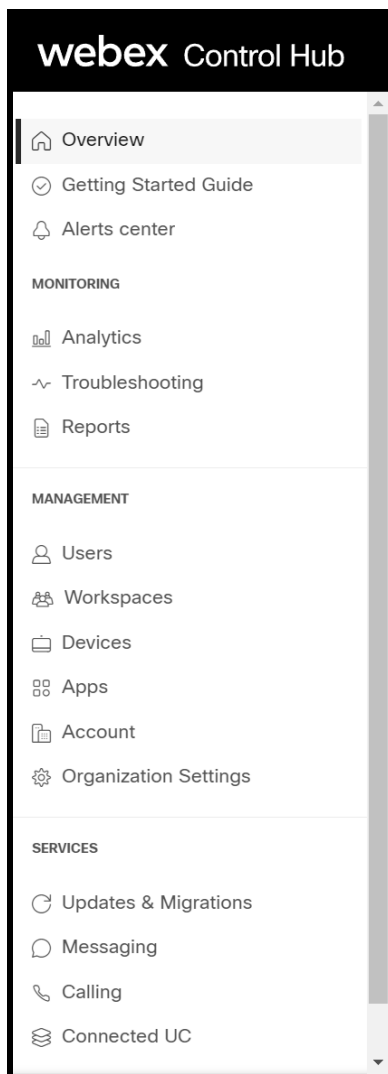
3.0 Setting up a Workspace in Webex Calling

This section outlines how to create a Webex Calling user in the Webex Control Hub (CH). This will provide the credentials to then setup the CyberData device.

[Cisco has detailed instructions in the Cisco Webex Help Center in the Add your customer managed device article.](#)

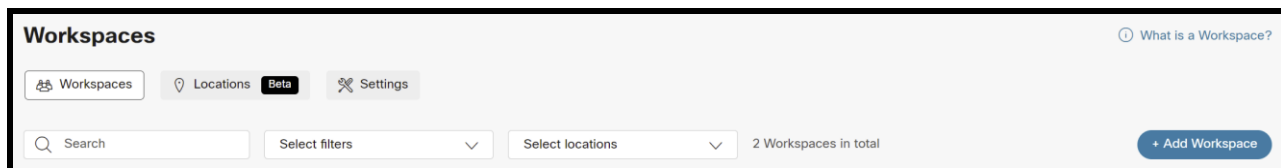
1. Login to [Webex Control Hub as the administrator](#).
2. From the overview page select **Workspaces**.

Figure 3-1: Overview Side Bar



- From the Workspaces page select the **Add Workspace** button.

Figure 3-2: Workspaces Page



- On the Add Workspace popup create a Workspace for the speaker.

Figure 3-3: Create a Workspace

Add workspace

Workspaces represent a physical space in your organization. It may contain one device or multiple devices that work together. Workspace details show usage, settings, and environmental status for that physical space to help you make decisions to improve the use and cost of your space.

Name *
What do you want to name the Workspace?

Type ⓘ
What type best describes the Workspace?

Capacity
How many people is the Workspace suitable for?

Location
Where is the Workspace located?

Types of Workspaces
Workspaces come in different shapes and sizes, defining what type of workspace you are adding will help us deliver insights into adoption and usage, in the future defaults for certain types may exist.

6/6

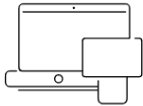
Cancel Next

5. After creating the workspace select **Cisco IP Phone**.

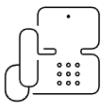
Figure 3-4: Pick a device

Add workspace


What kind of device do you want to set up in this workspace?



Cisco Webex device
e.g. Cisco Webex Board, Room and Desk Series device.



Cisco IP Phone
e.g. Cisco 8845, 8865, 8800 and Analog Telephone Adapter ports



No device
Creates an empty workspace. Add a Room, Board or Desk series device later.

