

Blueface Configuration Guide: SIP Paging Server

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Revision Information

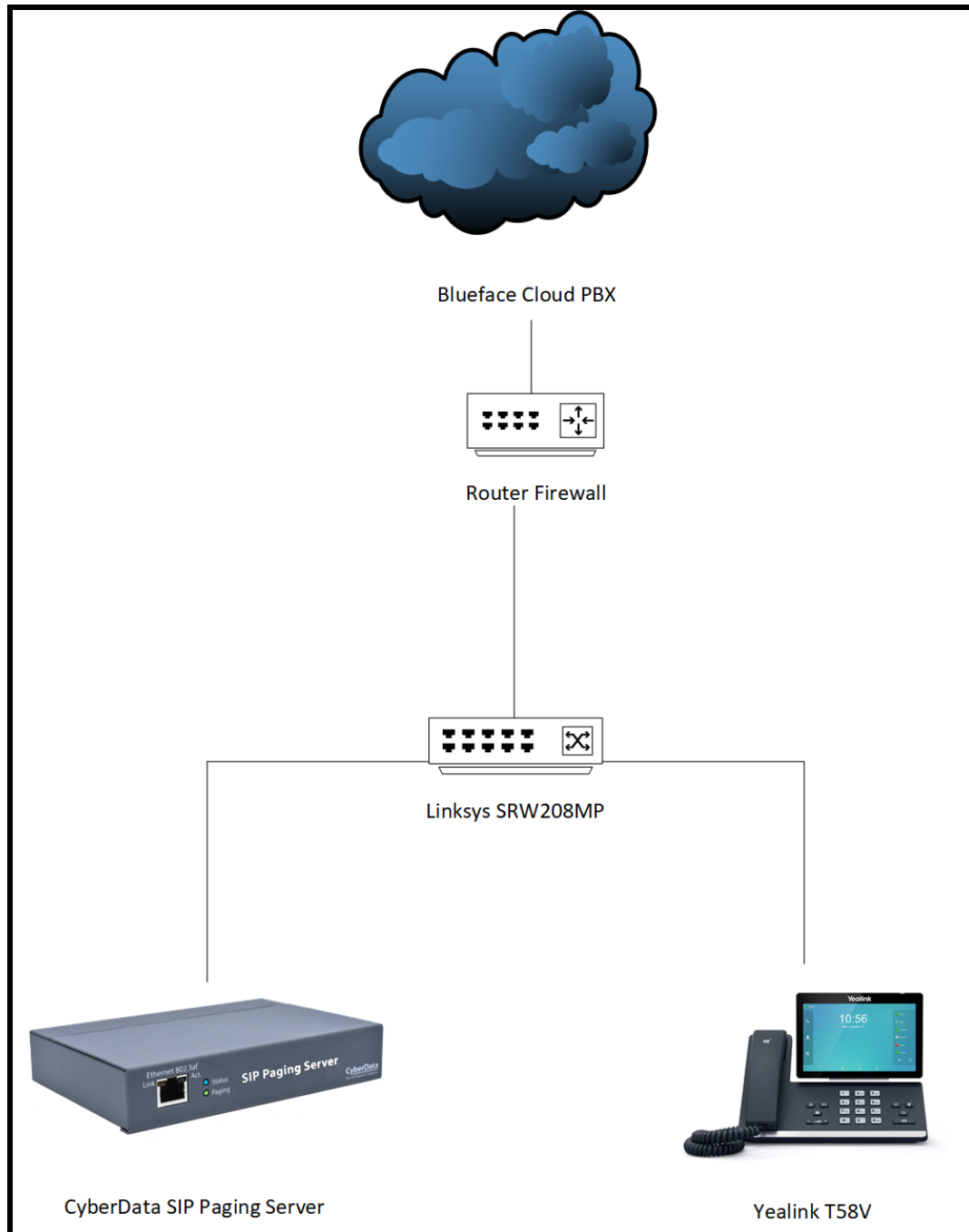
- 1/3/2022 – Initial Release
- 1/5/2022 – Name Update

Table of Contents

Table of Contents	3
1.0 Setup Diagram	4
2.0 Test Setup Equipment	5
3.0 Before You Start	6
4.0 Configuration Procedure: Callflow Setup.....	8
5.0 Configuration Procedure: Setting up the Paging Extension	13
5.1 Configuration Procedure: Setting up the Nightringer Extension.....	17
6.0 Using the CyberData SIP Paging Server	20
6.1 Setting up a page group.....	20
6.2 PGroup Setup	24
7.0 Contact CyberData Corporation	26

1.0 Setup Diagram

Figure 1-1: Interoperability Test Infrastructure



2.0 Test Setup Equipment

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

Table 2-1: Setup Equipment

EQUIPMENT	MODEL or PART NUMBER	FIRMWARE VERSION
CYBERDATA SIP PAGING SERVER	011146	20.1.0

3.0 Before You Start

This configuration guide documents the integration process of the CyberData SIP Paging Server.

Network Advisories

Blueface uses a Fully Qualified Domain Name (FQDN) for the SIP server address. The CyberData SIP Paging Server needs to perform a DNS A query to resolve the IP address of Blueface's SIP Server FQDN. It is necessary to ensure the configured DNS server(s) have an A record for the SIP Server address.

