CyberData
The IP Endpoint Company

RING CENTRAL CONFIGURATION GUIDE: SIP-ENABLED IP SPEAKERS

Document Part #931039E

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RingCentral Configuration Guide: SIP-Enabled IP Speakers
Document #931039E

Document Revision Information

Revision 931039A was released on January 23rd, 2015.

- Initial release

Revision 931039B was released on September 18th, 2017.

- This revision features new device screenshots and updated configuration steps.

Revision 931039C was released on May 3rd, 2019.

- Updated extension creation process on RingCentral side

Revision 931039D was released on June 8th, 2020

- Corrected nomenclature inconsistencies.

Revision 931039E was released on April 28, 2021

- Added new steps to enable TLS and SRTP

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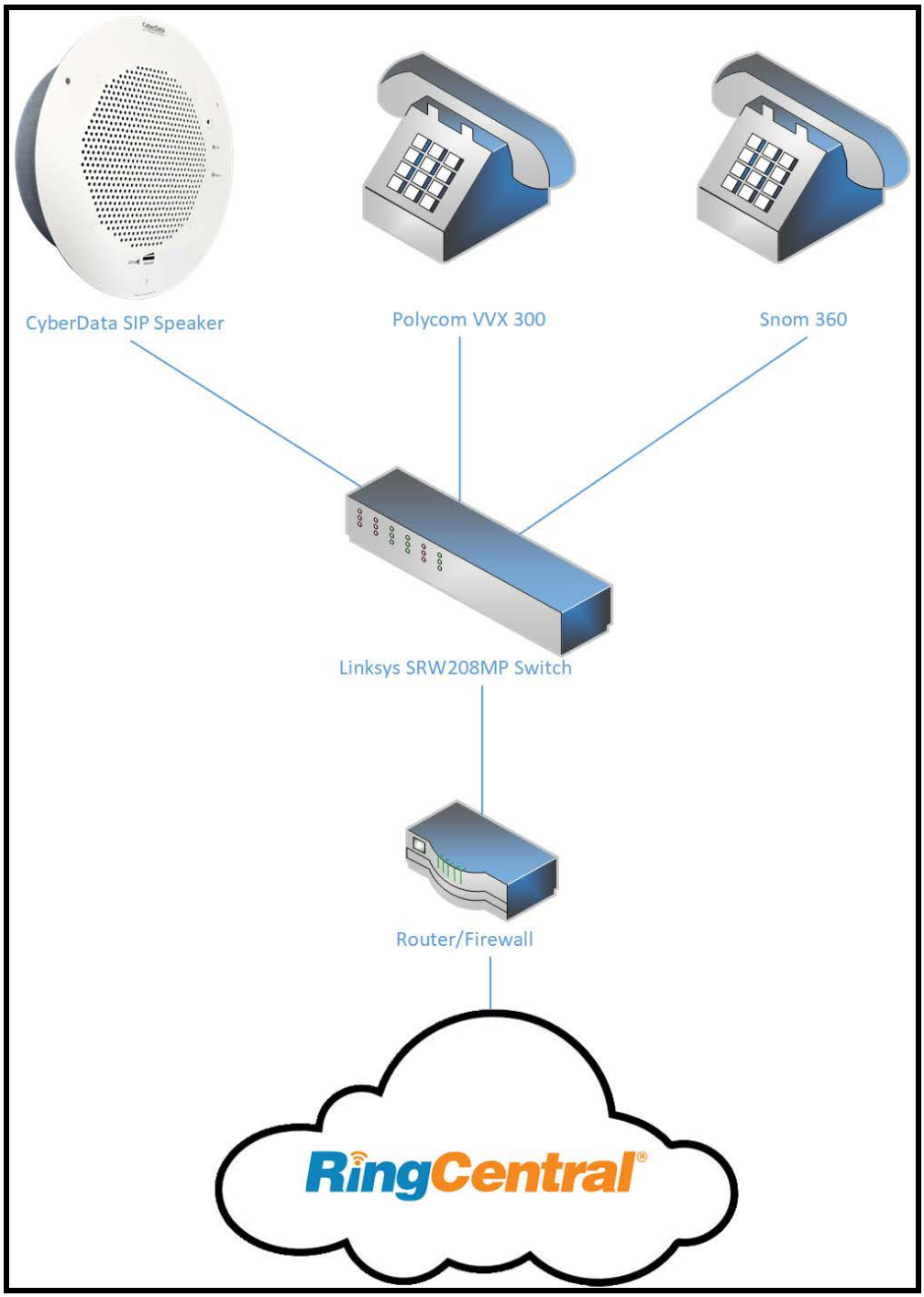


2.0 Test Setup Equipment

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

Table 2-1: Setup Equipment

EQUIPMENT	MODEL or PART NUMBER	FIRMWARE VERSION
CYBERDATA SIP SPEAKER	011393 011394	v12.1.1
CYBERDATA SIP TALKBACK SPEAKER	011397 011398	v12.1.1
POLYCOM	VVX 300	5.2.0.8330
SNOM	360	snom360-SIP 8.4.31
LINKSYS	SRW208MP	1.0.4

3.0 Before You Start

This configuration guide documents the integration process of a CyberData SIP-enabled IP Speaker.

Network Advisories

RingCentral uses a Fully Qualified Domain Name (FQDN) for the SIP server and Outbound Proxy addresses. The CyberData speakers need to perform a DNS A query to resolve the IP address of RingCentral's Outbound Proxy FQDN. It is necessary to ensure the configured DNS server(s) have an A record for the Outbound Proxy address.

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

- UDP 5060-5061, 5090 (SIP)
- TCP 5060, 5096 (SIP)
- UDP 10500 (RTP)

The speaker will need to traverse the public internet to operate with RingCentral in the cloud. The speaker's primary extension uses SIP port 5060 to receive SIP messages. The Nightringer extension uses SIP port 5061 to receive SIP messages. Both extensions will send SIP messages to port 5090, the port used by RingCentral's Outbound Proxy. If the speaker is using TLS for SIP transport all SIP messages will be sent to TCP port 5096.

SIP ports 5060-5061 and RTP port 10500 are the default values on all noted firmware levels.

Alternatively, SIP ports for the primary and Nightringer extensions 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 starting, download the Operation and Quick Start guides from the speaker's product webpage:
https://www.cyberdata.net/collections/sip/products/011393-011394

The CyberData Discovery Utility can be used to locate CyberData devices on the local network. The tool may be download it from the following web address:
http://www.cyberdata.net/assets/common/discovery.zip

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

4.0 Configuration Procedure: TLS and SRTP

RingCentral has been recently updated and added support for TLS and SRTP for SIP and RTP transmission to better protect conversations. TLS and SRTP use encryption to protect the call setup process and audio from those that may wish to intercept traffic and spy on conversations. Therefore, using TLS and SRTP is recommended when all VoIP equipment supports both features.

This section will extension creation (Auto-Answer Paging and Voice Prompted Paging) and how to setup the CyberData SIP Speaker for use with TLS and SRTP.

4.1 TLS and SRTP: Auto-Answer Paging

The RingCentral Paging feature delivers real-time broadcasts to desk phones and/or paging devices. CyberData speakers can be added to *Paging Only* groups supporting a combination of CyberData paging endpoints and RingCentral Polycom and Cisco desk phones.

CyberData SIP Speakers are ideal for one-way, auto-answer paging in indoor environments and offer external or digital volume control.

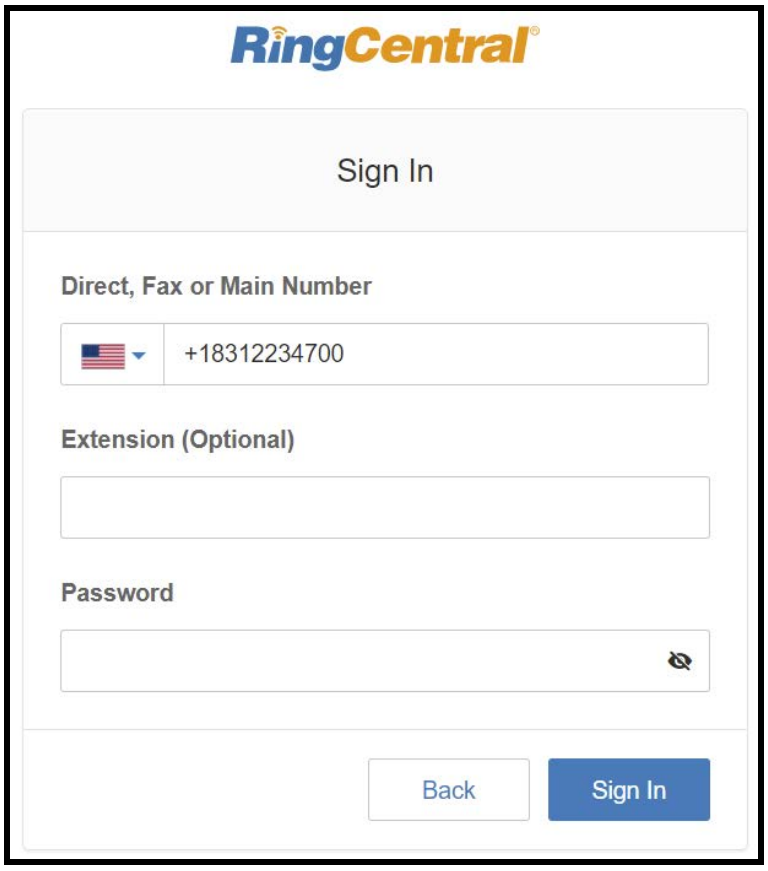
Add a Paging Extension

This section describes the process of creating a user, provisioning a paging device, and registering the paging extension that will be used for paging with RingCentral. First, a user must be created for the speaker.

Use the following steps to create a user and provision a paging device for the speaker's primary extension through the RingCentral Admin Portal.

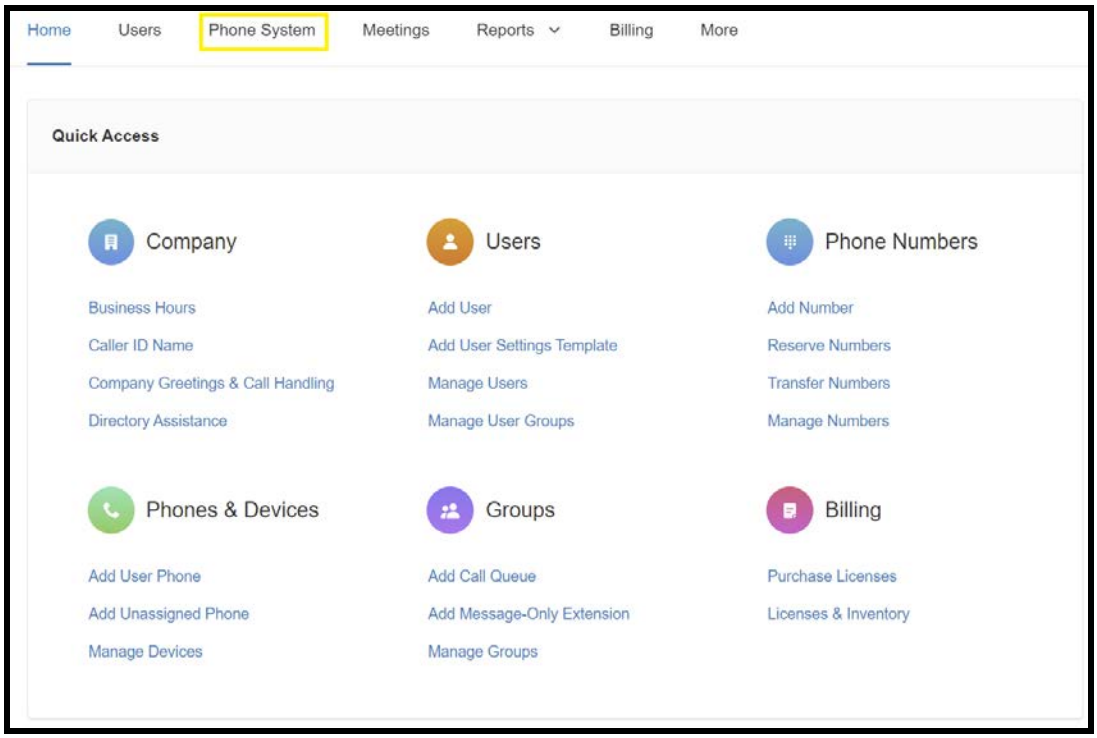
1. Login to the RingCentral Admin Portal at https://service.ringcentral.com.

Figure 4-1. RingCentral Admin Portal Login



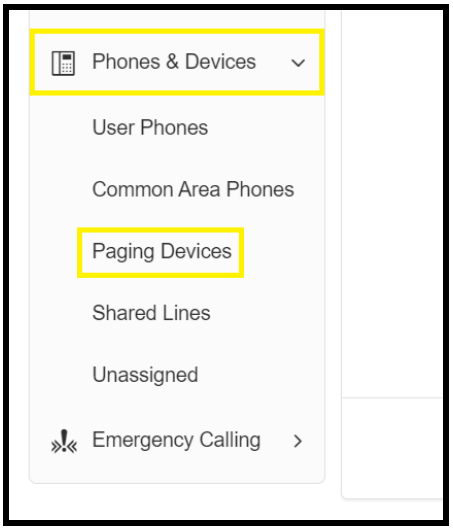
2. From the login page select **Phone System**.

Figure 4-2 Phone System



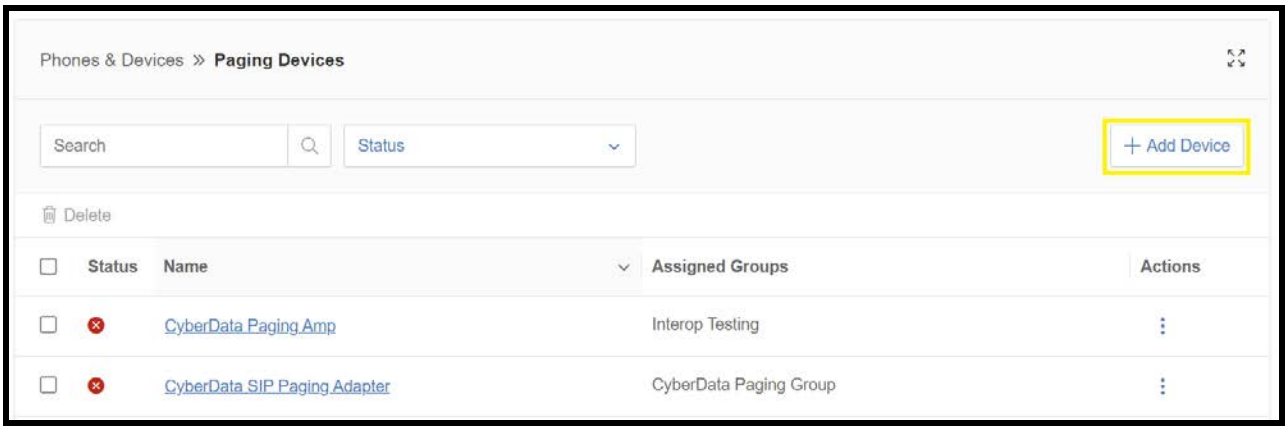
3. From the Phone System page select **Phones & Devices** and then **Paging Devices**.

Figure 4-3. Phones & Devices → Paging devices



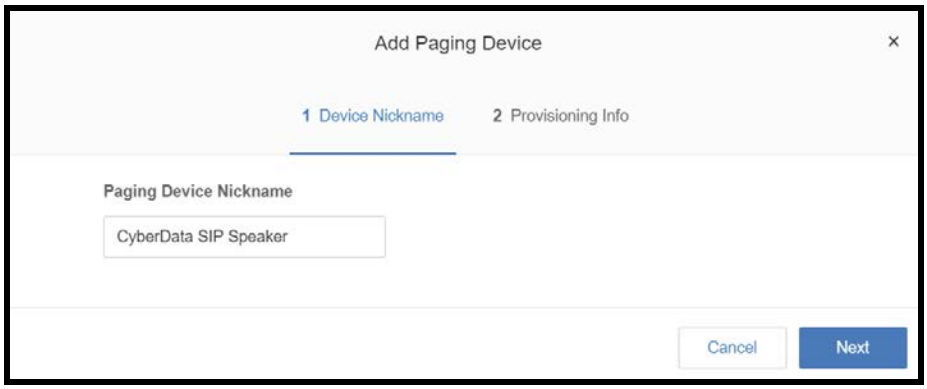
4. From the Paging Device page press **Add Device** to make a new paging device.