Select Device
Customer Managed Device

Device Vendor
CyberData Customer Managed

Enter MAC Address
Enter the MAC address of the IP phone you want to add.
00:20:f7:04:f6:b3

☒ *I confirm that creating this device profile will expose sensitive device credentials that could be misused and exploited by users with unauthorized access. You are responsible for securing and recycling these credentials. You agree that Cisco is not responsible for any fraudulent charges or phone calls that result from the exposure of these device credentials. Cisco offers limited support for third-party devices connected via this interface. Cisco will only investigate basic issues for third-party devices that are actively registered to the Webex Calling platform. Any other third-party device-related support issues should be directed to the third-party device vendor, including issues related to onboarding, deployment, configuration, or connectivity.

Back Next

6. Set the device to **Customer Managed Device**.
7. Select **CyberData Customer Managed** as the Device Vender.
8. Enter the MAC address of the CyberData device.
9. Check the box to confirm authorization.
10. Press **Next** to continue.

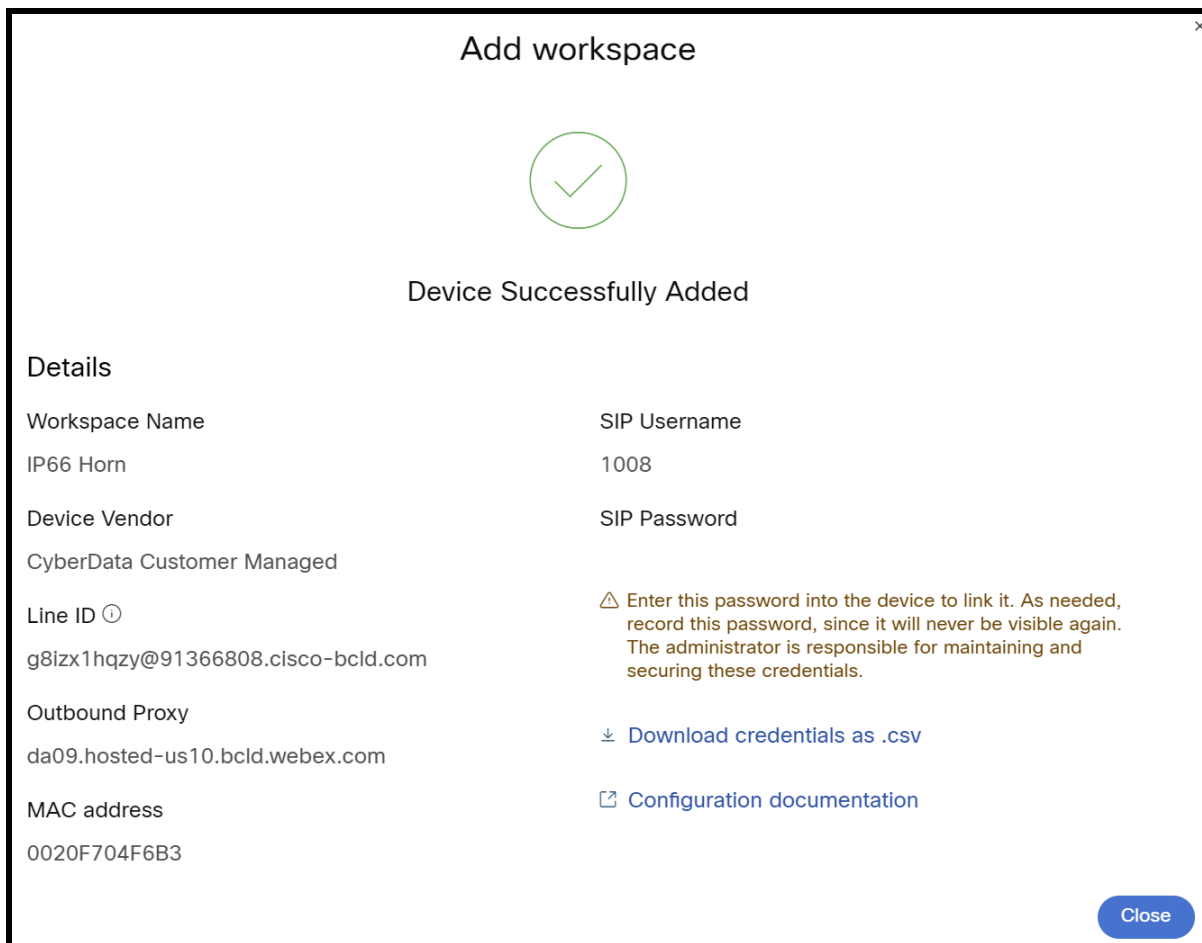
Figure 3-5: Set an Extension Number

The screenshot shows a web interface titled "Add workspace" with a close button (X) in the top right corner. Below the title is the section "Assign numbers" with a descriptive text: "Choose from the available phone numbers and extensions in the drop-down lists. These will become the primary line which you can use to reach this place." A "Reset" link is located to the left of the form fields. The form consists of five fields: "Workspace" (a text field containing "IP66 Horn"), "Location *" (a dropdown menu showing "CyberData Corp HQ"), "Phone Number *" (a dropdown menu showing "+17754478281"), "Extension *" (a text field containing "1008"), and "Calling Plan" (a toggle switch that is currently turned on). At the bottom right of the form are two buttons: "Back" and "Save".

11. Set a location for the device.
12. If desired set a phone number for the device.
13. Set an Extension Number for the device

Note: It is possible to create a workspace with both a phone number and extension number, or just one or the other. Depending on the nature of the use case set the numbers accordingly.

Figure 3-6: Device Successfully Added