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

- UDP 5062 (SIP)
- UDP 10500 (RTP)

The paging server will need to traverse the public internet in order to operate with Blueface in the cloud.

The paging server's paging extension uses SIP port 5060 to receive SIP messages. The device will send SIP messages to port 5062, the port used by Blueface's SIP Server.

SIP ports 5060 and RTP port 10500 are the default values on all noted firmware levels.

Alternatively, SIP ports for the device are configurable on the **SIP** page of the web interface.

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.*

Product Documentation and Utilities

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

SIP Paging Server (011146):

https://files.cyberdata.net/assets/011146/011146_931803B_SIP_Paging_Server_Operations_Guide.pdf

4.0 Configuration Procedure: Callflow Setup

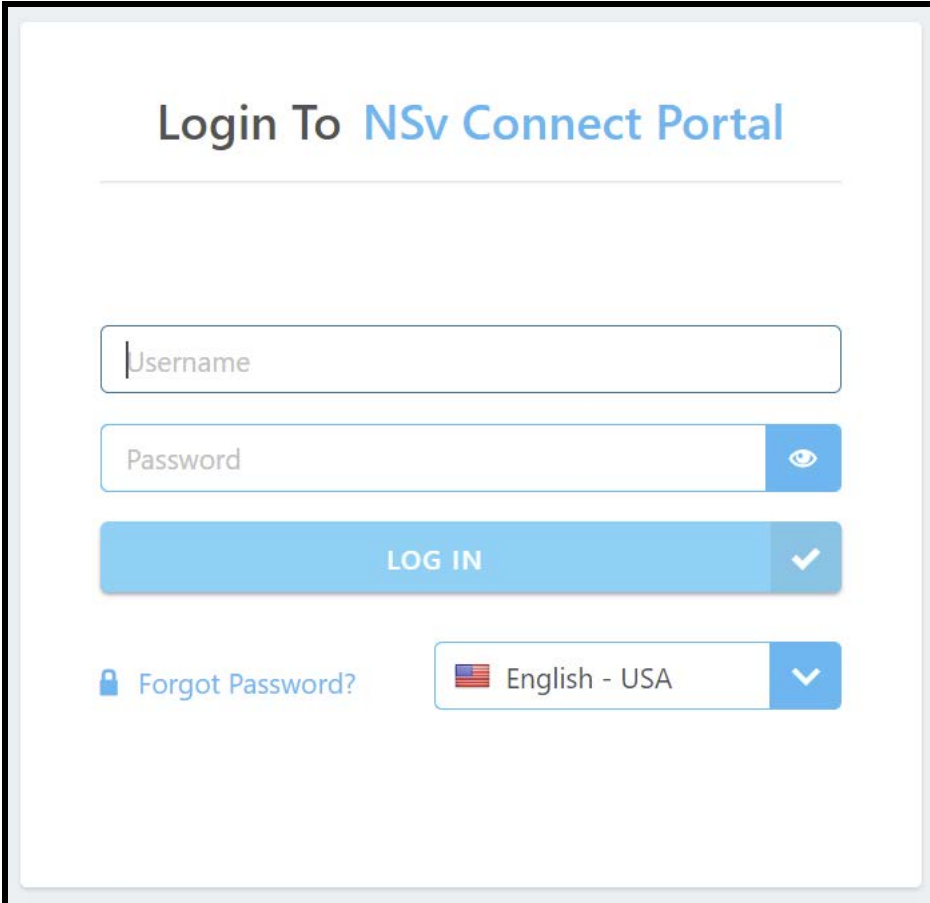
Blueface does not allow users to add their own devices to the platform. The MAC addresses of the devices must be provided to the account manager, who can then add the devices to the platform for you. An email will then be generated and sent to you that will contain the registration information for the CyberData device.

Blueface requires a callflow to be created to call or make a call from any device. This section will outline how to create the dial plan.