Figure 4-4. Add Device



5. A pop-up will appear that allows the Paging Device to be named.

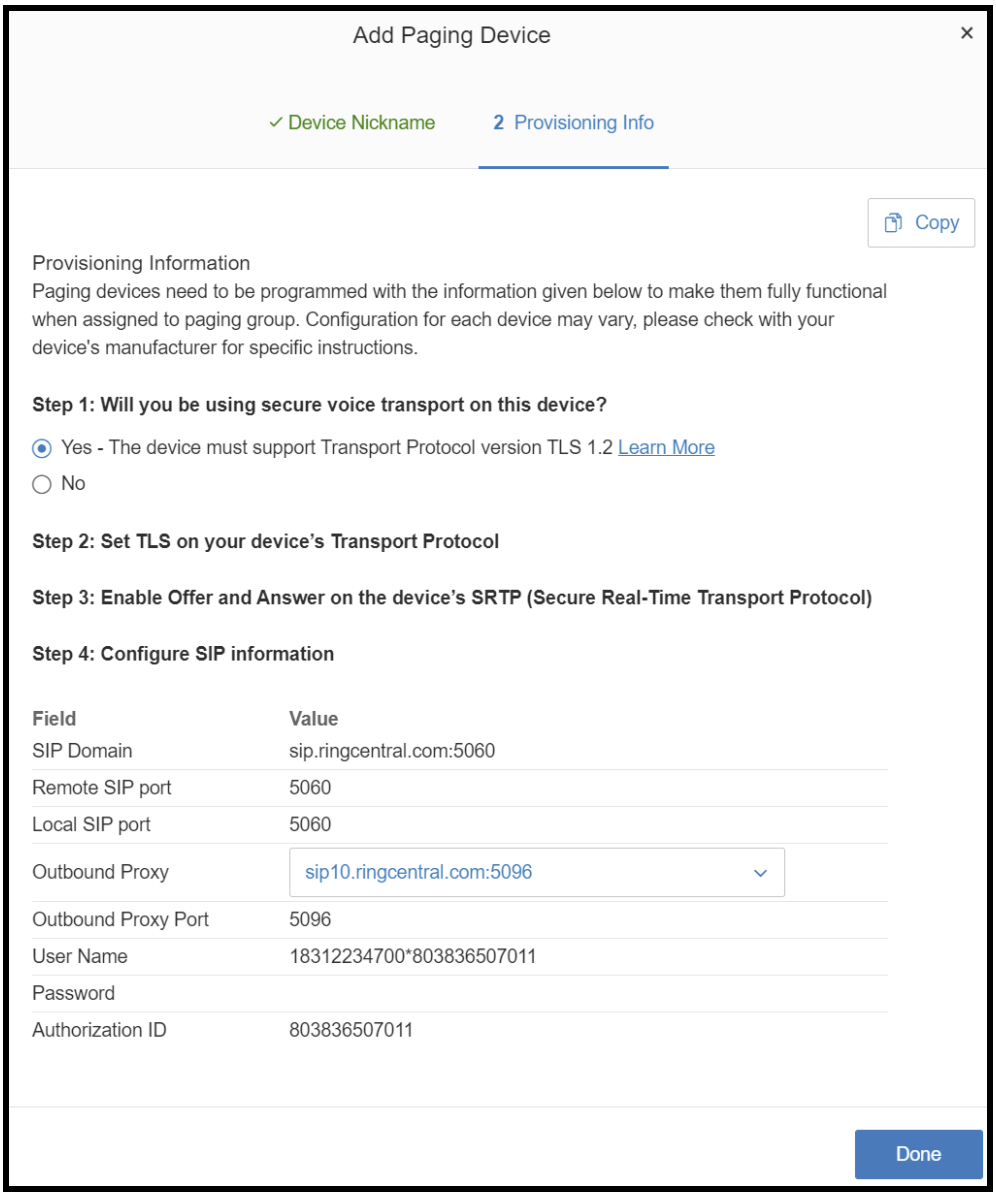
Figure 4-5: Name Paging Device



6. After naming the device press **Next**.

7. The pop-up will now display configuration information to setup the CyberData device. Make sure to select an Outbound Proxy in your area.

Figure 4-6. Configuration details



Note: *For the purposes of this document the password has been obscured.*

Configure SIP Parameters

One may feel more comfortable with web-based configuration or provisioning using templates. Both methods are documented in this configuration guide. Be sure to review the SIP Speaker's operation guide for complete information on configuration through the web interface and CyberData's "autoprovisioning" method using templates via HTTP, HTTPS, and TFTP protocols.

Table 4-1: CyberData Configuration Settings

Primary SIP Server field	From the Paging Device Provisioning Information popup: **SIP Server/SIP Domain**
Primary SIP User ID field	From the Paging Device Provisioning Information popup: **User Name**
Primary SIP Auth ID field	From the Paging Device Provisioning Information popup: **Authorization ID**
Primary SIP Auth Password field	From the Paging Device Provisioning Information popup: **Password**
Outbound Proxy field	From the Paging Device Provisioning Information popup: **Outbound Proxy**
Outbound Proxy Port field	From the Paging Device Provisioning Information popup**: Outbound Proxy Port**
Re-registration Interval (in seconds) field	**30**
Keep Alive Period field	**0**
Force Selected Codec checkbox **Codec** dropdown	**Yes** **PCMU (G.711, u-law)**
SIP Transport Protocol	**TLS**
TLS Version	**1.2 only (recommended)**
Verify Server Certificate	**Enabled**
Set Time with NTP Server on boot	**Enabled**
SRTP	**Enabled**

Web Configuration

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

1. Click **Launch Browser** from the CyberData Discovery Utility or point a browser to the CyberData device's IP address to access the Home Page of the web interface.
2. Enter the default credentials when prompted and click the **Log In** button.

Username: admin
Password: admin

Figure 4-7: Web Interface Login

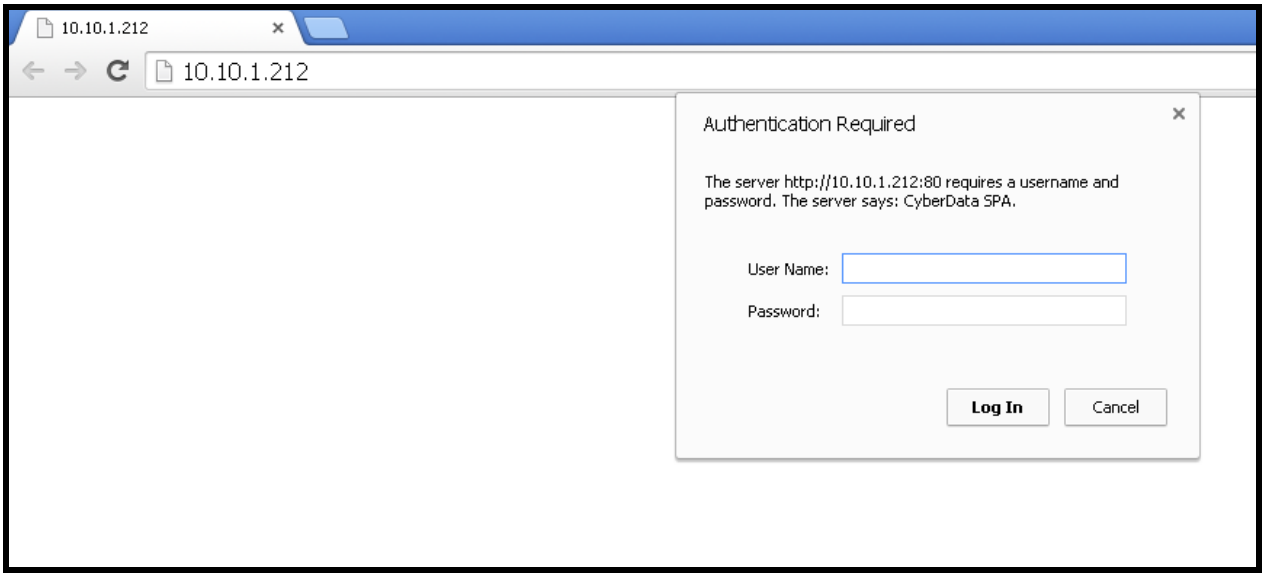


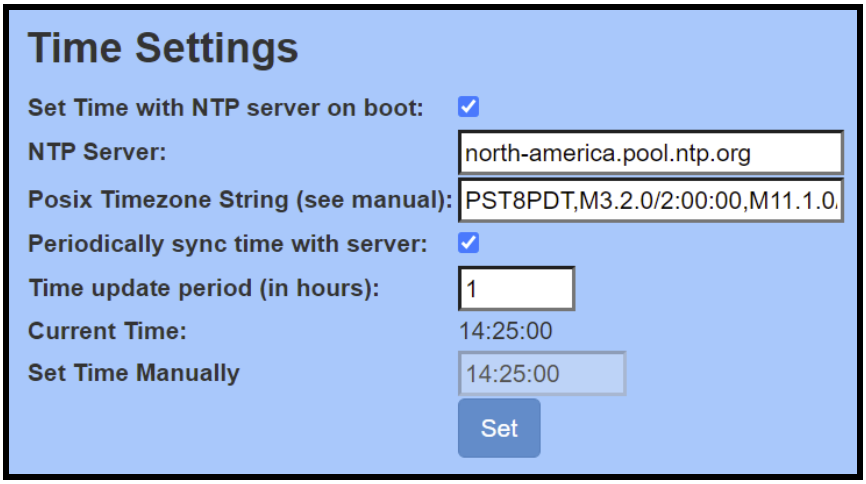
Figure 4-8: Home Page of Speaker Web Interface

Note: *The firmware version and registration status for the paging extension and Nightringer extensions appear here.*

3. On the Home Page, click **Device** on the top toolbar to access the Device page.

4. On the **Device** page scroll to the **Time Settings** section.

Figure 4-9: NTP Settings



4. Check the box for **Set Time with NTP server on boot.**
5. Adjust the **NTP Server** as necessary.
6. Select a **Posix Timezone String** for the local area.

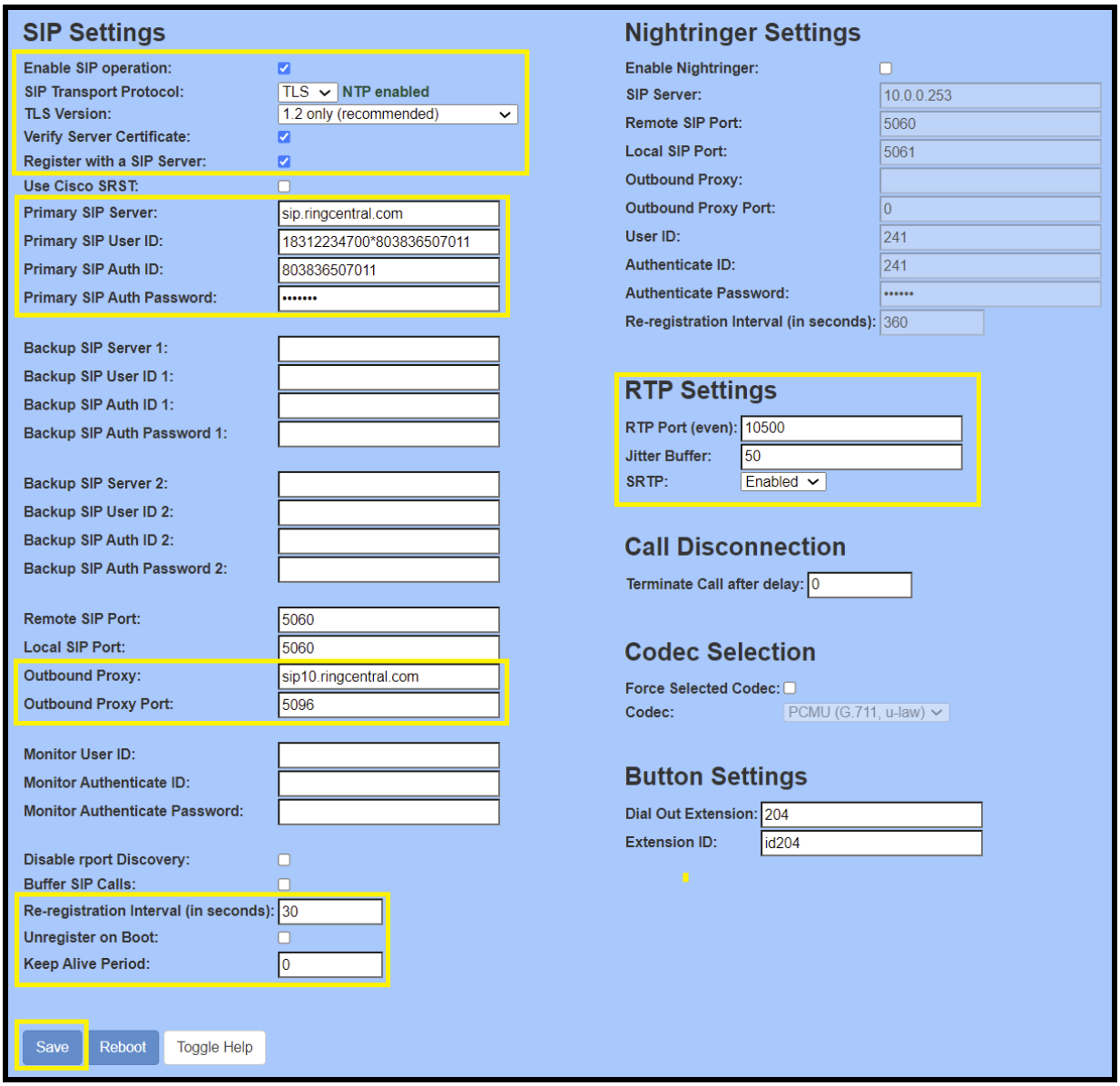
Note: *CyberData's Technical support department has a knowledge base entry with a Posix Timezone string for every timezone.* *Posix Timezone Strings Knowledge Base Entry*

7. Check the box for **Periodically Sync Time with Server.**
8. Set **Time update period (in hours)** to 1.
9. **Save.**
10. Press **SIP** to navigate to the SIP configuration page.
11. Set the **SIP Transport Protocol** to **TLS.**

Note: *NTP enabled should appear in green.*

12. Verify that **TLS Version** is set to **1.2** and **Verify Server Certificate** is checked.
13. Enter the provisioning information from the **Generic Paging Device Provisioning** popup window.
14. Set the **Re-registration interval** to **30**.
15. Set the **Keep Alive Period** to **0**.
16. Set **SRTP** to **Enabled**.
17. **Save** and **Reboot**.

Figure 4-10: SIP Configuration



Autoprovisioning

If autoprovisioning the device, use the SIP Settings in the autoprovisioning template to register with RingCentral. An autoprovisioning template is provided in the respective firmware folder available on the **Downloads** tab of the product webpage here:
https://www.cyberdata.net/collections/sip/products/011393

Be sure to use the autoprovisioning template for the firmware version running on the device. The firmware version can be verified on the **Home** page of the web interface. Refer to the Operations Guide for instructions on autoprovisioning configuration.

Figure 4-11: Autoprovisioning Template Example – SIP Settings

```
<SIPSettings>
    <EnableSIPOperation>Yes</EnableSIPOperation>
    <SIPTransportProtocol>TLS</SIPTransportProtocol>
    <SIPTLSVersion>TLSv1.2</SIPTLSVersion>
    <VerifyServerCert>Yes</VerifyServerCert>
    <SIPServer>sip.ringcentral.com</SIPServer>
    <SIPUserID>18312234700*803836507011</SIPUserID>
    <SIPAuthID>803836507011</SIPAuthID>
    <SIPAuthPassword>**********</SIPAuthPassword>

    <UseCiscoSRST>No</UseCiscoSRST>
    <RemoteSIPPort>5060</RemoteSIPPort>
    <LocalSIPPort>5060</LocalSIPPort>
    <OutboundProxy>sip10.ringcentral.com</OutboundProxy>
    <OutboundProxyPort>5096</OutboundProxyPort>

    <SIPRegisterOnBoot>Yes</SIPRegisterOnBoot>
    <SIPRegistrationTimeout>30</SIPRegistrationTimeout>
    <SIPUnregisterOnBoot>No</SIPUnregisterOnBoot>
    <NatPingOptions>No</NatPingOptions>

    <CallTimeout>0</CallTimeout>

    <DisableRportDiscovery>No</DisableRportDiscovery>
    <BufferSIPCalls>No</BufferSIPCalls>
    <RTPPort>10500</RTPPort>
    <JitterBuffer>50</JitterBuffer>
    <KeepAlive>0</KeepAlive>
    <DefaultCodec>0</DefaultCodec>
    <!-- DefaultCodec:
    0 - use default list
    1 - G711Ulaw only
    2 - G711Alaw only
    3 - G722 only
    4 - G729 only -->

    <SIPRTPEncryption>1</SIPRTPEncryption>
    <!--SIPRTPEncryption:0 - disabled, 1 - enabled-->
</SIPSettings>

<ClockSettings>
    <NTPServer>north-america.pool.ntp.org</NTPServer>
    <NTPTimezone>PST8PDT,M3.2.0/2:00:00,M11.1.0/2:00:01</NTPTimezone>
    <NTPOnBoot>Yes</NTPOnBoot>
    <NTPAutoupdate>Yes</NTPAutoupdate>
    <NTPAutoupdateDelay>1</NTPAutoupdateDelay>
</ClockSettings>
```

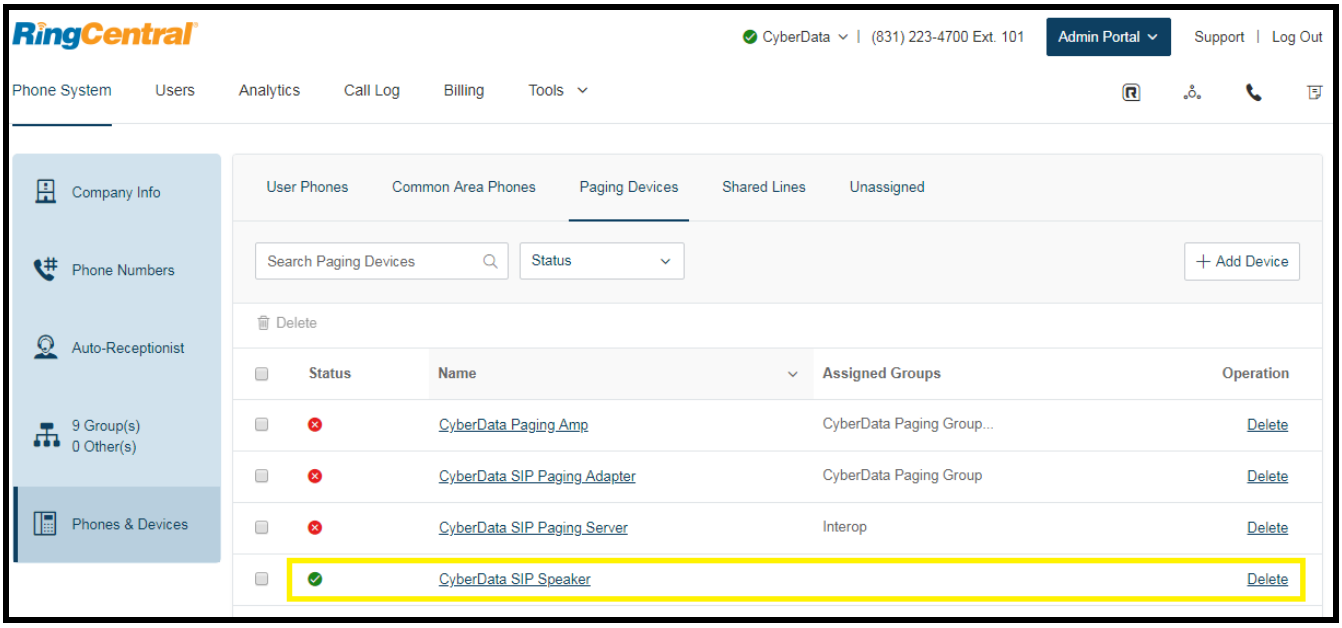
Note: *These example values are published only for reference. The SIPAuthPassword value should be the actual value from the* ***Generic Paging Device Provisioning*** *popup window.*

Verify the Paging Extension is Registered

After the Speaker has rebooted and initialized to store changes, refresh the Home page of the web interface. The device should show as **[Registered with SIP Server]** in green text on the bottom of the Home Page of the web interface.