Note: The password has been obscured.

11. Make sure to press **Download credentials as .csv** because this page is only shown once.

4.0 Setting up the CyberData IP66 Horn

This section outlines the required sections for the CyberData device and how the credentials supplied from Webex correlate to the CyberData settings.

Table 4-1: SIP Credential Explanation

Webex Calling Credential	CyberData Setting
2 nd Half of Line ID	Primary SIP Server
1 st Half of Line ID	Primary SIP User ID
SIP Username	Primary SIP Auth ID
SIP Password	Primary SIP Auth Password
Outbound Proxy	Outbound Proxy

Note: CyberData devices do not support 'Line IDs' and the ID provided by Webex must be broken up to be used by the CyberData device. Webex provides the line ID in the following format: "UserID@SIP_Server_Address". Everything before the @ symbol is used as CyberData's Primary SIP User ID and everything after the @ symbol is used as the Primary SIP Server.

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

The screenshot displays the 'Home' tab of the CyberData SIP Outdoor Horn web interface. The top navigation bar includes links for Home, Device, Audio, Network, SIP, SSL, Multicast, Audiofiles, Events, Autoprovisioning, and Firmware. The main content area is titled 'CyberData SIP Outdoor Horn' and is divided into several sections:

- Current Status:** Displays device information such as Serial Number (457200100), Mac Address (00:20:17:04:1b:b3), Firmware Version (v20.5.2), Partition 2 (v20.5.2), Partition 3 (v20.5.2), and Booting From (partition 2). It also shows network settings like IP Addressing (DHCP), IP Address (192.168.1.18), Subnet Mask (255.255.255.0), Default Gateway (192.168.1.1), and DNS Server 1 (192.168.1.1). Other settings include SIP Volume (4), Multicast Volume (4), Ring Volume (4), Volume Boost (0), SIP Mode (Enabled), Multicast Mode (Disabled), and Event Reporting (Disabled).
- Admin Settings:** Includes fields for Username (admin), Password (masked), and Confirm Password (masked). Buttons for Save, Reboot, and Toggle Help are present.
- Import Settings:** Features a 'Choose File' button and an 'Import Config' button.
- Export Settings:** Includes an 'Export Config' button.
- Primary SIP Server:** Shows the status of the Primary SIP Server (Not registered), Backup Server 1 (Not registered), Backup Server 2 (Not registered), and Nightingale Server (Not registered).