1. Log into Blueface.

<https://portal.nsvconnect.com/login>

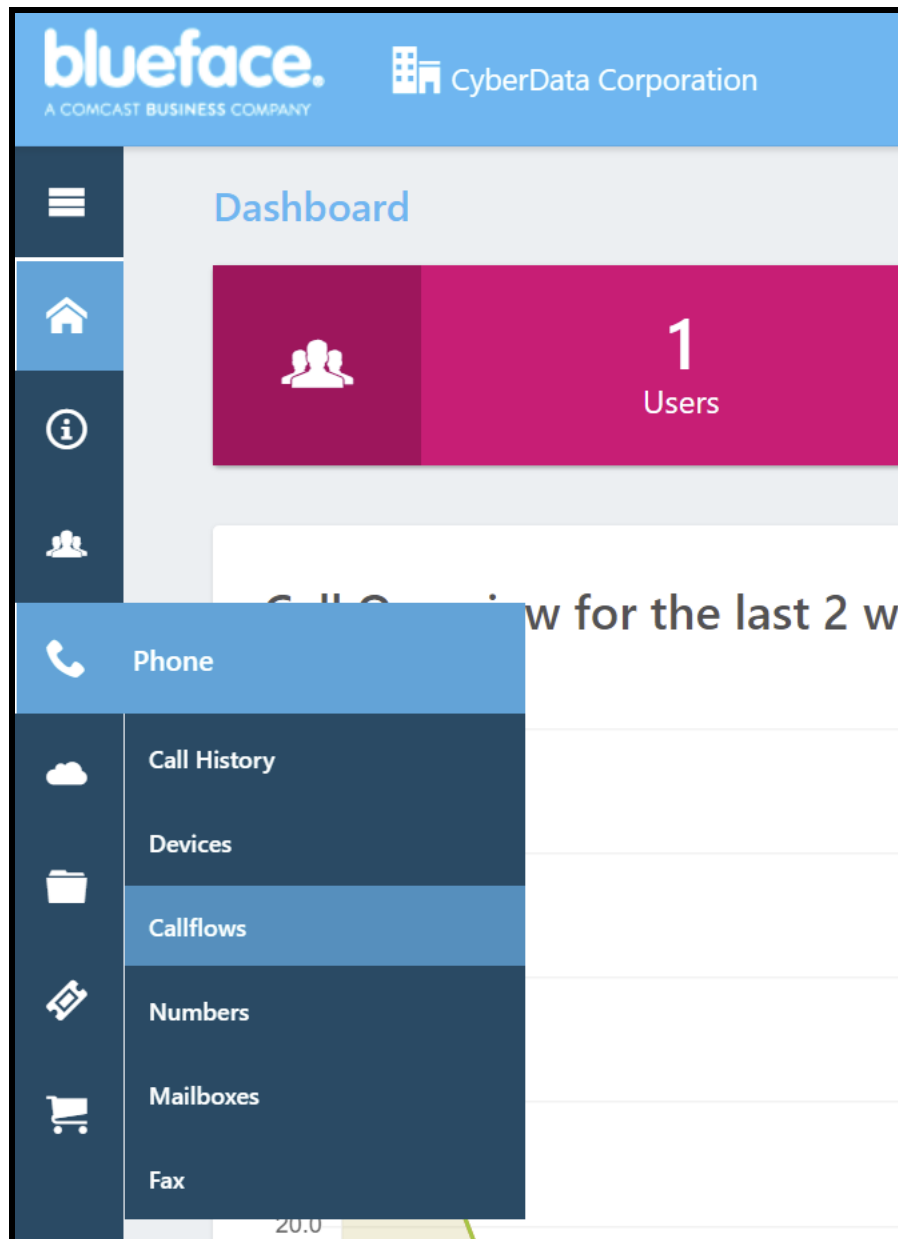
Figure 4-1: Login



The screenshot shows the login interface for the NSv Connect Portal. At the top, the text "Login To NSv Connect Portal" is displayed. Below this, there are two input fields: "Username" and "Password". The "Password" field has a blue eye icon on the right side, indicating a toggle for password visibility. Below the input fields is a large blue button labeled "LOG IN" with a white checkmark icon on the right. At the bottom left, there is a link "Forgot Password?" with a lock icon. At the bottom right, there is a language selection dropdown menu showing "English - USA" with a flag icon and a downward arrow.

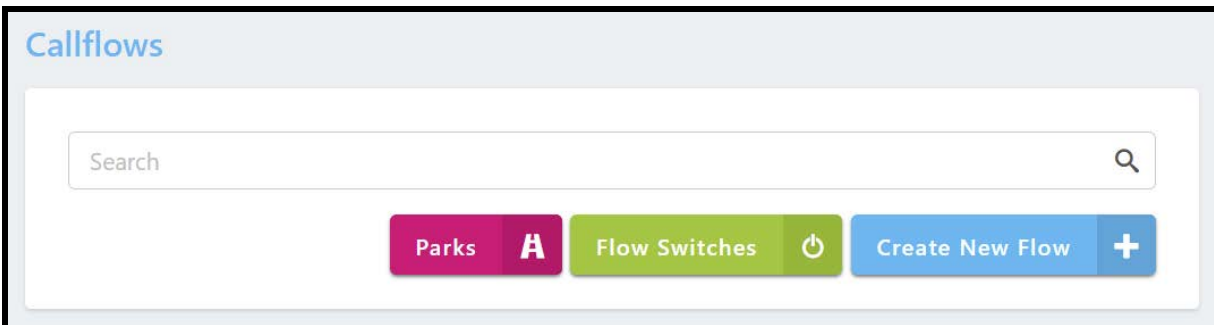
2. From the landing page **Phone** and then **callflows**.