Additionally, the registration status can be verified with RingCentral through the Admin Portal. From the **Phones & Devices** menu, select **Devices** and the Paging Device just created for the Speaker. The status should show as "online" in the **Device Details**.

Figure 4-12: Device Details – Status



Make a Test Call

Once the device has registered with RingCentral, use a phone associated with an **Allowed User** to dial the extension of the paging group. Refer to RingCentral Article Number 5983 for instructions on paging a group from an IP phone.

4.2 TLS and SRTP: Voice Prompted Paging

When an installation requires more flexibility than auto-answer live paging, the SIP Speaker's primary extension can be provisioned as an IP phone associated with a user extension. Provisioning as a Paging Device does not allow the speaker to transmit audio back to the calling phone (talkback speaker) OR does not allow for sending of DTMF characters for stored message playback. Provision the Speaker's paging extension as an IP phone to enable the following features:

- Talkback
- Playing up to 9 configurable stored pages
- Security code

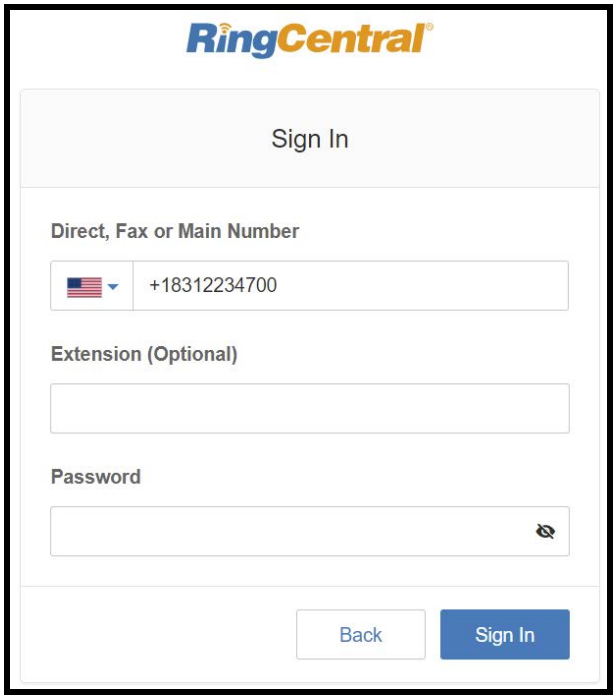
Note: *Talkback is only possible for the 011397/011398.*

Add an IP Phone

This section describes the process of creating a user, provisioning an IP phone, and registering the primary extension that will be used for paging with RingCentral. First, a RingCentral user must be designated for the SIP Speaker. Use the following steps to create a user and provision an IP phone for the primary extension through the RingCentral Admin Portal.

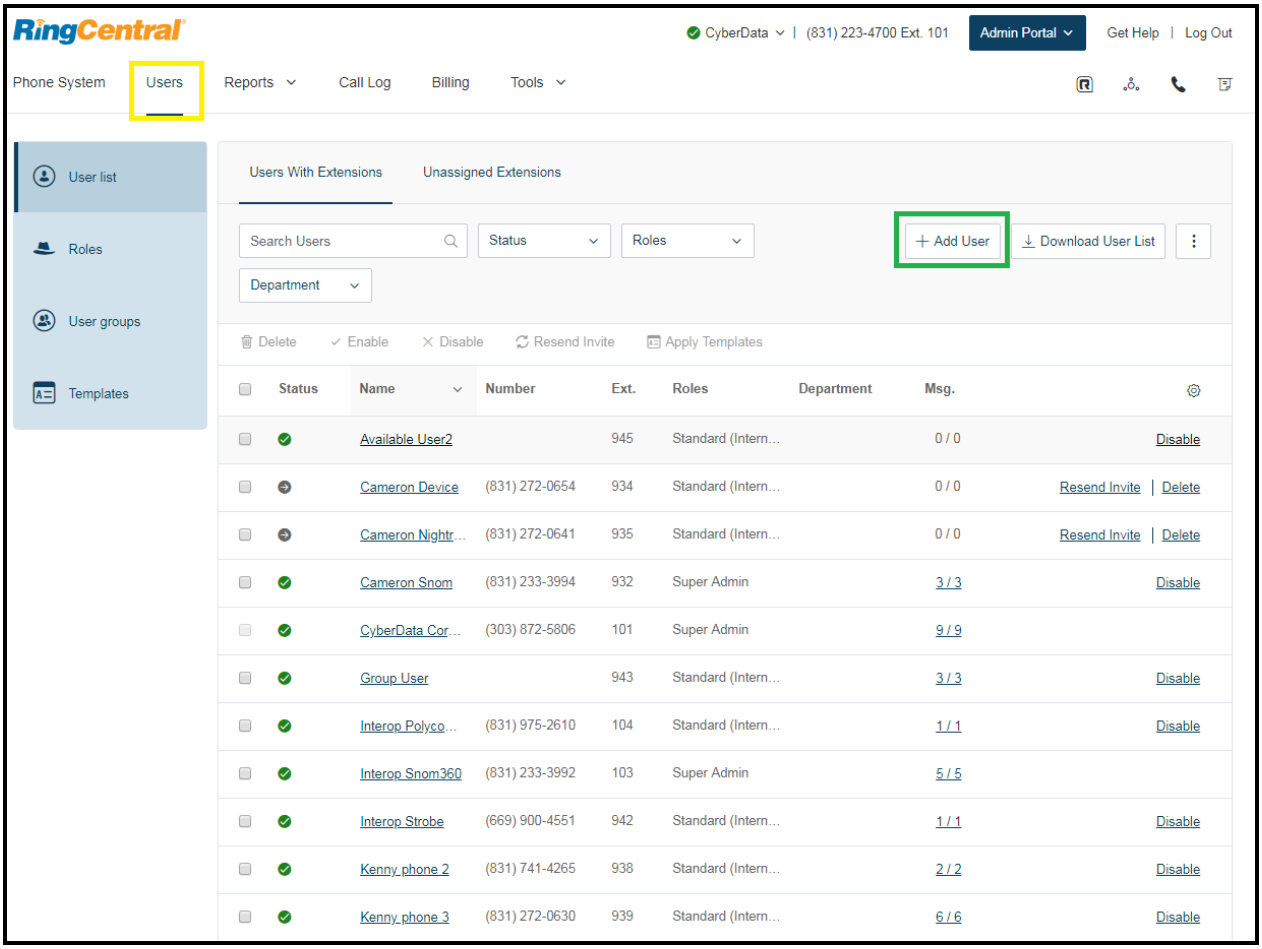
1. Login to the RingCentral Admin Portal at https://service.ringcentral.com.

Figure 4-13: RingCentral Admin Portal Login



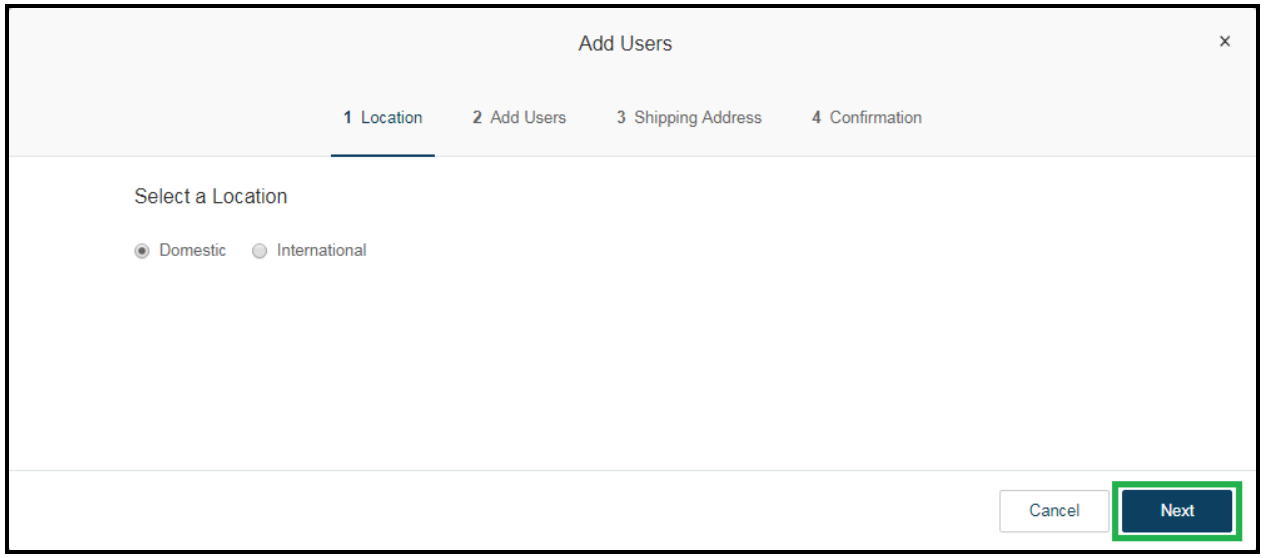
2. Select **Users**, and then press the **Add User** button.

Figure 4-14. Add User Button



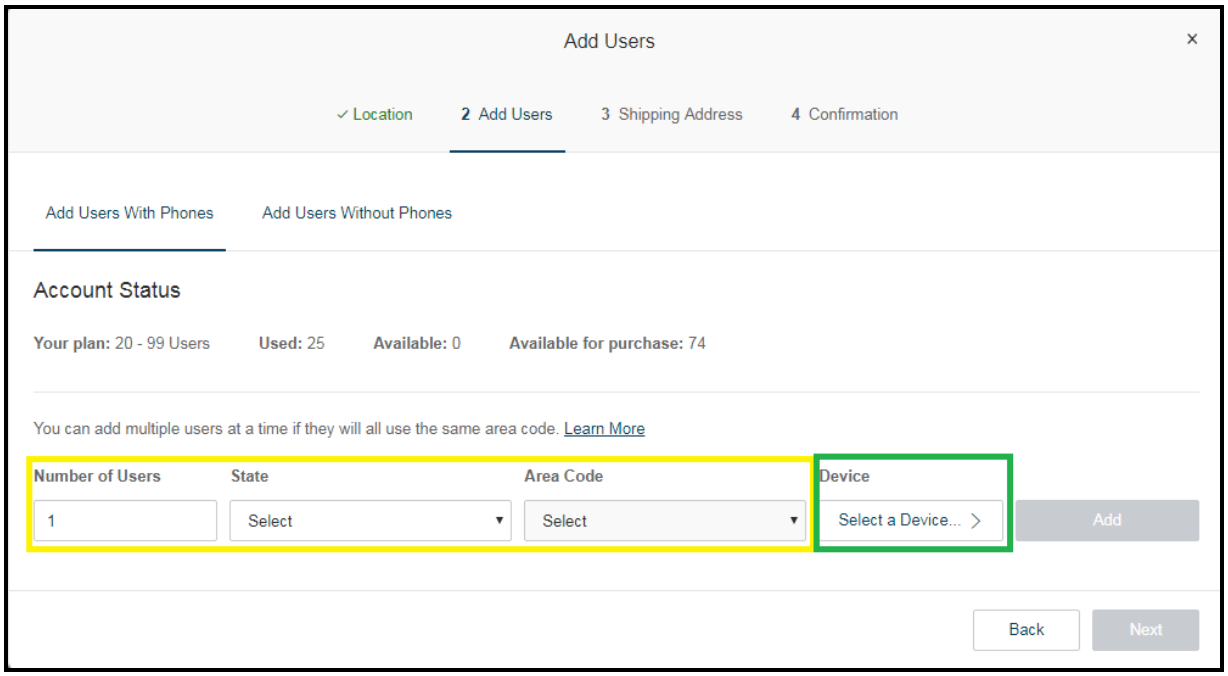
3. A popup window labeled **Add User** will appear. Select a location then press **Next**.

Figure 4-15: Add User Popup



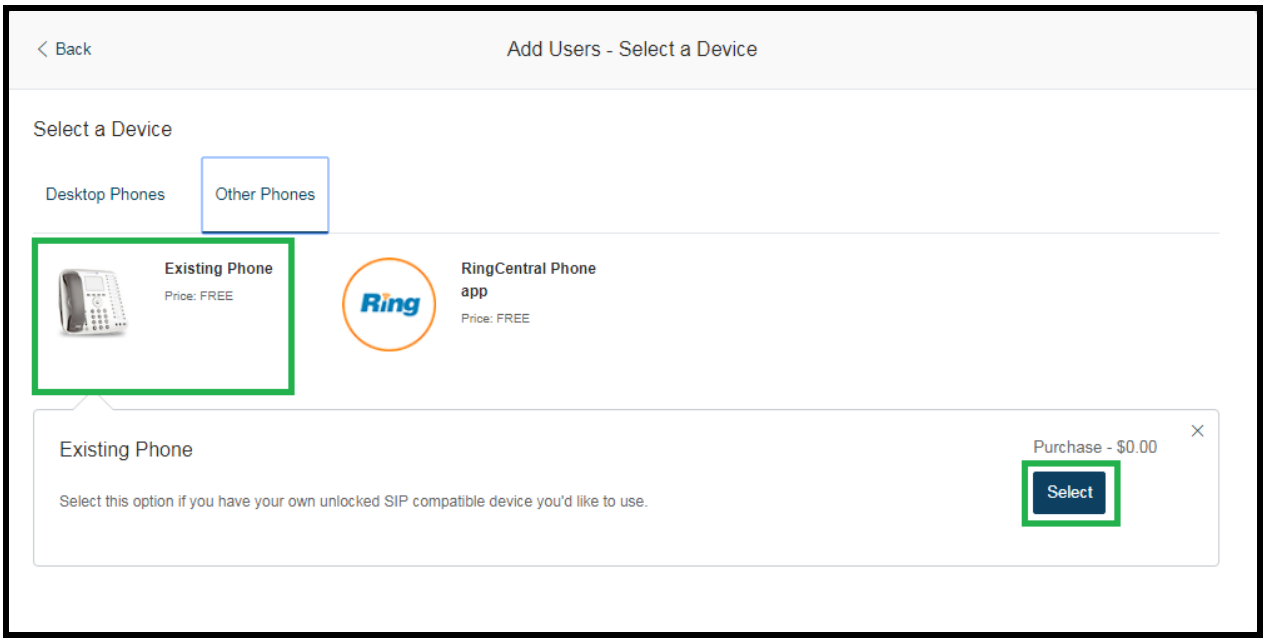
4. In the subsection **Add Users with Phones**, select the number of users, state, area code, and device.

Figure 4-16: Pick a Phone Number



4. A prompt will ask to select a phone type. Choose **Other Phones**, and then make sure **Existing Phone** is selected. Press **Select**.