2. Navigate to the SIP tab.
3. Set the **Primary SIP Server** field to the 2nd half of the Line ID.
4. Set the **Primary SIP User ID** to the 1st half of the Line ID.

Note: Do not add an @ to SIP Server or User ID.

5. Set the **Primary SIP Auth ID** to the Extension Number.
6. Set the **Primary SIP Auth Password** to the SIP Password.
7. Set the **Outbound Proxy** to the Outbound Proxy.
8. Leave the **Outbound Proxy port** set to 0.
9. Set the **SIP Transport** to TLS.
10. Ensure **TLS Version** is set to **1.2 Only (Recommended)**.
11. Set RTP Encryption to **Mandatory**.
12. Save and Reboot.

Figure 4-2: SIP Tab

CyberData SIP Outdoor Horn

SIP Settings

Enable SIP operation: ☒

Register with a SIP Server: ☒

Buffer SIP Calls: ☐

Primary SIP Server:

Primary SIP User ID:

Primary SIP Auth ID:

Primary SIP Auth Password:

Re-registration Interval (in seconds):

Backup SIP Server 1:

Backup SIP User ID:

Backup SIP Auth ID:

Backup SIP Auth Password:

Re-registration Interval (in seconds):

Backup SIP Server 2:

Backup SIP User ID:

Backup SIP Auth ID:

Backup SIP Auth Password:

Re-registration Interval (in seconds):

Remote SIP Port:

Local SIP Port:

SIP Transport Protocol: TLS NTP enabled

TLS Version: 1.2 only (recommended)

Verify Server Certificate: ☐

Outbound Proxy:

Outbound Proxy Port:

Use Cisco SRST: ☐

Disable rport Discovery: ☐

Keep Alive Period:

Nightringer Settings

SIP Server:

Remote SIP Port:

Local SIP Port:

Outbound Proxy:

Outbound Proxy Port:

SIP User ID:

SIP Auth ID:

SIP Auth Password:

Re-registration Interval (in seconds):

Call Disconnection

Terminate Call after delay:

Audio Codec Selection

Codec: Auto Select

RTP Settings

RTP Port (even):

Asymmetric RTP: ☐

Jitter Buffer:

RTP Encryption (SRTP): Mandatory

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

Figure 4-3: Home Tab – Registered

The screenshot displays the 'Home' tab of the CyberData SIP Outdoor Horn web interface. The top navigation bar includes tabs for Home, Device, Audio, Network, SIP, SSL, Multicast, Audiofiles, Events, Autoprovisioning, and Firmware. The main header reads 'CyberData SIP Outdoor Horn'. Below this, the interface is organized into four primary sections:

- Current Status:** Displays device information including Serial Number (457200100), Mac Address (00:20:f7:04:f6:b3), Firmware Version (v20.5.2), Partition 2 (v20.5.2), Partition 3 (v20.5.2), and Booting From (partition 2). It also shows IP Addressing (DHCP), IP Address (192.168.1.18), Subnet Mask (255.255.255.0), Default Gateway (192.168.1.1), and DNS Servers (192.168.1.1). Audio settings like SIP Volume, Multicast Volume, Ring Volume, and Volume Boost are listed. SIP Mode is Enabled, while Multicast Mode and Event Reporting are Disabled. At the bottom, it confirms the Primary SIP Server is 'Registered', while Backup and Nighthringer servers are 'Not registered'.
- Admin Settings:** Contains fields for Username (admin), Password (masked), and Confirm Password (masked). It includes 'Save', 'Reboot', and 'Toggle Help' buttons.
- Import Settings:** Features a 'Choose File' button (showing 'No file chosen') and an 'Import Config' button.
- Export Settings:** Includes an 'Export Config' button.

5.0 Using the CyberData IP66 Horn in a Webex Calling system.

CyberData IP66 Horns are designed with IP Loud Paging in mind. Supporting both SIP and Multicast that allows the horns to work with individual addressability or mass notification scenarios.