Figure 4-2: Dashboard



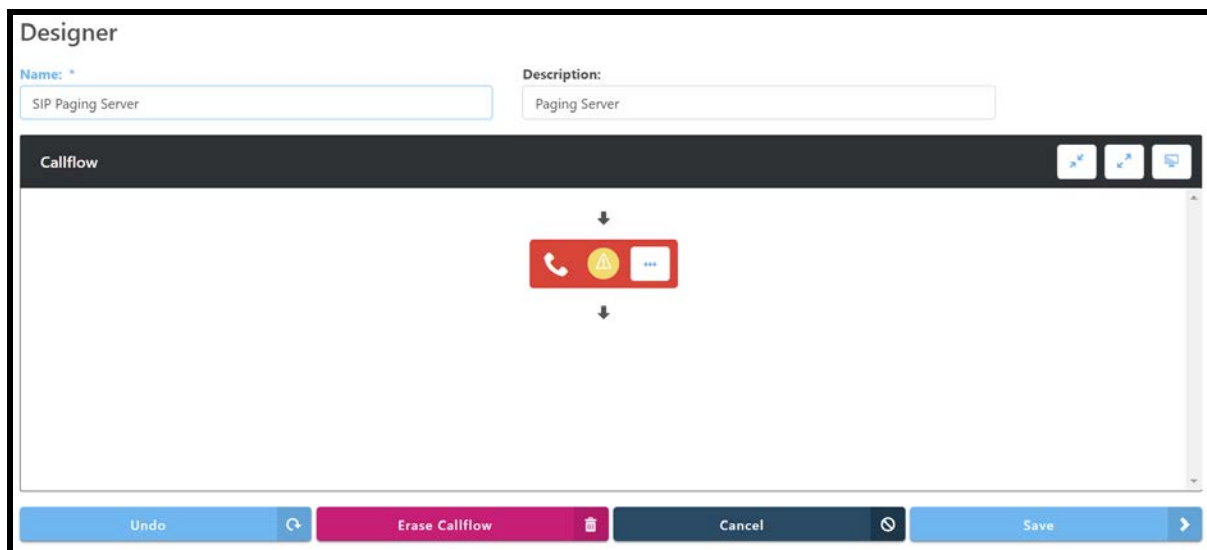
3. On the **Callflows** page press **Create New Flow**.

Figure 4-3: Callflow Page



4. Name the new callflow and set a description.

Figure 4-4: Callflow designer



5. From Elements drag **Ring** into the Callflow.

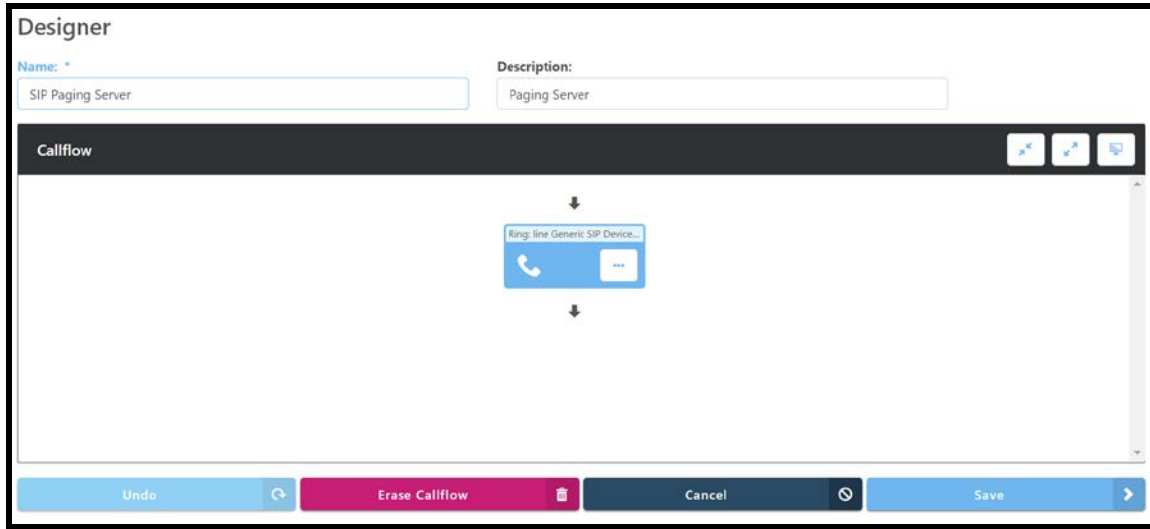
6. Click the yellow exclamation point to open the **Ring Element Settings** popup.
7. Select the Phone tab in the popup.
8. Select the Device that will be used in the group.

Figure 4-5: Ring Element Settings

The screenshot shows the 'Ring Element Settings' popup window. At the top, there is a 'Timeout: *' field with the value '20' and a note: 'This configuration rings the destination for 20 seconds'. Below this is a tabbed interface with four tabs: 'Person', 'Phone' (selected), 'Group', and 'Queue'. The 'Phone' tab is active, showing a search bar and a list of devices. The devices listed are: 'SIP Paging Adapter', 'SIP Paging Amplifier', 'SIP Speaker', 'SIP Strobe', and 'Video Intercom with Keypad', each with a 'Generic SIP Device' label and a plus button. To the right of the device list is a 'Selected destinations' section showing 'Generic SIP Device - SIP Paging Server - Line 1' with a trash icon. At the bottom of the device list is a pagination bar with '< 1 2 3 >'. Below the device list is an 'Extra options' section with a dropdown arrow. At the bottom right are 'Cancel' and 'Ok' buttons.