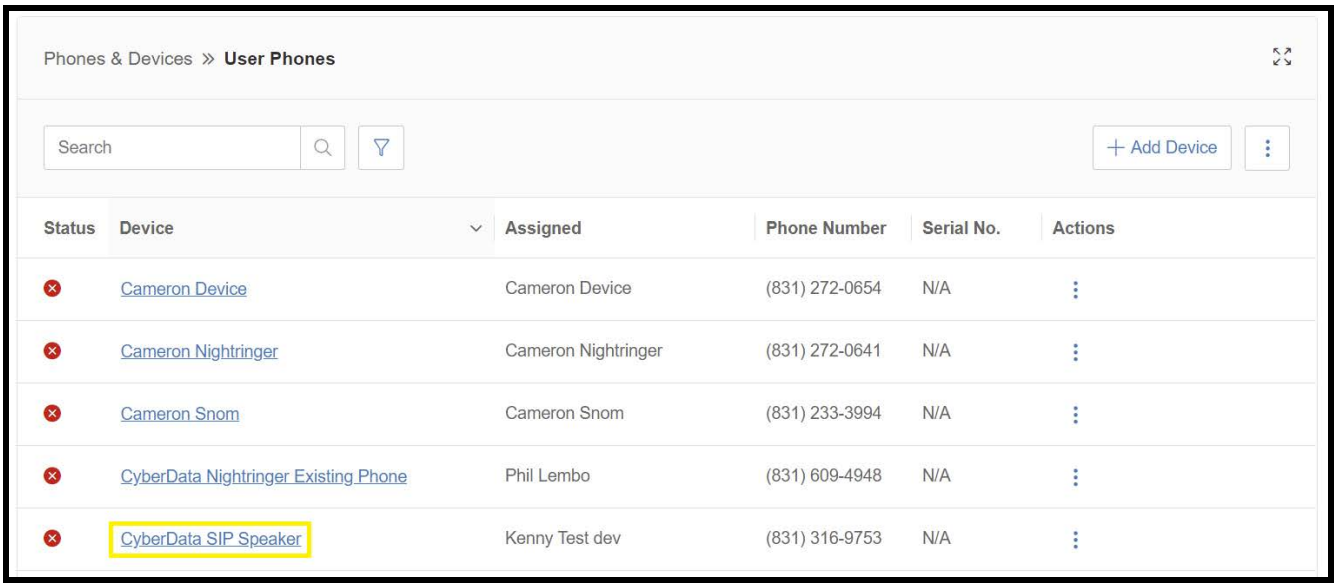
Figure 4-17: Select Phone Type



5. The process will lead through a six-step ordering process to set up a RingCentral Digital Line. Click the **Select** button to choose an **Existing Phone** and follow the steps in the ordering window to complete the order.

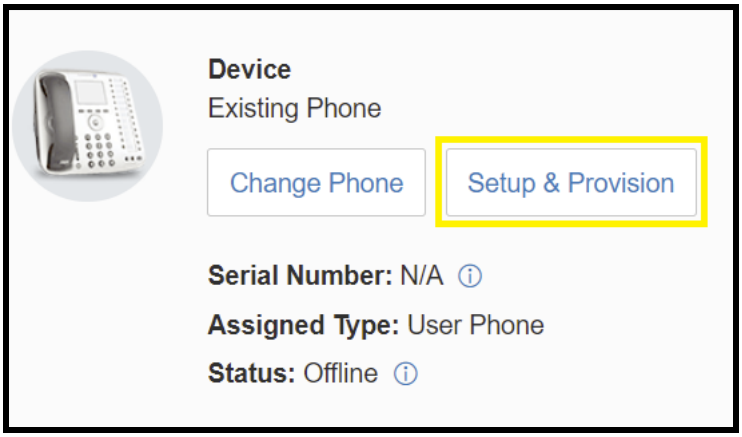
6. From the **Phones & Devices** menu, select **User Phones** and select the user phone designated for the SIP Speaker.

Figure 4-18. Select User



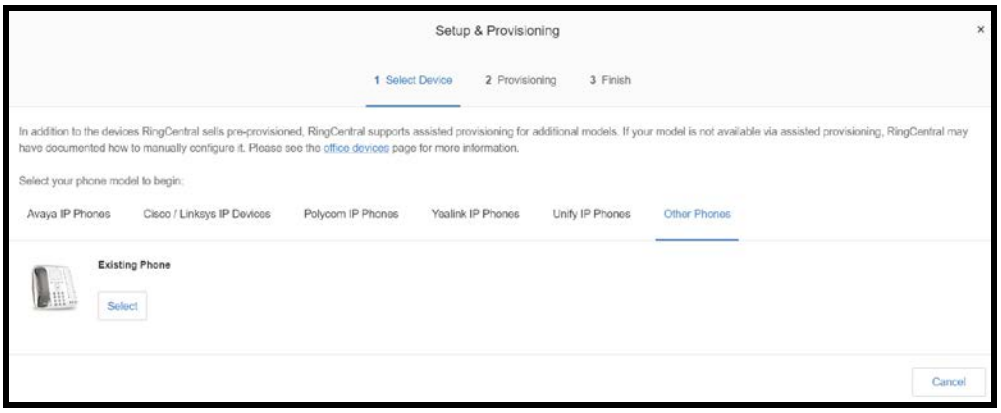
7. From the Device's page press the **Setup & Provision** button.

Figure 4-19: Setup & Provision



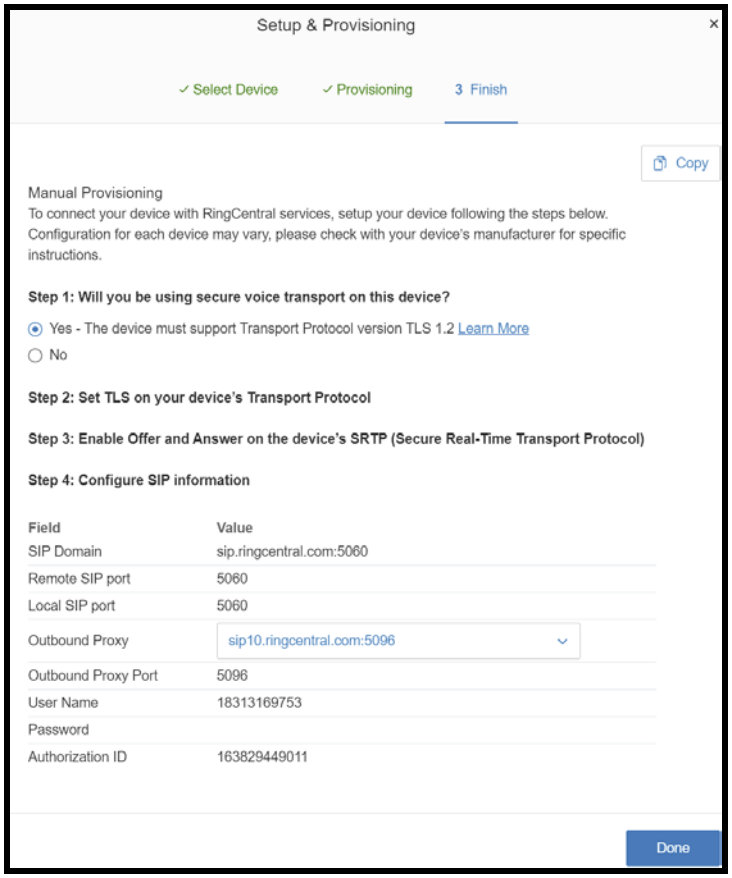
8. A popup window labeled **Setup & Provisioning** will appear. Select **Other Phones** and click **Existing Phone**.

Figure 4-20: Existing Phone



9. A popup window labeled **Assisted Generic IP Phone/Adaptor Provisioning** will appear. The provisioning information to register the primary extension with RingCentral. Make sure to select an Outbound proxy in your area.

Figure 4-21: IP Phone Provisioning Information



Note: *The Password has been obscured. These values are published only for reference.*

SIP Fields Table

Use the following table to determine how the RingCentral SIP field values above correlate to the CyberData SIP field values.

Table 4-2: CyberData Configuration Settings

Primary SIP Server field	From the Paging Device Provisioning Information popup: **SIP Server/SIP Domain**
Primary SIP User ID field	From the Paging Device Provisioning Information popup: **User Name**
Primary SIP Auth ID field	From the Paging Device Provisioning Information popup: **Authorization ID**
Primary SIP Auth Password field	From the Paging Device Provisioning Information popup: **Password**
Outbound Proxy field	From the Paging Device Provisioning Information popup: **Outbound Proxy**
Outbound Proxy Port field	From the Paging Device Provisioning Information popup**: Outbound Proxy Port**
Re-registration Interval (in seconds) field	**30**
Keep Alive Period field	**0**
Force Selected Codec checkbox **Codec** dropdown	**Yes** **PCMU (G.711, u-law)**
SIP Transport Protocol	**TLS**
TLS Version	**1.2 only (recommended)**
Verify Server Certificate	**Enabled**
Set Time with NTP Server on boot	**Enabled**
SRTP	**Enabled**

Configure SIP Parameters

1. Click **Launch Browser** from the CyberData Discovery Utility or point a browser to the CyberData device's IP address to access the Home Page of the web interface.
2. Enter the default credentials when prompted and click the **Log In** button.

Username: admin
Password: admin

Figure 4-22: Web Interface Login

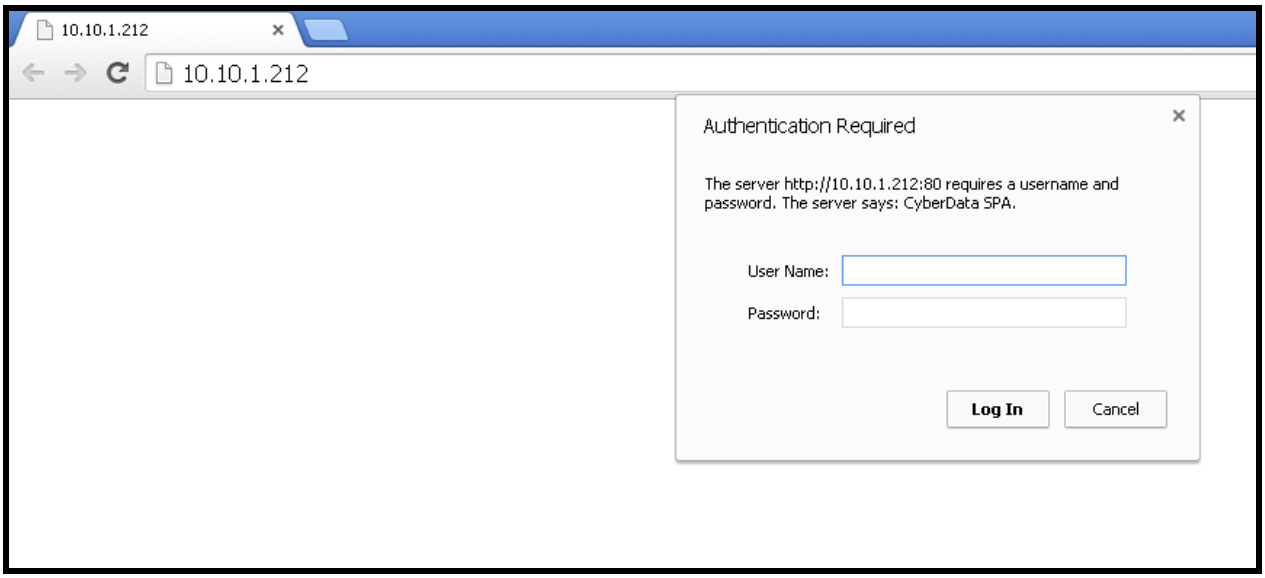


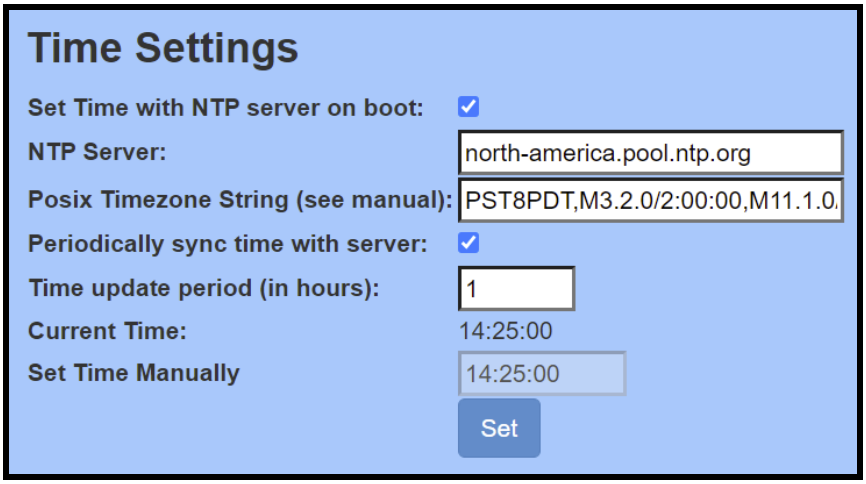
Figure 4-23: Home Page of Speaker Web Interface

Note: *The firmware version and registration status for the paging extension and Nightringer extensions appear here.*

3. On the Home Page, click **Device** on the top toolbar to access the Device page.

4. On the **Device** page scroll to the **Time Settings** section.

Figure 4-24: NTP Settings



18. Check the box for **Set Time with NTP server on boot.**
19. Adjust the **NTP Server** as necessary.
20. Select a **Posix Timezone String** for the local area.

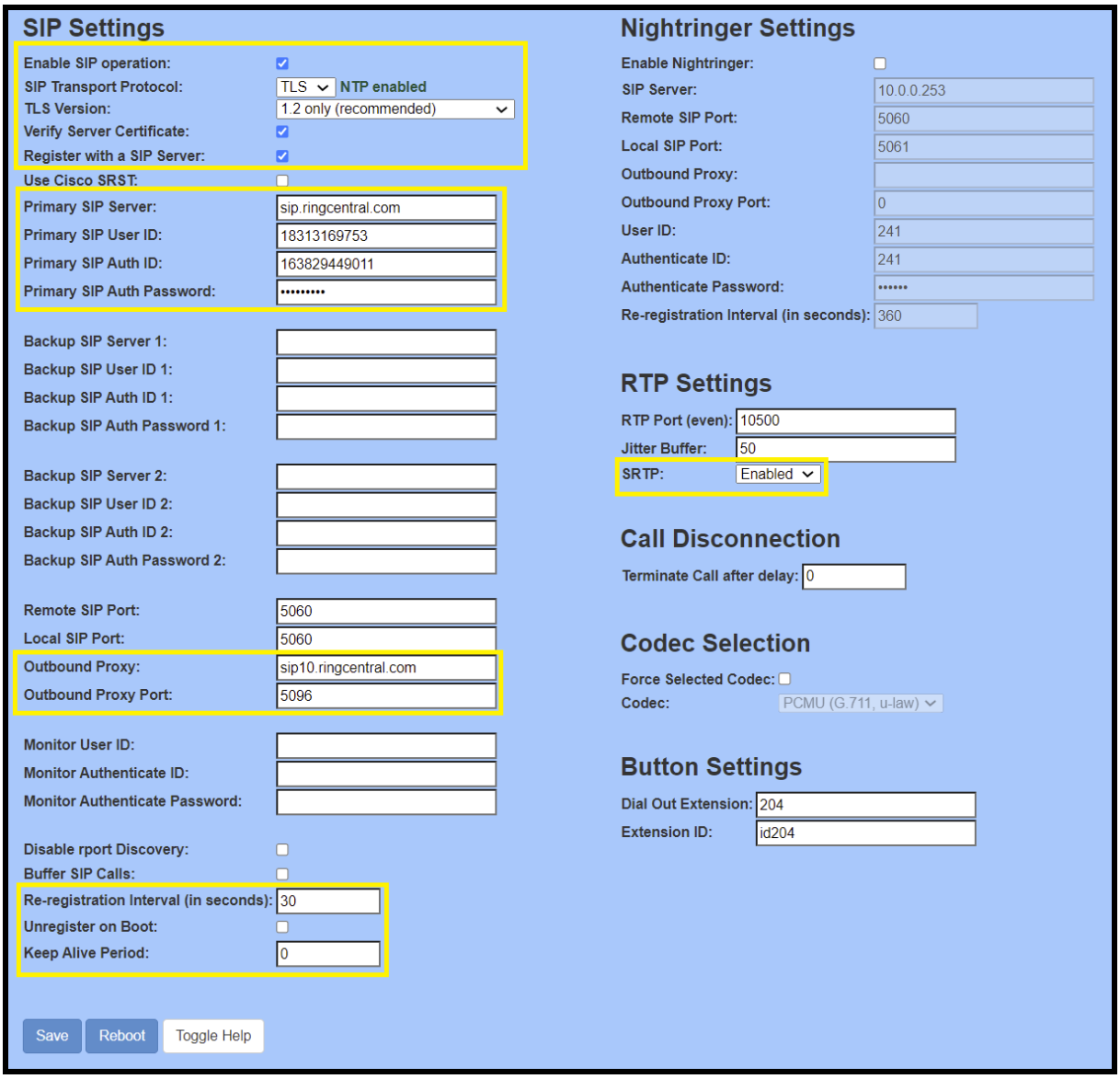
Note: *CyberData's Technical support department has a knowledge base entry with a Posix Timezone string for every timezone.* *Posix Timezone Strings Knowledge Base Entry*

21. Check the box for **Periodically Sync Time with Server.**
22. Set **Time update period (in hours)** to 1.
23. **Save.**
24. Press **SIP** to navigate to the SIP configuration page.
25. Set the **SIP Transport Protocol** to **TLS.**

Note: *NTP enabled should appear in green.*

26. Verify that **TLS Version** is set to **1.2** and **Verify Server Certificate** is checked.
27. Enter the provisioning information from the **Setup & Provisioning** popup window.
28. Set the **Re-registration interval** to **30**.
29. Set the **Keep Alive Period** to **0**.
30. Set **SRTP** to **Enabled**.
31. **Save** and **Reboot**.