5.1 Setting up a Multicast priority

CyberData devices support multicast that works in a priority system, where a higher priority will always supersede a lower priority. For example, a multicast page to priority 4 would play over a background music stream at priority 0. SIP Calls are treated as priority 4.5.

CyberData devices also have an Emergency Multicast Priority, priority 9, which will always play at max volume regardless of setting, by design.

Figure 5-1: Multicast Tab

CyberData SIP Outdoor Horn

Multicast Settings

Enable Multicast Operation: ☒

Priority	Address	Port	Name	Buffer	Beep
0	239.168.3.1	2000	Background Music	<input type="checkbox"/>	<input type="checkbox"/>
1	239.168.3.2	3000	MG1	<input type="checkbox"/>	<input type="checkbox"/>
2	239.168.3.3	4000	MG2	<input type="checkbox"/>	<input type="checkbox"/>
3	239.168.3.4	5000	MG3	<input type="checkbox"/>	<input type="checkbox"/>
4	239.168.3.5	6000	MG4	<input type="checkbox"/>	<input type="checkbox"/>
5	239.168.3.6	7000	General Paging	<input type="checkbox"/>	<input type="checkbox"/>
6	239.168.3.7	8000	MG6	<input type="checkbox"/>	<input type="checkbox"/>
7	239.168.3.8	9000	MG7	<input type="checkbox"/>	<input type="checkbox"/>
8	239.168.3.9	10000	MG8	<input type="checkbox"/>	<input type="checkbox"/>
9	239.168.3.10	11000	Emergency	<input type="checkbox"/>	<input type="checkbox"/>

Polycom Default Channel: 1

Polycom Priority Channel: 24

Polycom Emergency Channel: 25

SIP calls are considered priority 4.5

Port range can be from 2000-65535

Priority 9 is the highest and 0 is the lowest

A higher priority audio stream will always supersede a lower one

Priority 9 streams will play at maximum volume

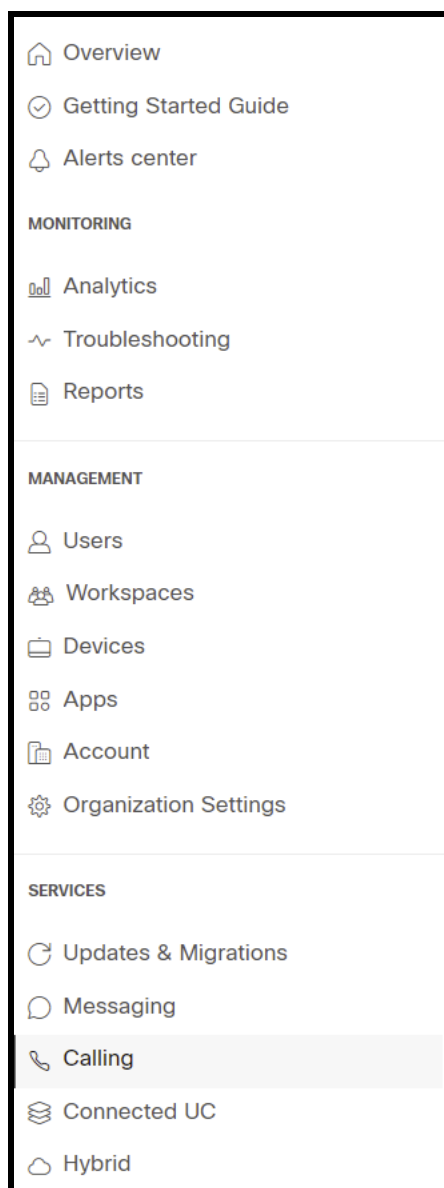
Save Reboot

5.2 Creating a paging group in Webex Calling

Webex calling supports paging groups that allow one-way pages to up to 75 devices at the same time. This makes products like IP66 Horns easy to page with in the Cisco Webex calling environment. Follow these steps to setup a paging group.

1. Select Calling from the Services sub section in the sidebar.

Figure 5-2: Select Calling



- From the Calling page select **Features** and then **Paging Group**.