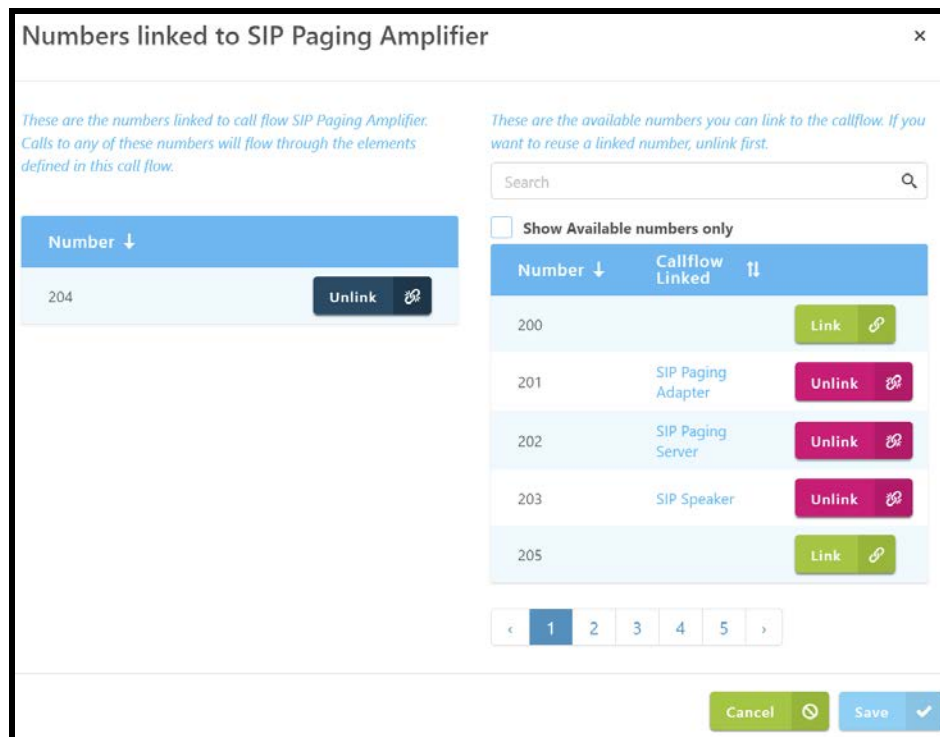
9. Press Ok to save the device to the callflow.
10. Press Save to save the callflow.

Figure 4-6: Callflow Designer



11. Click the **Save** button to create the Phone.
12. Next link a number to the new callflow.
13. Save the number to the callflow.

Figure 4-7: Link a Number



5.0 Configuration Procedure: Setting up the Paging Extension

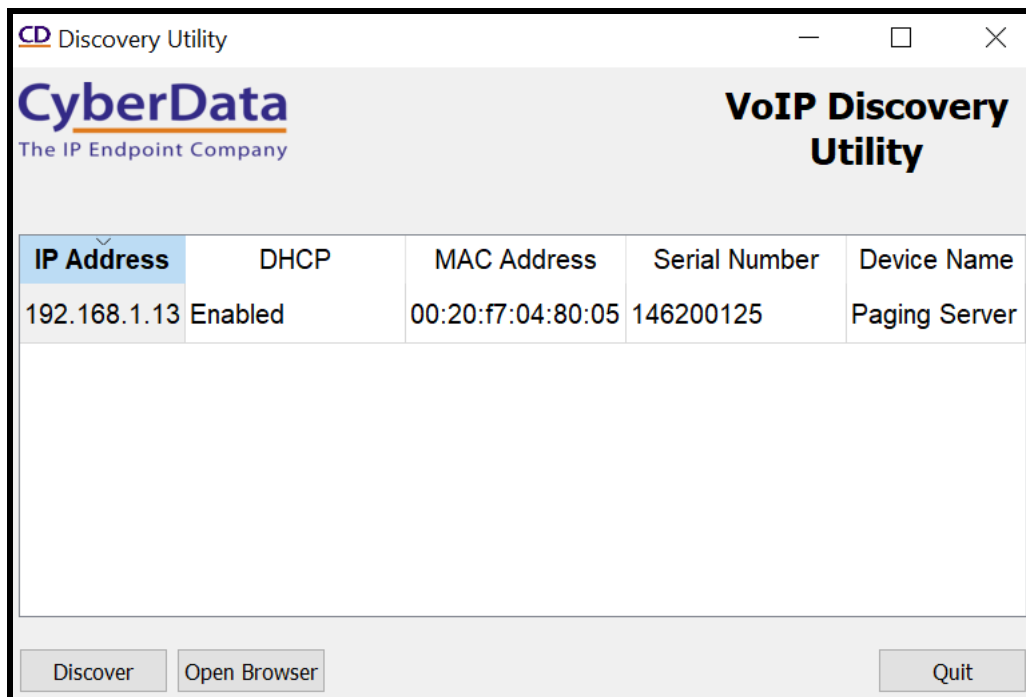
For configuring through the web interface, use the following steps to login to the web interface of your CyberData device.

Table 5-1: Setting Name correlation

CyberData Setting	Blueface Email
Primary SIP Server	SIP Server
Primary SIP User ID	Username
Primary SIP Auth ID	Authentication ID
Primary SIP Auth Password	Password

1. Click **Launch Browser** from the CyberData Discovery Utility or point your browser to the CyberData device's IP address to access the Home Page of the web interface.

Figure 5-1: CyberData Discovery Utility



2. Enter the default credentials when prompted and click the **Log In** button.

Username: admin

Password: admin

Figure 5-2: Home Tab

3. Navigate to the SIP tab.

***Note:** All SIP credentials are listed in an email sent by Blueface after the device was added to the platform.*

4. Set the **Primary SIP Server** to the value listed for SIP Server.
5. Set the **Primary SIP User ID** to the value listed for the Username.
6. Set the **Primary SIP Auth ID** to the value listed for the Authentication ID.
7. Set the **Primary SIP Auth Password** to the value listed for the Password.
8. Set the **Remote SIP Port** to 5062.