Figure 4-25: SIP Configuration



Autoprovisioning

If autoprovisioning the device, use the SIP Settings in the autoprovisioning template to register with RingCentral. An autoprovisioning template is provided in the respective firmware folder available on the **Downloads** tab of the product webpage here:
https://www.cyberdata.net/collections/sip/products/011393

Be sure to use the autoprovisioning template for the firmware version running on the device. The firmware version can be verified on the **Home** page of the web interface. Refer to the Operations Guide for instructions on autoprovisioning configuration.

Figure 4-26: Autoprovisioning Template Example – SIP Settings

```
<SIPSettings>
    <EnableSIPOperation>Yes</EnableSIPOperation>
    <SIPTransportProtocol>TLS</SIPTransportProtocol>
    <SIPTLSVersion>TLSv1.2</SIPTLSVersion>
    <VerifyServerCert>Yes</VerifyServerCert>
    <SIPServer>sip.ringcentral.com</SIPServer>
    <SIPUserID>18313169753</SIPUserID>
    <SIPAuthID>163829449011</SIPAuthID>
    <SIPAuthPassword>**********</SIPAuthPassword>

    <UseCiscoSRST>No</UseCiscoSRST>
    <RemoteSIPPort>5060</RemoteSIPPort>
    <LocalSIPPort>5060</LocalSIPPort>
    <OutboundProxy>sip10.ringcentral.com</OutboundProxy>
    <OutboundProxyPort>5096</OutboundProxyPort>

    <SIPRegisterOnBoot>Yes</SIPRegisterOnBoot>
    <SIPRegistrationTimeout>30</SIPRegistrationTimeout>
    <SIPUnregisterOnBoot>No</SIPUnregisterOnBoot>
    <NatPingOptions>No</NatPingOptions>

    <CallTimeout>0</CallTimeout>

    <DisableRportDiscovery>No</DisableRportDiscovery>
    <BufferSIPCalls>No</BufferSIPCalls>
    <RTPPort>10500</RTPPort>
    <JitterBuffer>50</JitterBuffer>
    <KeepAlive>0</KeepAlive>
    <DefaultCodec>0</DefaultCodec>
    <!-- DefaultCodec:
    0 - use default list
    1 - G711Ulaw only
    2 - G711Alaw only
    3 - G722 only
    4 - G729 only -->

    <SIPRTPEncryption>1</SIPRTPEncryption>
    <!--SIPRTPEncryption:0 - disabled, 1 - enabled-->
</SIPSettings>

<ClockSettings>
    <NTPServer>north-america.pool.ntp.org</NTPServer>
    <NTPTimezone>PST8PDT,M3.2.0/2:00:00,M11.1.0/2:00:01</NTPTimezone>
    <NTPOnBoot>Yes</NTPOnBoot>
    <NTPAutoupdate>Yes</NTPAutoupdate>
    <NTPAutoupdateDelay>1</NTPAutoupdateDelay>
</ClockSettings>
```

Note: *These example values are published only for reference. The SIPAuthPassword value should be the actual value from the* ***Setup & Provisioning*** *popup window.*

Verify the Extension is Registered

After the Speaker has rebooted and initialized to store changes, refresh the Home page of the web interface. The device should show as **[Registered with SIP Server]** in green text on the bottom of the Home Page of the web interface.

Figure 4-27: Phone Details – Status

Once the Primary extension has registered with RingCentral and has been configured with the appropriate Device settings for the installation, a RingCentral phone may be used to dial the extension.

5.0 Configuration Procedure: UDP Auto-Answer Paging

The RingCentral Paging feature delivers real-time broadcasts to desk phones and/or paging devices. CyberData speakers can be added to *Paging Only* groups supporting a combination of CyberData paging endpoints and RingCentral Polycom and Cisco desk phones.

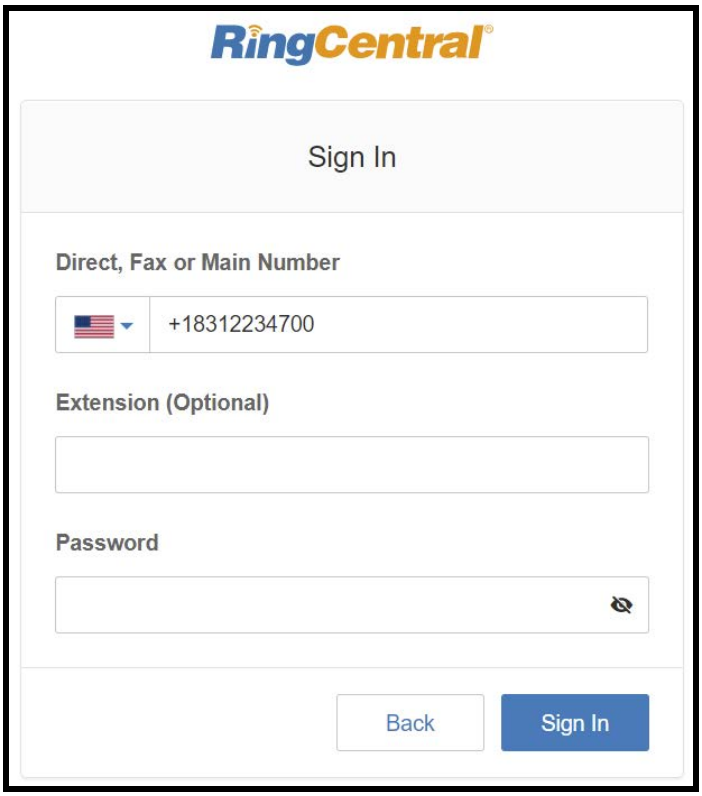
CyberData SIP Speakers are ideal for one-way, auto-answer paging in indoor environments and offer external or digital volume control.

Add a Paging Extension

This section describes the process of creating a user, provisioning a paging device, and registering the paging extension that will be used for paging with RingCentral. First, a user must be created for the speaker. Use the following steps to create a user and provision a paging device for the speaker's primary extension through the RingCentral Admin Portal.

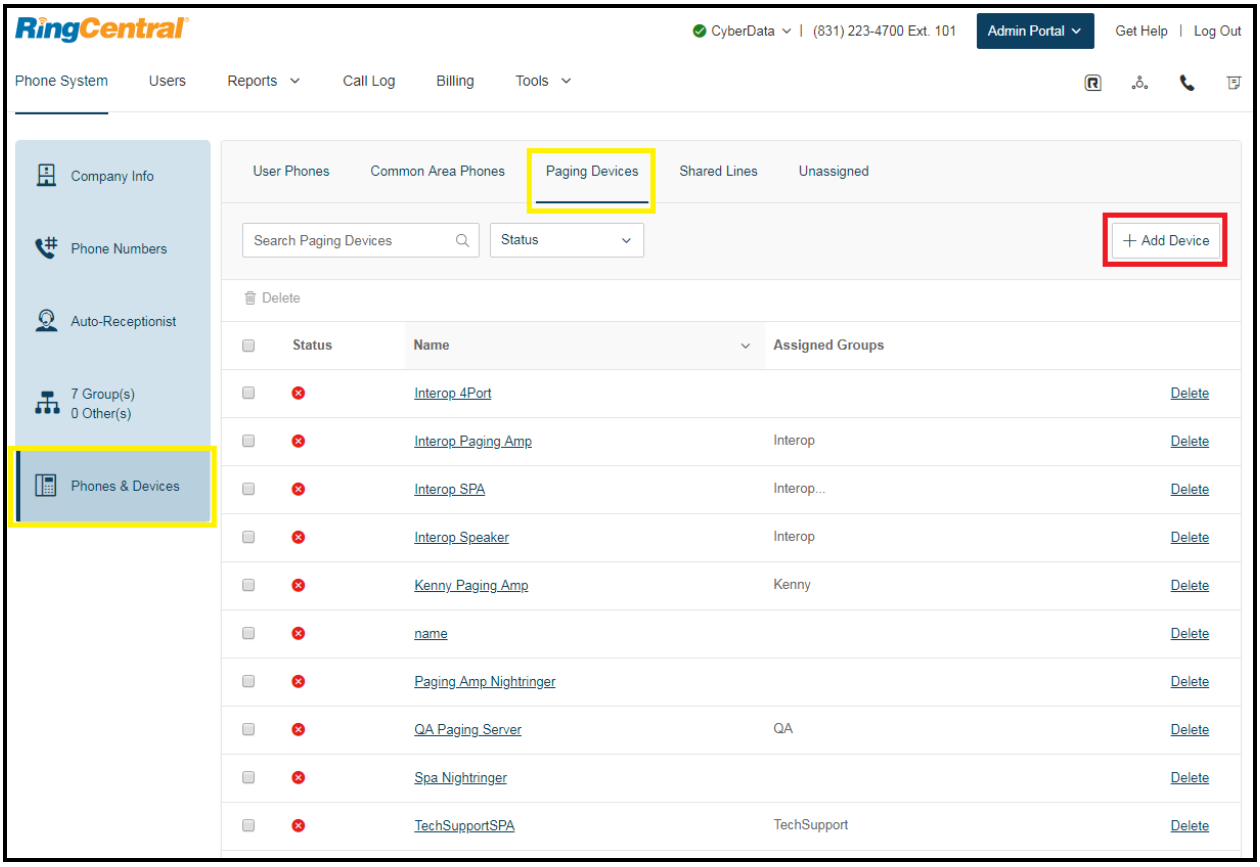
1. Login to the RingCentral Admin Portal at https://service.ringcentral.com.

Figure 5-1: RingCentral Admin Portal Login



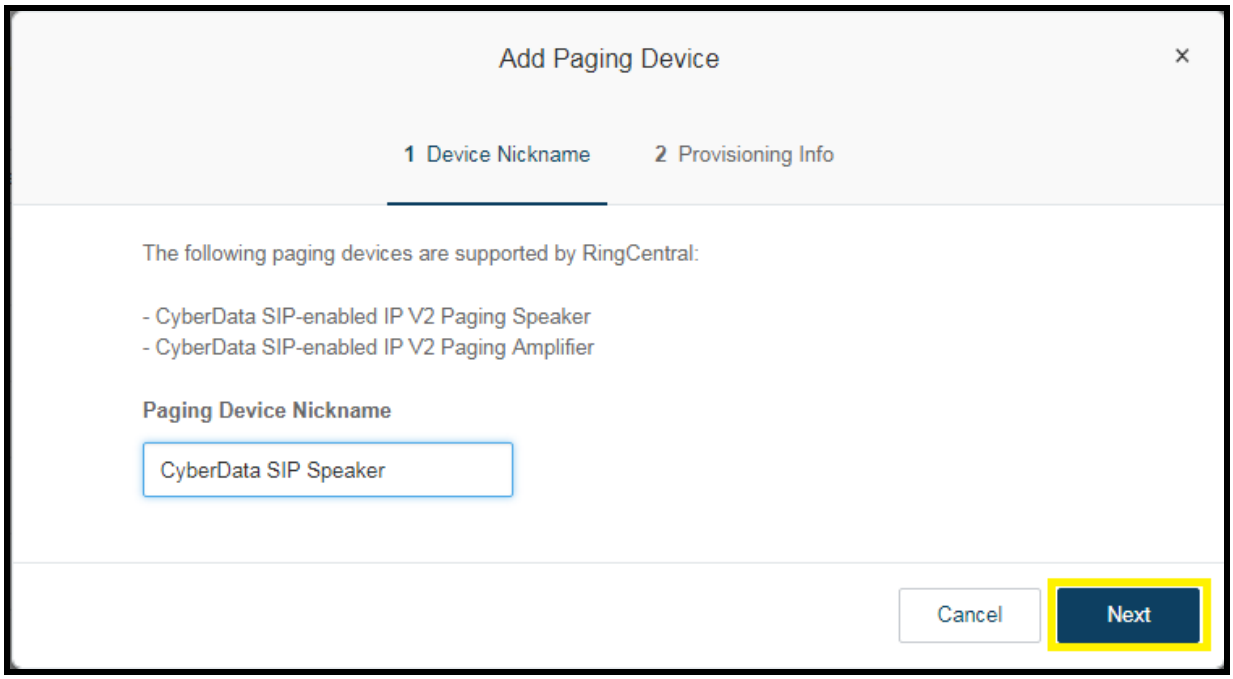
2. From the Phones & Devices menu, select Paging Devices, and then click Add Device.

Figure 5-2: Add Device



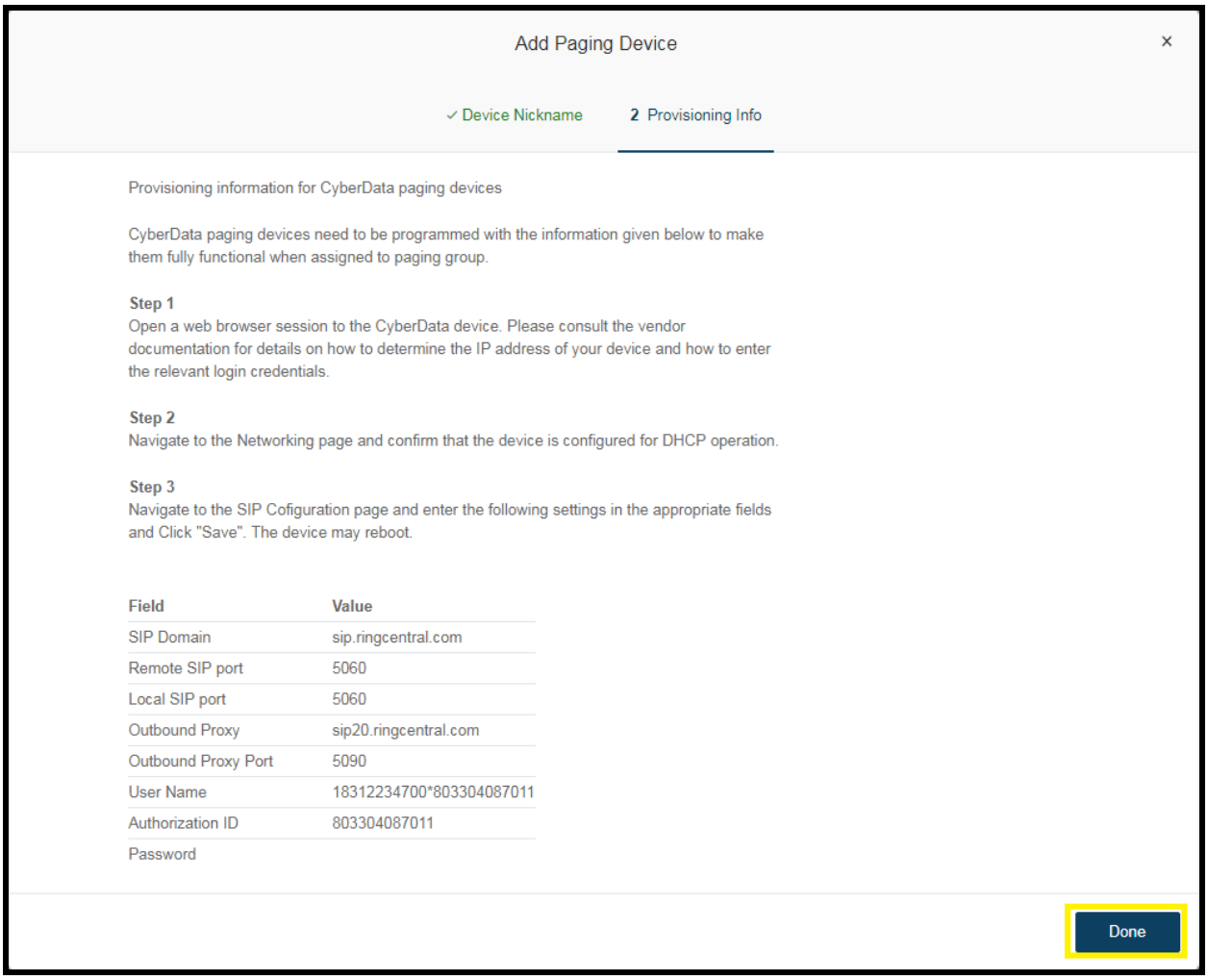
3. A popup window labeled **Add Paging Device** will appear. Set the **Paging Device Nickname**, and then click **Next**.

Figure 5-3: Add Paging Device - Nickname



4. A popup window labeled **Generic Paging Device Provisioning** will appear. The credentials will be used to register the SIP speaker's primary extension with RingCentral.