Figure 5-3: Calling Settings

Calling

Numbers Locations Call Routing **Features** PSTN Orders Service Settings Client Settings

Auto Attendant Call Park Extension Call Park Group Call Pickup Call Queue DECT Network Hunt Group Single Number Reach **Paging Group** Receptionist Client Virtual Extension Voicemail Group

Paging Group
Paging Group allows a user to place a one-way call or group page to up to 75 target users by dialing a number or extension assigned to a specific paging group.

Search Paging Group CyberData_Test Export

- Press **Create Paging Group** to begin the paging group creation process.

Figure 5-4: Naming a Paging Group

Create Paging Group

Settings Paging Targets Paging Originators Review

Location
Assign your Paging Group to a Location.
CyberData_Test

Paging Group Name
The name is used to default Caller ID and reference the Paging Group later in the process.
Paging Group

Phone Number
Assign the Paging Group to a Webex Calling primary line. A phone number and/or extension is required.
None and/or 2000

Language
Select the Paging Group language
English

Calling Line ID
This ID displays on the target user's phones when a group page is performed.

Calling ID First Name **Calling ID Last Name**
Emergency Paging

Calling ID Label
This determines what is shown on a paging target user's caller ID when a group page is performed
☒ Paging Group ID
☐ Page Originator

Cancel Next

4. Set the location of the paging group.
5. Name the paging group.
6. Set a phone number and/or an extension number.
7. Pick the desired language for the group.
8. Set the Calling ID Name.
9. Pick if the group ID or Page Originator shows up on the caller ID.
10. Press **Next**.

Figure 5-5: Set the Paging Targets

Create Paging Group

Settings **Paging Targets** Paging Originators Review

Paging Targets ⓘ

Add Users and/or Workspaces

Search for and add up to 75 users and/or workspaces by name, phone number, or extension. Click the name to view more details.

Add User or Workspace

Name ▲	Phone Number	Extension	
CyberData VoIP Speaker .		1004	

1/75 users

☐ Copy my paging targets to my paging originators

Back Next

11. Choose which devices are in the paging group.
12. Press **Next**.

Figure 5-6: Paging Originators

Create Paging Group

● Settings ● Paging Targets ● **Paging Originators** ○ Review

Paging Originators ⓘ

Add Users and/or Workspaces

Search for and add users and/or workspaces by name, phone number, or extension.

Add User or Workspace ▼

Name ▲	Phone Number	Extension	🗑️
CyberData Test	+17135334000	4000	🗑️

1 users

Back **Next**

13. Choose which numbers can page to the paging group.

14. Press **Next**.

15. Review the settings and press **Create**.

Figure 5-7: Review Settings

Create Paging Group

● Settings ● Paging Targets ● Paging Originators ● **Review**

Paging Group Settings Review

Review the settings for your new paging group to make sure everything is correct. You can go back and make changes now, or make edits, manage and enable advanced features at any time by clicking on the name of your paging group on the features page.