Figure 5-2: SIP Tab

CyberData Paging Server

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 Version:

Verify Server Certificate: ☐

Outbound Proxy:

Outbound Proxy Port:

Use Cisco SRST: ☐

Disable rport Discovery: ☐

Keep Alive Period:

Nightringer Settings

SIP Server:

SIP User ID:

SIP Auth ID:

SIP Auth Password:

Re-registration Interval (in seconds):

Relay rings to multicast: ☐

Multicast Address:

Multicast Port:

Call Disconnection

Terminate Call after delay:

Audio Codec Selection

Codec:

RTP Settings

RTP Port (even):

Asymmetric RTP: ☐

Jitter Buffer:

RTP Encryption (SRTP):

Save
Reboot
Toggle Help

9. Save and Reboot.

Once the paging server finishes rebooting the unit should show Registered on the home tab.

Figure 5-3: Home Tab – Registered

The screenshot displays the 'Home' tab of the CyberData Paging Server configuration interface. The top navigation bar includes links for Home, Device, Network, SIP, PGROUPS, SSL, Schedules, Fault, Audiofiles, Events, Autoprovisioning, and Firmware. The main content area is titled 'CyberData Paging Server' and is divided into four primary sections:

- Current Status:** Displays system information including Serial Number (146200125), Mac Address (00:20:f7:04:80:05), Firmware Version (v20.1.0), Partition 2 (v20.1.0), Partition 3 (v20.1.0), and Booting From (partition 2). It includes a 'Boot From Other Partition' button.
- Admin Settings:** Contains fields for Username (admin), Password (masked with dots), and Confirm Password (masked with dots). It features 'Save', 'Reboot', and 'Toggle Help' buttons.
- Import Settings:** Includes a 'Choose File' button (showing 'No file chosen') and an 'Import Config' button.
- Export Settings:** Includes an 'Export Config' button.

Below the 'Current Status' section, network settings are listed: IP Addressing (DHCP), IP Address (192.168.1.13), Subnet Mask (255.255.255.0), Default Gateway (192.168.1.1), DNS Server 1 (192.168.1.1), and DNS Server 2. SIP Mode is 'Enabled' and Event Reporting is 'Disabled'. At the bottom, server registration status is shown: Primary SIP Server (Registered), Backup Server 1 (Not registered), Backup Server 2 (Not registered), and Nighthringer Server (Not registered).

5.1 Configuration Procedure: Setting up the Nightringer Extension

The Nightringer Extension is a secondary extension that will ring when called. This makes the Nightringer extension ideal for use in ring groups.

1. Navigate to the web interface of the device.

Figure 5-4: Home Tab

The screenshot shows the 'Home' tab of the CyberData Paging Server web interface. The top navigation bar includes links for Home, Device, Network, SIP, PGROUPS, SSL, Schedules, Fault, Audiofiles, Events, Autopro, and Firmware. The main content area is titled 'CyberData Paging Server' and is divided into four sections: Current Status, Admin Settings, Import Settings, and Export Settings.

Current Status

Serial Number:	146200125
Mac Address:	00:20:f7:04:80:05
Firmware Version:	v20.1.0
Partition 2:	v20.1.0
Partition 3:	v20.1.0
Booting From:	partition 2

Buttons: Boot From Other Partition

Admin Settings

Username: admin
 Password: *****
 Confirm Password: *****

Buttons: Save, Reboot, Toggle Help

Import Settings

Buttons: Choose File, No file chosen, Import Config

Export Settings

Buttons: Export Config

Network Settings

IP Addressing:	DHCP
IP Address:	192.168.1.13
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.1.1
DNS Server 1:	192.168.1.1
DNS Server 2:	

SIP Settings

SIP Mode:	Enabled
Event Reporting:	Disabled

Server Status

Primary SIP Server:	Not registered
Backup Server 1:	Not registered
Backup Server 2:	Not registered
Nightringer Server:	Not registered

2. Navigate to the SIP tab.

Note: All SIP credentials are listed in an email sent by Blueface after the device was added to the platform.

3. Set the **SIP Server** to the value listed for SIP Server.
4. Set the **User ID** to the value listed for the Username.
5. Set the **Authenticate ID** to the value listed for the Authentication ID.
6. Set the **Authenticate Password** to the value listed for the Password.
7. Set the **Remote SIP Port** to 5062.

Figure 5-5: SIP Tab - Nightringer

The screenshot shows the 'CyberData Paging Server' configuration interface. The 'SIP Settings' section on the left includes options to enable SIP operation, register with a SIP server, and configure primary and backup SIP servers with their respective user IDs, authentication IDs, passwords, and re-registration intervals. It also includes settings for remote and local SIP ports, transport protocol, TLS version, and outbound proxy. The 'Nightringer Settings' section on the right includes fields for the SIP server, user ID, authentication ID, password, re-registration interval, relay rings to multicast, multicast address, and multicast port. Below these are sections for 'Call Disconnection' (terminate call after delay), 'Audio Codec Selection' (codec dropdown), and 'RTP Settings' (RTP port, asymmetric RTP, jitter buffer, and RTP encryption). At the bottom right are 'Save', 'Reboot', and 'Toggle Help' buttons.

8. Save and Reboot device.

If the credentials were added correctly, when the unit finishes rebooting Registered in Green should appear next to Nightringer Status on the Home Tab.