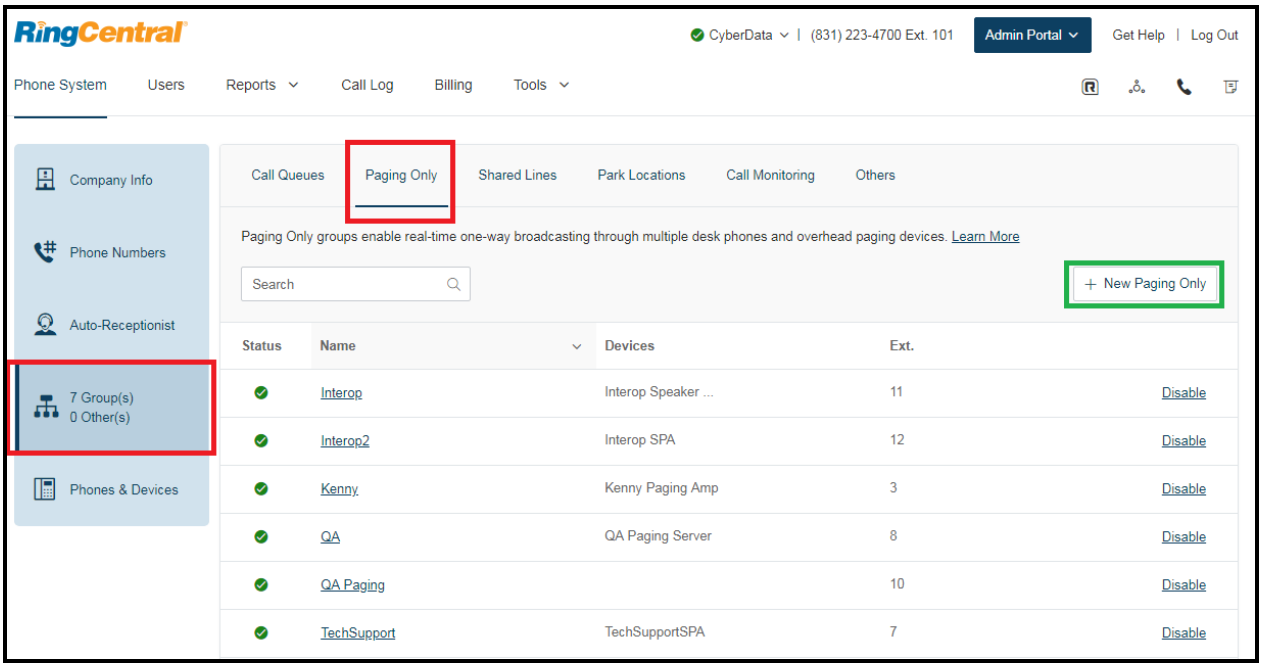
Figure 5-4. Provisioning Information



Note: *The Password has been obscured. These values are published only for reference.*

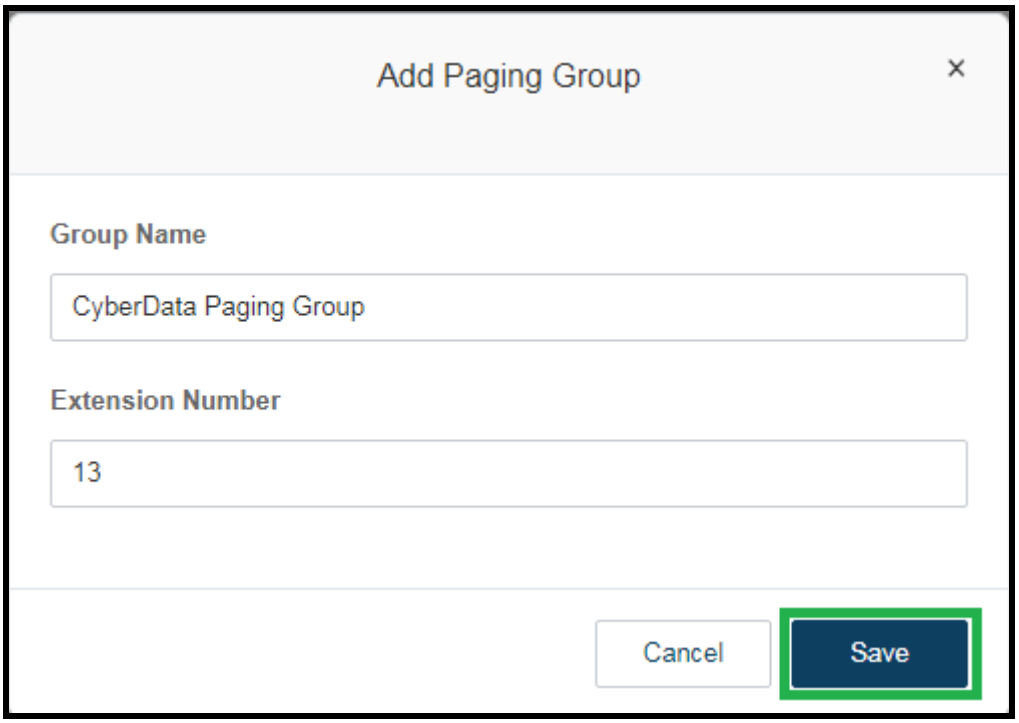
5. Next, add the new Paging Device to a *Paging Only* group. From the **[n] Groups** menu, select **Paging Only**, then click **New Paging Group**.

Figure 5-5: Add Group



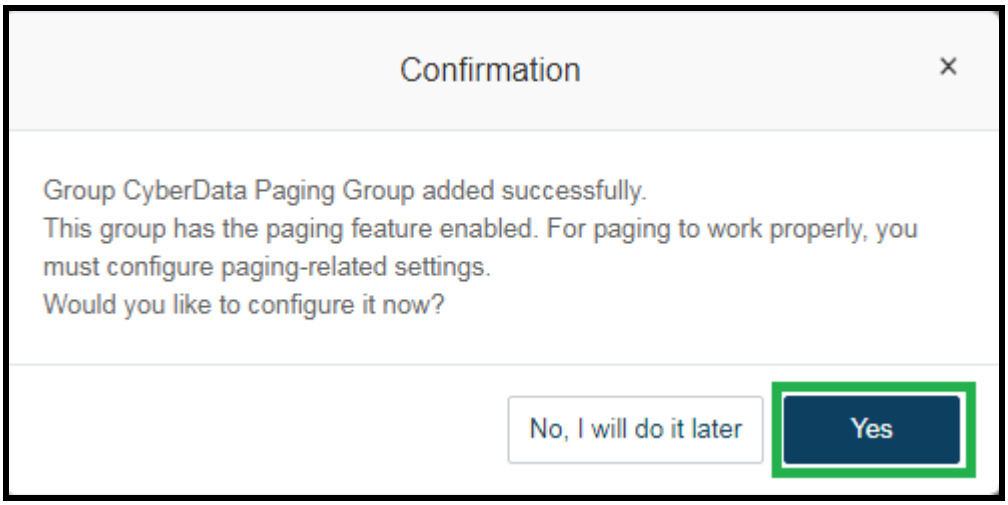
6. A popup window labeled **Add Paging Group** will appear. Enter an available extension number and name for the *Paging Only* group, then click **Save**.

Figure 5-6. Add Paging Group



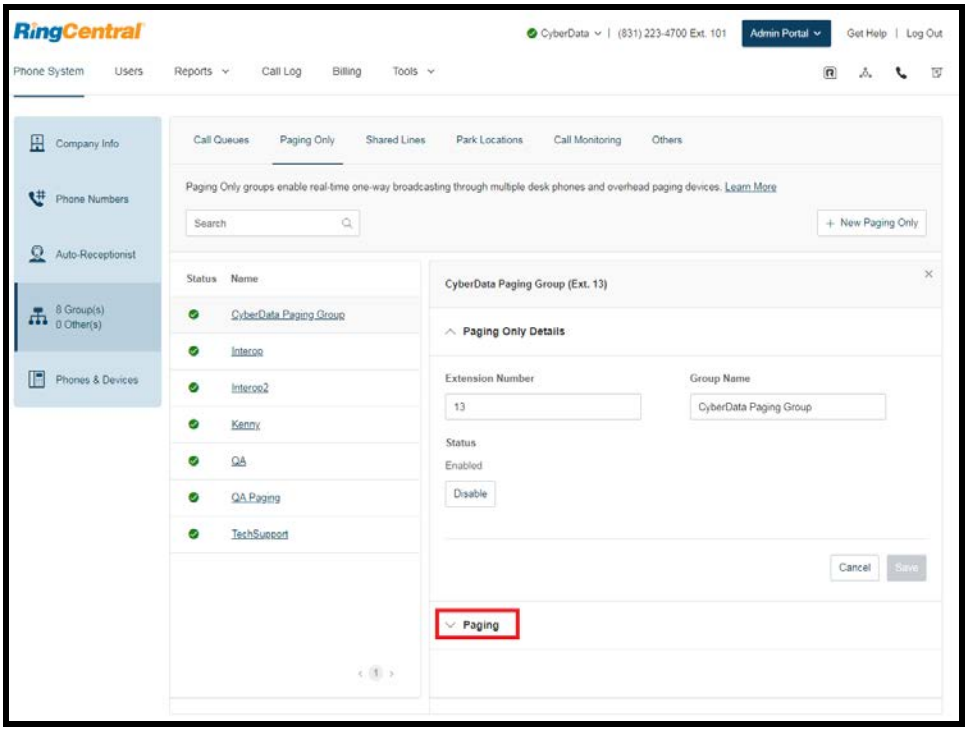
7. A confirmation screen will confirm the paging group has been created. Select **Yes** to configure paging settings.

Figure 5-7: Confirmation



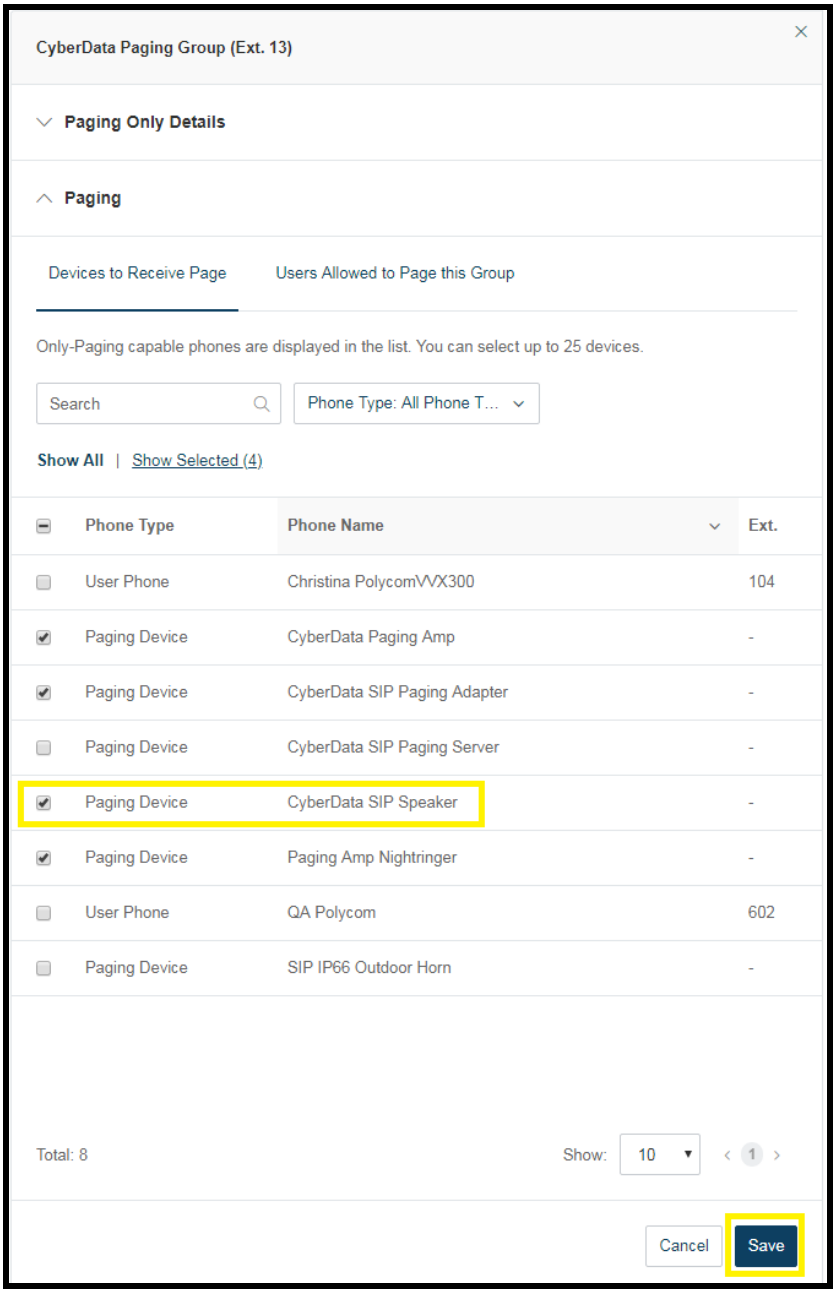
8. Verify the new paging group appears in the **Groups** list. Select the paging group and a menu will appear to the far right of the screen. From this menu, select **Paging**.

Figure 5-8: Group Paging Menu



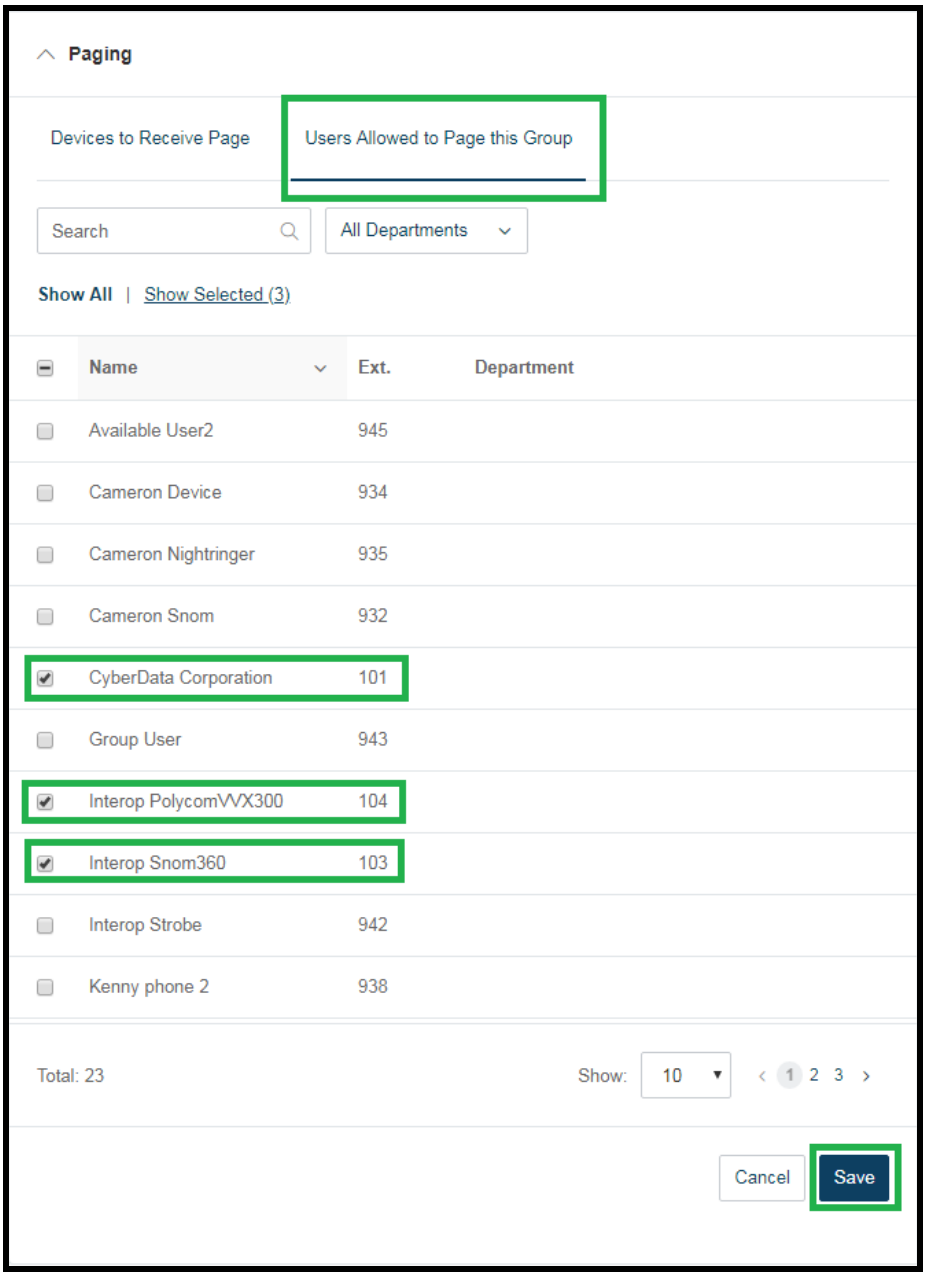
9. From the **Paging** menu, select **Devices to Receive Page**, then check the devices to add to the group and press **Save**.

Figure 5-9: Devices to Receive Page



10. Next, select **Users Allowed to Page this Group** to designate users with paging privileges. Check the box next to the users desired then press **Save**.

Figure 5-10: Users Allowed to Page This Group



11. The page redirects back to the group's paging menu after clicking **Save.** Proceed to **Configure SIP Parameters**.

Configure SIP Parameters

One may feel more comfortable with web-based configuration or provisioning using templates. Both methods are documented in this configuration guide. Be sure to review the SIP Speaker's operation guide for complete information on configuration through the web interface and CyberData's "autoprovisioning" method using templates via HTTP, HTTPS, and TFTP protocols.