General Settings
Paging Targets
Paging Originators

Paging Group Name: Paging Group

Location: CyberData_Test

Extension: 2000

Language: English

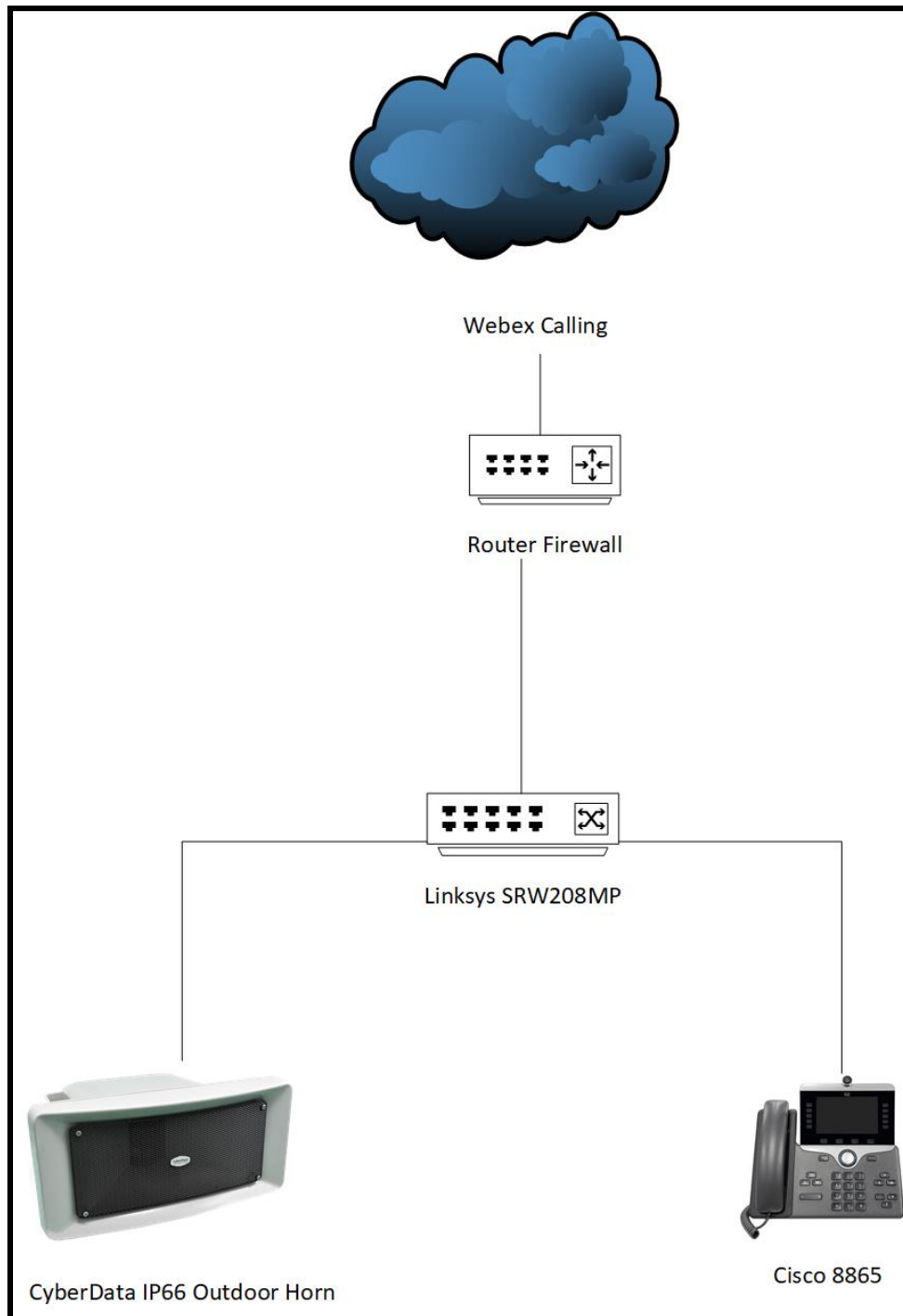
Calling Line ID: Emergency Paging

Calling ID Label: Paging Group ID

Back **Create**

6.0 Setup Diagram

Figure 6-1: Interoperability Test Infrastructure



7.0 FAQ

Why is the device registering to a backup server and not the primary server listed in the SRV record?

CyberData device's have a bug where they will not fall back to the primary server listed in the SRV record in the event it switches to a backup server. To resolve this issue simply reboot the device. This will be fixed in a future release.

Connecting to InformaCast without SLP.

CyberData InformaCast Enabled devices can be pointed directly to the InformaCast servers when SLP is not working or is not possible in the environment. On the Device tab of the CyberData device add the path to the InformaCast server, here is an example value:

`http://10.0.1.195:8081/InformaCast/resources/`

Note: Make sure to change the address listed in the path to the IP address of the server.

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 Webex solution may render this document obsolete. We welcome and encourage documentation feedback to ensure continued applicability.