Figure 5-6: Nightringer Registered

The screenshot shows the 'SIP' configuration tab of the CyberData Paging Server. The interface is divided into several sections: 'Current Status', 'Admin Settings', 'Import Settings', and 'Export Settings'. The 'Current Status' section displays various system information, including serial number, MAC address, firmware version, partition information, booting from partition 2, and IP addressing details. The 'Admin Settings' section includes fields for username (admin), password (masked), and confirm password (masked), along with 'Save', 'Reboot', and 'Toggle Help' buttons. The 'Import Settings' section has a 'Choose File' button and an 'Import Config' button. The 'Export Settings' section has an 'Export Config' button. The 'Current Status' section also includes a 'Boot From Other Partition' button. The 'SIP Mode' is set to 'Enabled', and 'Event Reporting' is 'Disabled'. The 'Primary SIP Server' is 'Registered', 'Backup Server 1' is 'Not registered', 'Backup Server 2' is 'Not registered', and 'Nightringer Server' is 'Registered'.

Section	Item	Value
Current Status	Serial Number:	146200125
	Mac Address:	00:20:f7:04:80:05
	Firmware Version:	v20.1.0
	Partition 2:	v20.1.0
	Partition 3:	v20.1.0
	Booting From:	partition 2
	IP Addressing:	DHCP
	IP Address:	192.168.1.13
	Subnet Mask:	255.255.255.0
	Default Gateway:	192.168.1.1
DNS Server 1:	192.168.1.1	
	DNS Server 2:	192.168.1.1
SIP Mode:	Enabled	
	Event Reporting:	Disabled
SIP Servers	Primary SIP Server:	Registered
	Backup Server 1:	Not registered
	Backup Server 2:	Not registered
	Nightringer Server:	Registered

6.0 Using the CyberData SIP Paging Server

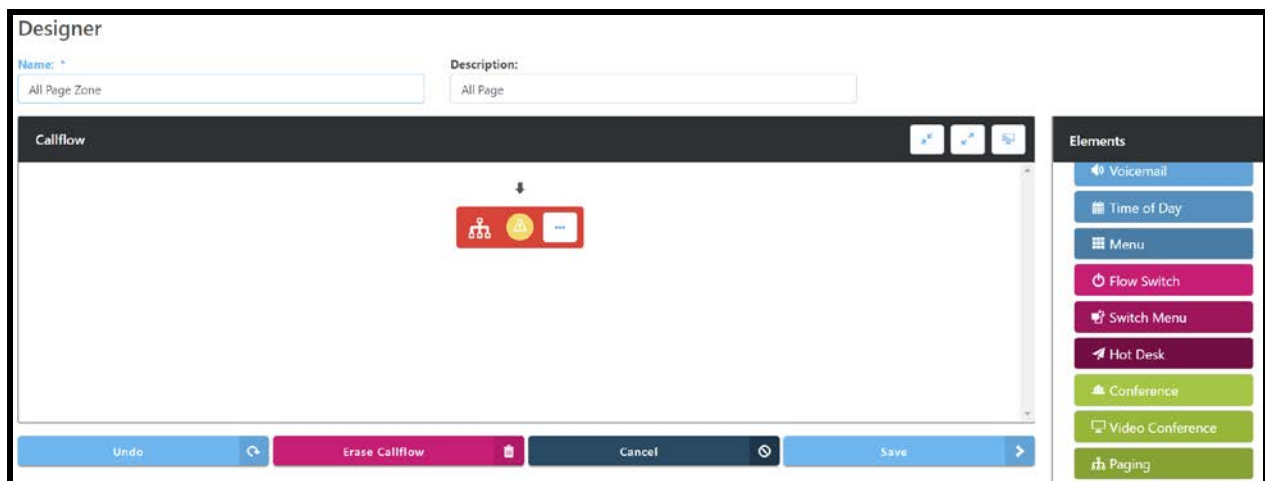
CyberData SIP Paging Server is designed to create a hybrid or wholly IP-Based paging system. The device interface with an existing analog paging system and facilitate overhead paging, while also sending multicast across the network to IP devices. This allows the SIP Paging Server to page to both analog and IP based hardware. When a call is made to the device an announcement can be made through the existing paging system and IP-Based devices. The units can be used by directly calling the SIP extension, in a page group, or with multicast.

6.1 Setting up a page group

After registering the device to Blueface, a page group can be created which allows a call to be made which can reach multiple endpoints simultaneously. This allows for zoned paging directly through the service and does not require additional hardware.

1. Select **Callflows** in Phones on Blueface.
2. Name the new callflow and set a description.
3. In the callflow designer select the Paging Element.

Figure 6-1: Page Group Designer



4. After adding the paging element, click on it to assign users.
5. Add all necessary users for the paging group.

Figure 6-2: Paging Element Creation

Paging Element Settings

① PIN: ① Display Name:

Devices

Search

Yealink VP-T49G IP Video Phone

Generic SIP Device

Selected destinations

- Generic SIP Device - SIP Paging Amplifier - Line 1
- Generic SIP Device - SIP Paging Adapter - Line 1
- Generic SIP Device - SIP Speaker - Line 1
- Generic SIP Device - SIP Strobe - Line 1
- Generic SIP Device - Office Ringer - Line 1
- Generic SIP Device - SIP Paging Server - Line 1

Extra options

No media available

① Broadcast media:

Media Uploader

Drag & Drop Files or Browse

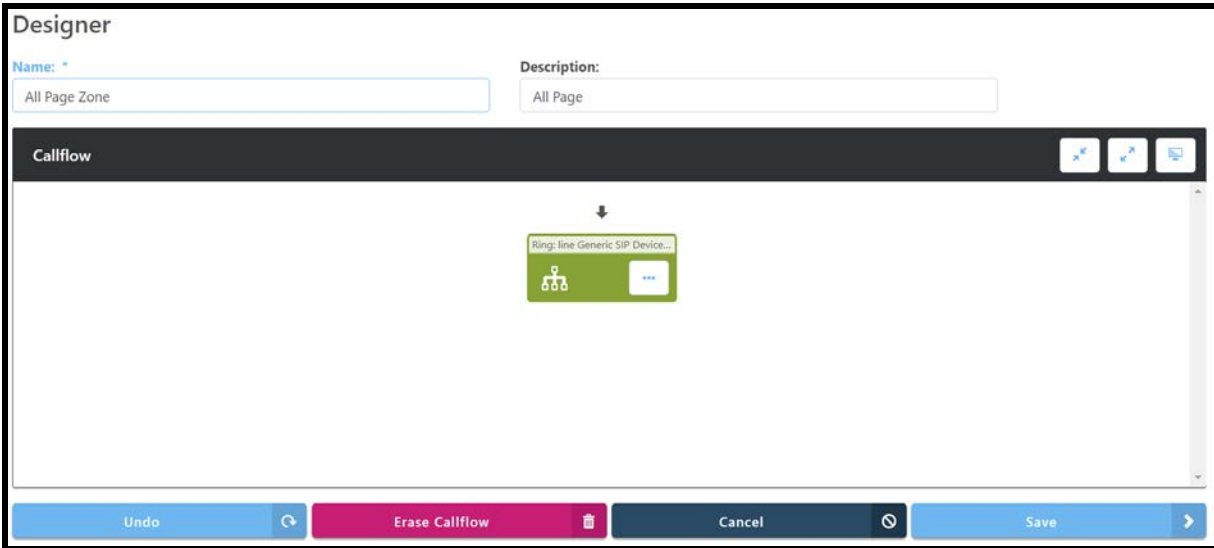
Maximum file size 5mb

Acceptable file formats: wav, ogg, aac, wma, flac, mp1, mp2, mp3, mp4, opus, ra

① Accessible From Off Net: ☐ OFF ① Bypass on Call Protection: ☐ OFF

6. Once all the desired users are added, press Ok.
7. Next save the new call flow.

Figure 6-3: Callflow Created



8. After saving the callflow click **Linked Numbers** to set an extension number for the paging group callflow.

Figure 6-4: Linked Numbers



9. Set a number for the paging group.

Figure 6-5: Linking Number

Numbers linked to All Page Zone

These are the numbers linked to call flow All Page Zone. Calls to any of these numbers will flow through the elements defined in this call flow.

Number ↓	
200	Unlink

These are the available numbers you can link to the callflow. If you want to reuse a linked number, unlink first.

☐ Show Available numbers only

Number ↓	Callflow Linked	
201	SIP Paging Adapter	Unlink
202	SIP Paging Server	Unlink
203	SIP Speaker	Unlink
204	SIP Paging Amplifier	Unlink
205		Link

<
1
2
3
4
5
>

Cancel

Save

10. Press Save to save the number to the callflow.

The callflow is now ready to be used. When called it will send a SIP call to all group elements and allow a page to be made.

6.2 PGroup Setup

The SIP Paging Server will send multicast across the local area network (LAN) when a call is made to the unit, which allows for both analog and IP-Based devices to be used in a single page group or zone. The SIP Paging Server supports up to 100-page groups which allows for nearly endless zoning capability.

Figure 6-6: PGroup Tab

CyberData Paging Server

Paging Groups

#	Address	Port	Name	Code	TTL	Lineout	
0	234.2.1.1	2000	PagingGroup00		255	Yes	Edit
1	234.2.1.2	2002	PagingGroup01		255	Yes	Edit
2	234.2.1.3	2004	PagingGroup02		255	Yes	Edit
3	234.2.1.4	2006	PagingGroup03		255	Yes	Edit
4	234.2.1.5	2008	PagingGroup04		255	Yes	Edit
5	234.2.1.6	2010	PagingGroup05		255	Yes	Edit
6	234.2.1.7	2012	PagingGroup06		255	Yes	Edit
7	234.2.1.8	2014	PagingGroup07		255	Yes	Edit
8	234.2.1.9	2016	PagingGroup08		255	Yes	Edit
9	234.2.1.10	2018	PagingGroup09		255	Yes	Edit

« 1 2 3 4 5 6 7 8 9 10 »

Save

Each PGroup is effectively a zone and can be customized to fit the needs of that area. The PGroup can either be a live/buffered page or be used to trigger a stored message. The stored message feature allows for a pre-recorded message to be uploaded to the paging server, which can then be triggered by a SIP call. This is ideal for messages that need to be sent regularly, but not on a set schedule. The stored message feature is perfect emergency notifications.

Figure 6-7: PGroup Configuration

Configure PGROUP

PGROUP

0

Address

234.2.1.1

Port

2000

Name

All Page

Security Code

0-9, *, #

TTL

255

Line-out

☒

Play Stored Message

☐

Audio File

▼

Times to Play

1

Toggle Help

Cancel

Ok

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