Table 5-1: CyberData Configuration Settings

Primary SIP Server field	From the Paging Device Provisioning Information popup: **SIP Server/SIP Domain**
Primary SIP User ID field	From the Paging Device Provisioning Information popup: **User Name**
Primary SIP Auth ID field	From the Paging Device Provisioning Information popup: **Authorization ID**
Primary SIP Auth Password field	From the Paging Device Provisioning Information popup: **Password**
Outbound Proxy field	From the Paging Device Provisioning Information popup: **Outbound Proxy**
Outbound Proxy Port field	From the Paging Device Provisioning Information popup**: Outbound Proxy Port**
Re-registration Interval (in seconds) field	**30**
Keep Alive Period field	**0**
Force Selected Codec checkbox **Codec** dropdown	**Yes** **PCMU (G.711, u-law)**

Web Configuration

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

1. Click **Launch Browser** from the CyberData Discovery Utility or point a browser to the CyberData device's IP address to access the Home Page of the web interface.
2. Enter the default credentials when prompted and click the **Log In** button.

Username: admin
Password: admin

Figure 5-11. Web Interface Login

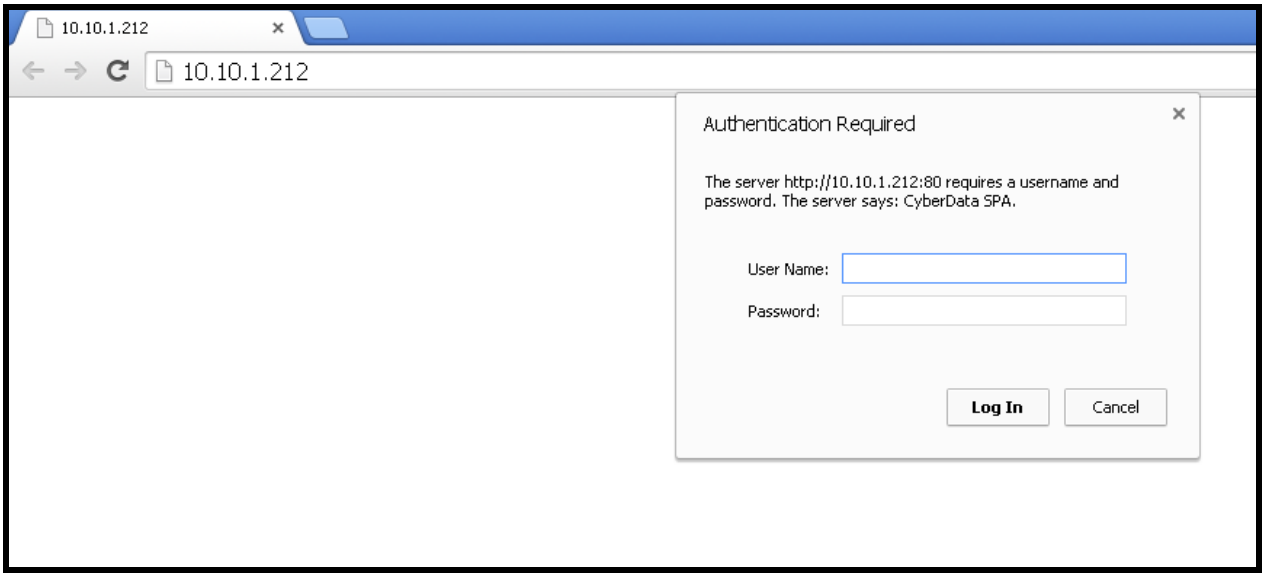
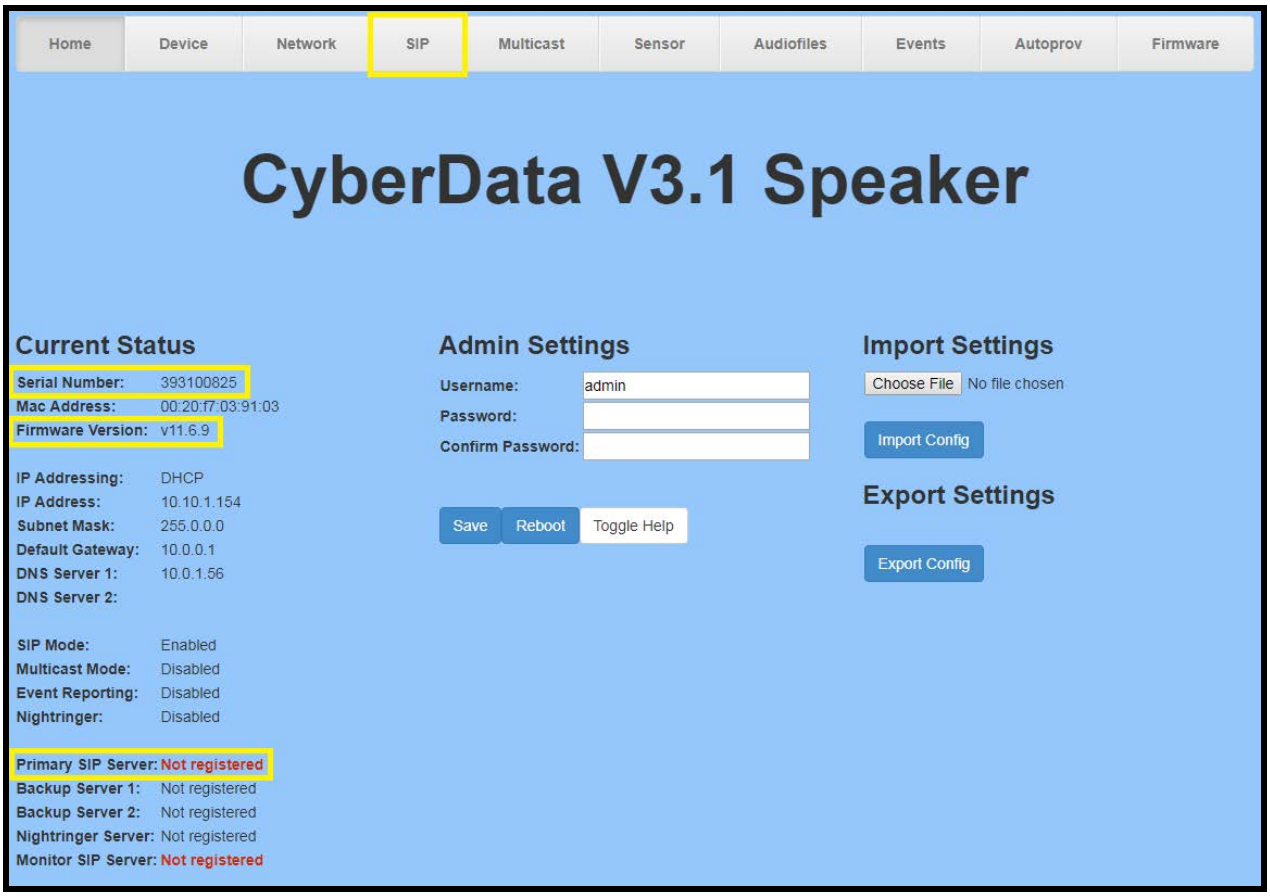


Figure 5-12: Home Page of Speaker Web Interface



3. On the Home Page, click **SIP Config** on the top toolbar to access the SIP Configuration page.

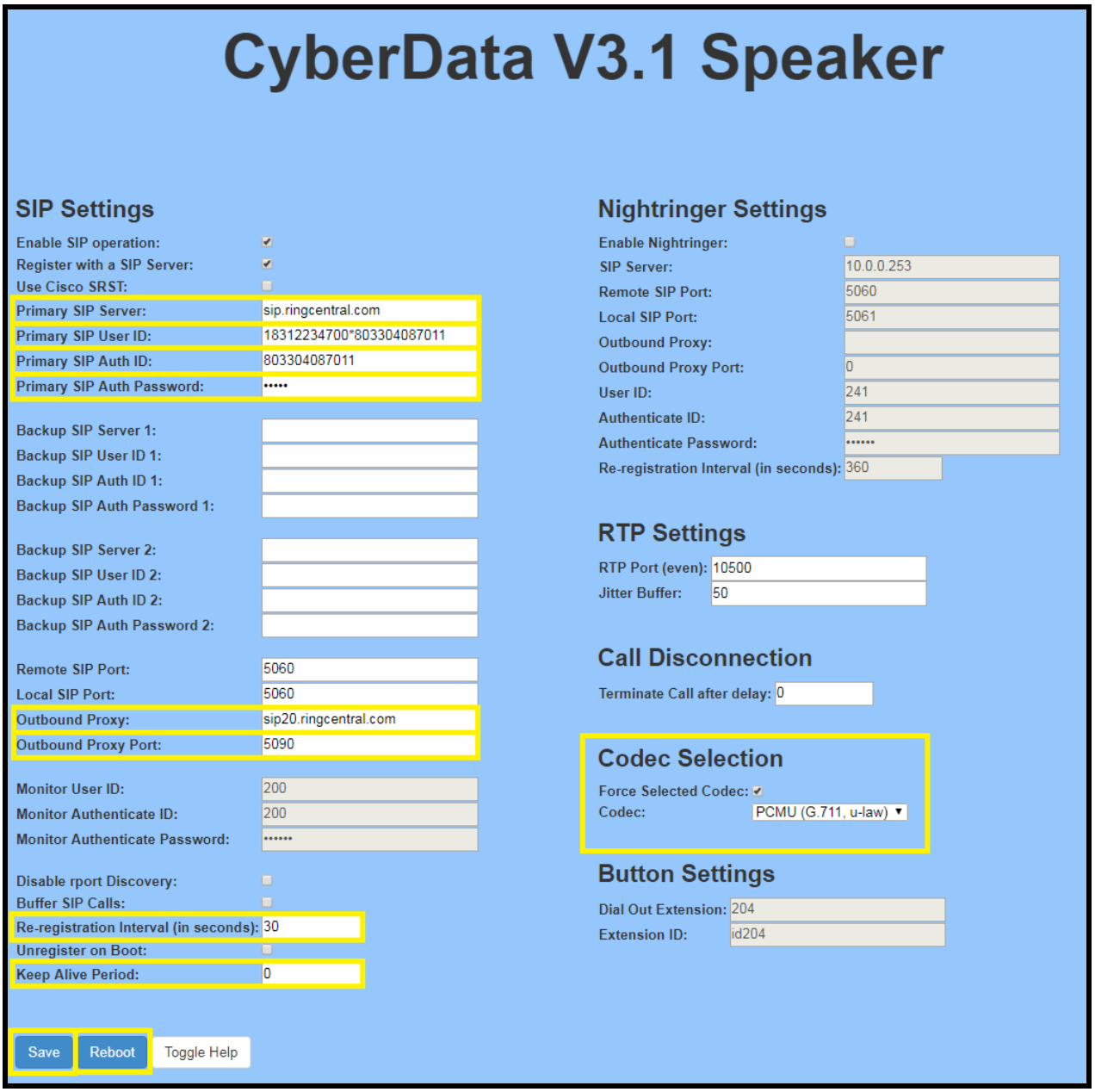
Note: *The firmware version and registration status for the paging extension and Nightringer extensions appear here.*

10. Enter the provisioning information from the **Generic Paging Device Provisioning** popup window.

Note: *The Local SIP Port is set to 5060 on default and is used by the Speaker as its source port for the primary extension configured on this page.*

5. Set the *Re-registration Interval (in seconds)* to **30 seconds**.
6. Set the *Keep Alive Period* to **0.**
7. Enable *Force Codec Selection* and use **PCMU.**
8. Click **Save** and **Reboot** to store changes.

Figure 5-13: SIP Configuration



Autoprovisioning

If autoprovisioning the Speaker, use the SIP Settings in the autoprovisioning template to register the Speaker with RingCentral. An autoprovisioning template is provided in the respective firmware folder available on the **Downloads** tab of the product webpage here: https://www.cyberdata.net/collections/sip/products/011393

Be sure to use the autoprovisioning template for the firmware version running on the Speaker. The firmware version can be verified on the **Home** page of the web interface. Refer to the Operations Guide for instructions on autoprovisioning configuration.

Figure 5-14. Autoprovisioning Template Example – SIP Settings

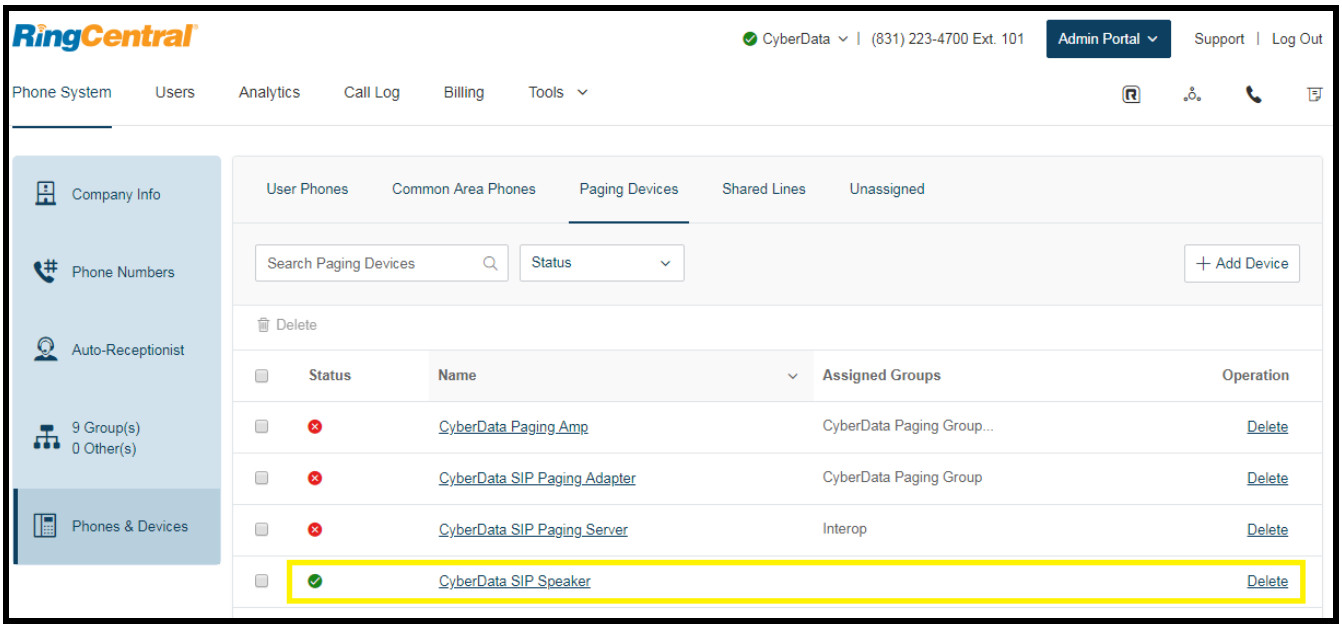
```
<SIPSettings>
    <EnableSIPOperation>Yes</EnableSIPOperation>
    <SIPServer>sip.ringcentral.com</SIPServer>
    <RemoteSIPPort>5060</RemoteSIPPort>
    <BackupSIPServer1></BackupSIPServer1>
    <BackupSIPServer2></BackupSIPServer2>
    <LocalSIPPort>5060</LocalSIPPort>
    <OutboundProxy>sip20.ringcentral.com</OutboundProxy>
    <OutboundProxyPort>5090</OutboundProxyPort>
    <SIPUserID>18312234700*194773016011</SIPUserID>
    <SIPAuthID>194773016011</SIPAuthID>
    <SIPAuthPassword>*****</SIPAuthPassword>
    <SIPRegistrationTimeout>30</SIPRegistrationTimeout>
    <SIPUnregisterOnBoot>No</SIPUnregisterOnBoot>
    <SIPRegisterOnBoot>Yes</SIPRegisterOnBoot>
    <BufferSIPCalls>No</BufferSIPCalls>
    <RTPPort>10500</RTPPort>
    <CallTimeout>0</CallTimeout>
    <UseCiscoSRST>No</UseCiscoSRST>
    <DisableRportDiscovery>No</DisableRportDiscovery>
    <KeepAlive>0</KeepAlive>
</SIPSettings>
```

Note: *These example values are published only for reference. The SIPAuthPassword value should be the actual value from the* ***Generic Paging Device Provisioning*** *popup window.*

Verify the Paging Extension is Registered

After the Speaker has rebooted and initialized to store changes, refresh the Home page of the web interface. The device should show as **[Registered with SIP Server]** in green text on the bottom of the Home Page of the web interface. Additionally, the registration status can be verified with RingCentral through the Admin Portal. From the **Phones & Devices** menu, select **Devices** and the Paging Device just created for the Speaker. The status should show as "online" in the **Device Details**.

Figure 5-15: Device Details – Status



Make a Test Call

Once the device has registered with RingCentral, use a phone associated with an **Allowed User** to dial the extension of the paging group. Refer to RingCentral Article Number 5983 for instructions on paging a group from an IP phone.

6.0 Configuration Procedure: UDP Voice-Prompted Paging

When an installation requires more flexibility than auto-answer live paging, the SIP Speaker's primary extension can be provisioned as an IP phone associated with a user extension. Provisioning as a Paging Device does not allow the speaker to transmit audio back to the calling phone (talkback speaker) OR does not allow for sending of DTMF characters for stored message playback. Provision the Speaker's paging extension as an IP phone to enable the following features:

- Talkback
- Playing up to 9 configurable stored pages
- Security code

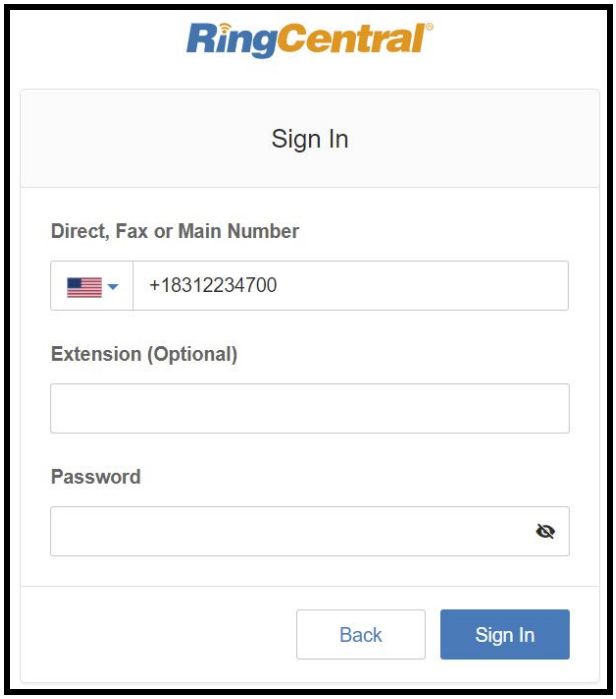
Note: *Talkback is only possible for the 011397/011398.*

Add an IP Phone

This section describes the process of creating a user, provisioning an IP phone, and registering the primary extension that will be used for paging with RingCentral. First, a RingCentral user must be designated for the SIP Speaker. Use the following steps to create a user and provision an IP phone for the primary extension through the RingCentral Admin Portal.

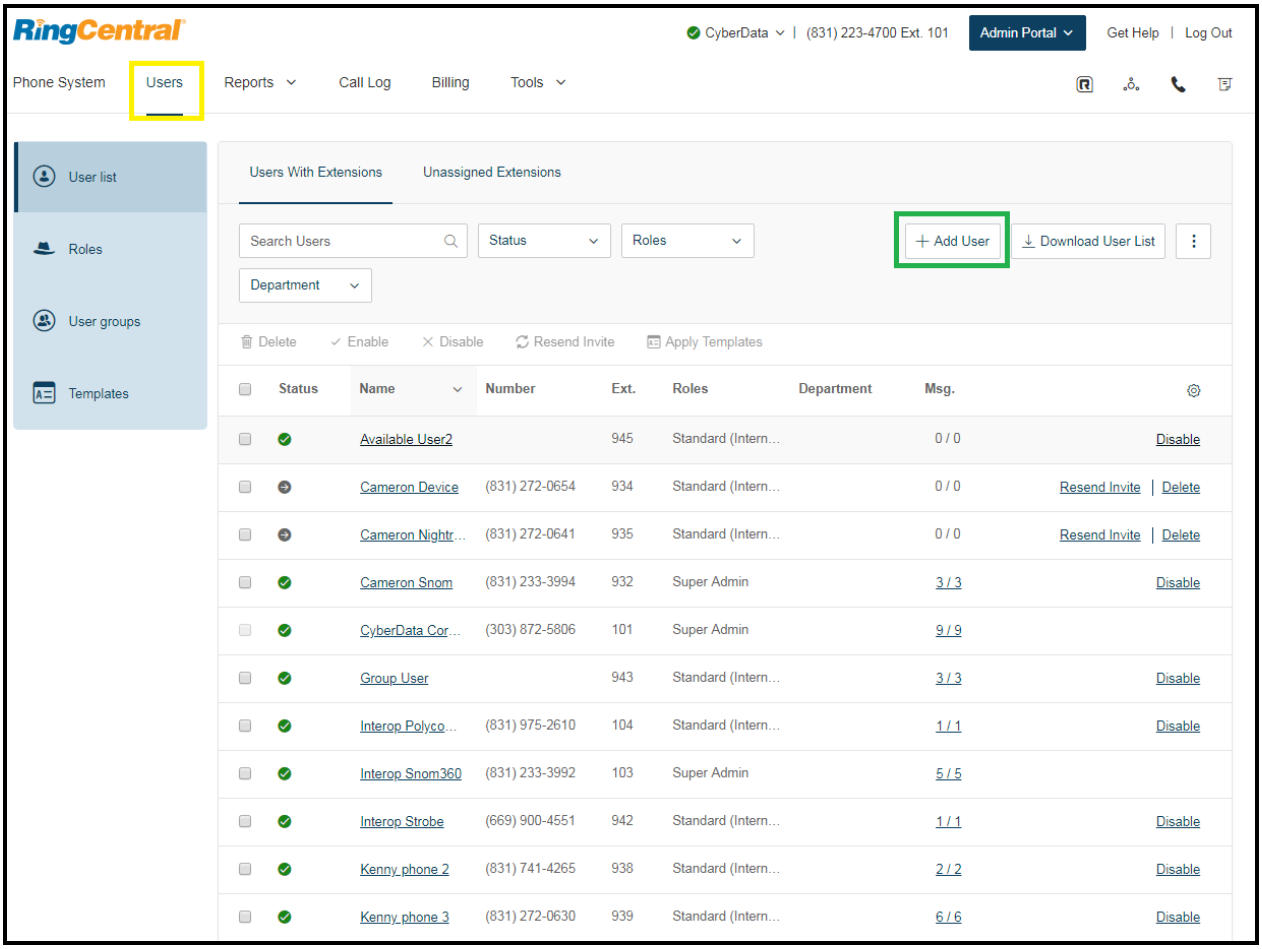
5. Login to the RingCentral Admin Portal at https://service.ringcentral.com.

Figure 6-1: RingCentral Admin Portal Login



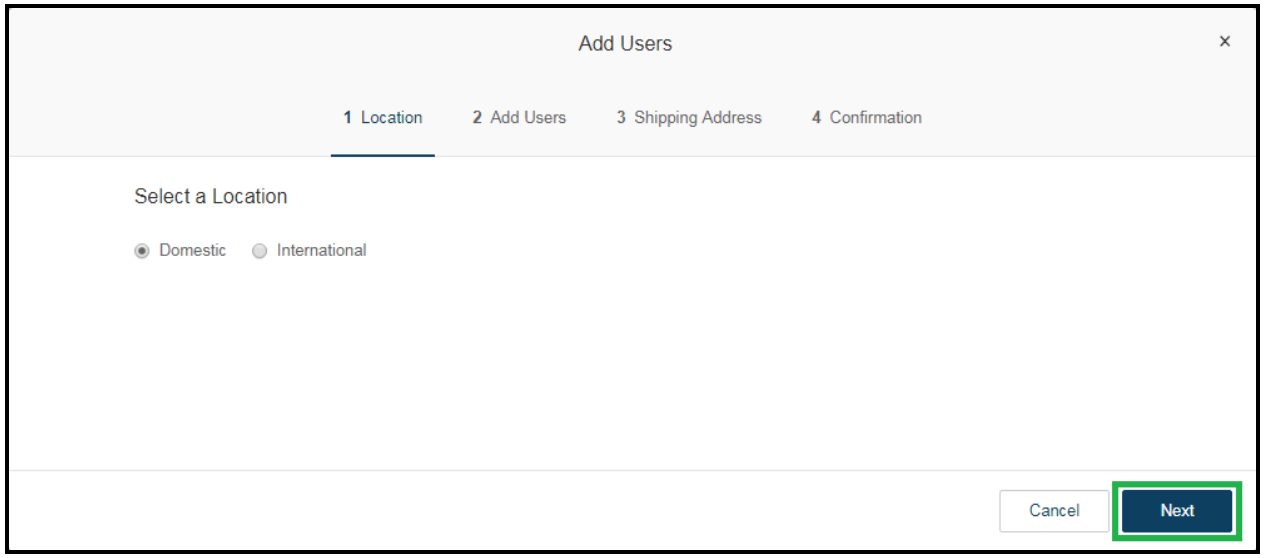
6. Select **Users**, and then press the **Add User** button.

Figure 6-2. Add User Button



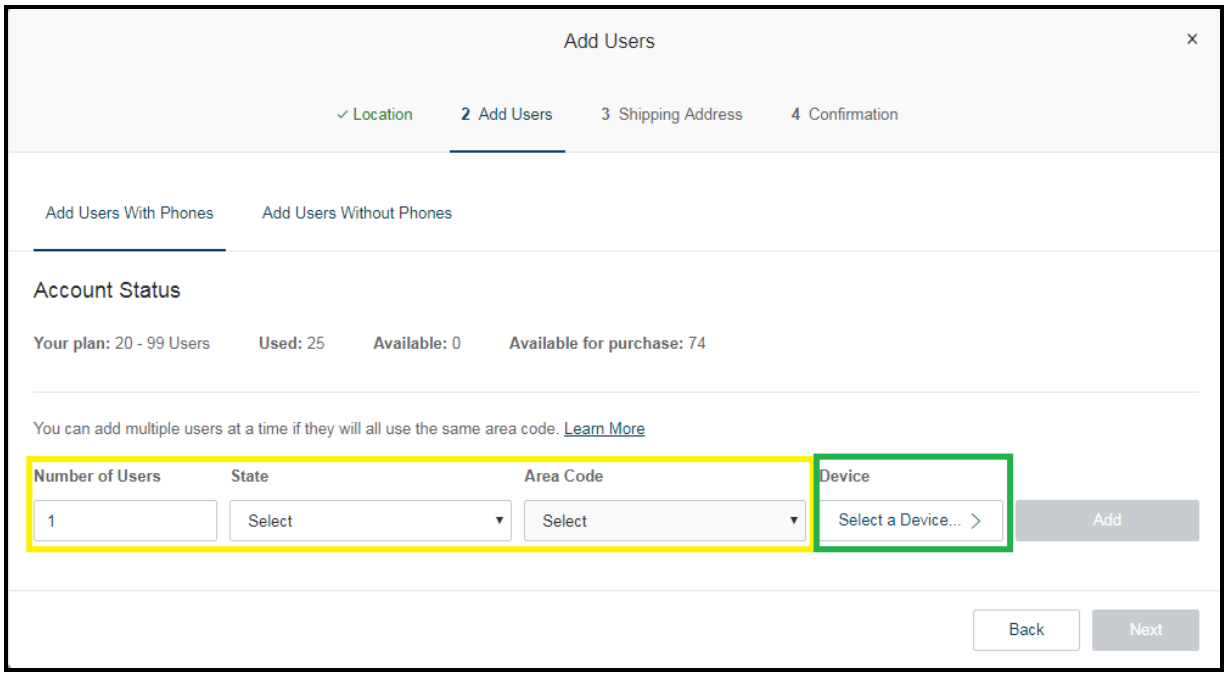
7. A popup window labeled **Add User** will appear. Select a location then press **Next**.

Figure 6-3: Add User Popup



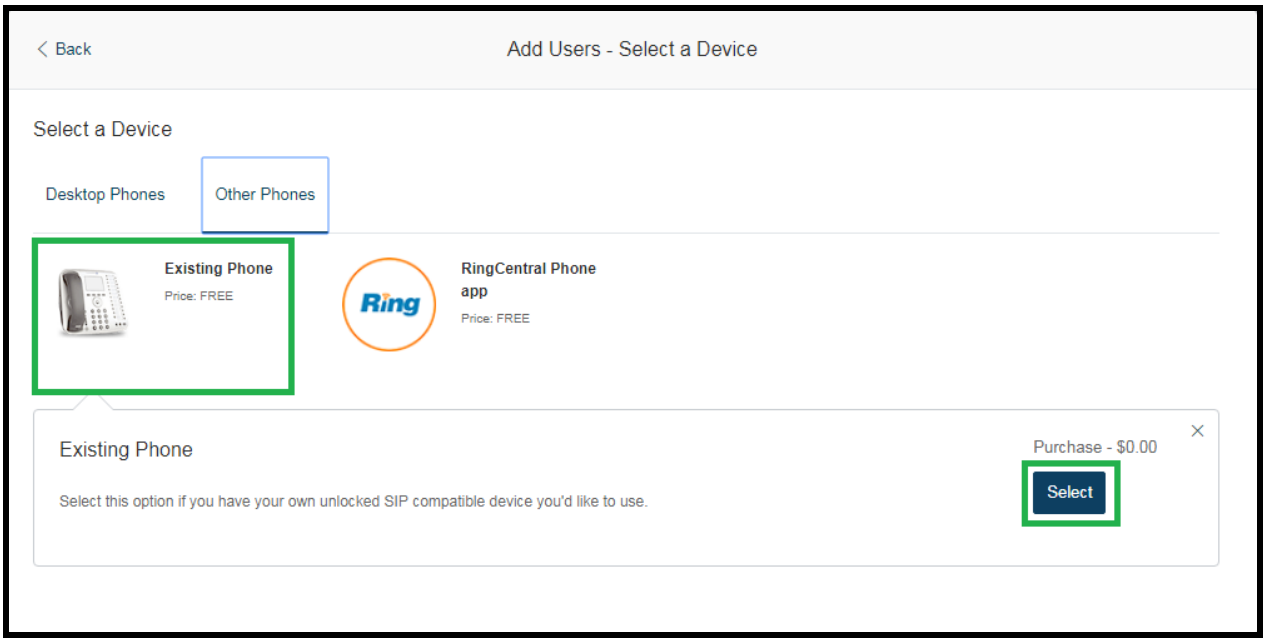
8. In the subsection **Add Users with Phones**, select the number of users, state, area code, and device.

Figure 6-4: Pick a Phone Number



11. A prompt will ask to select a phone type. Choose **Other Phones**, and then make sure **Existing Phone** is selected. Press **Select**.

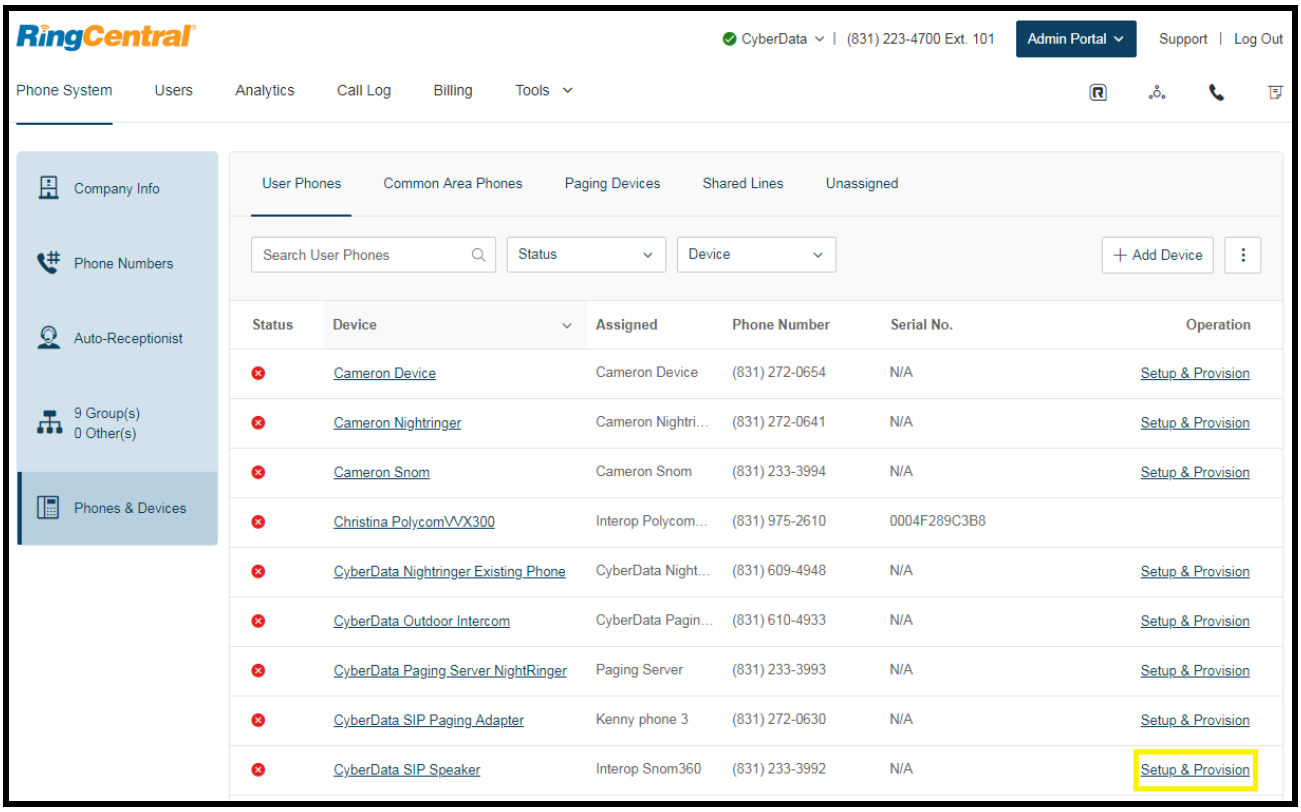
Figure 6-5: Select Phone Type



12. The process will lead through a six-step ordering process to set up a RingCentral Digital Line. Click the **Select** button to choose an **Existing Phone** and follow the steps in the ordering window to complete the order.

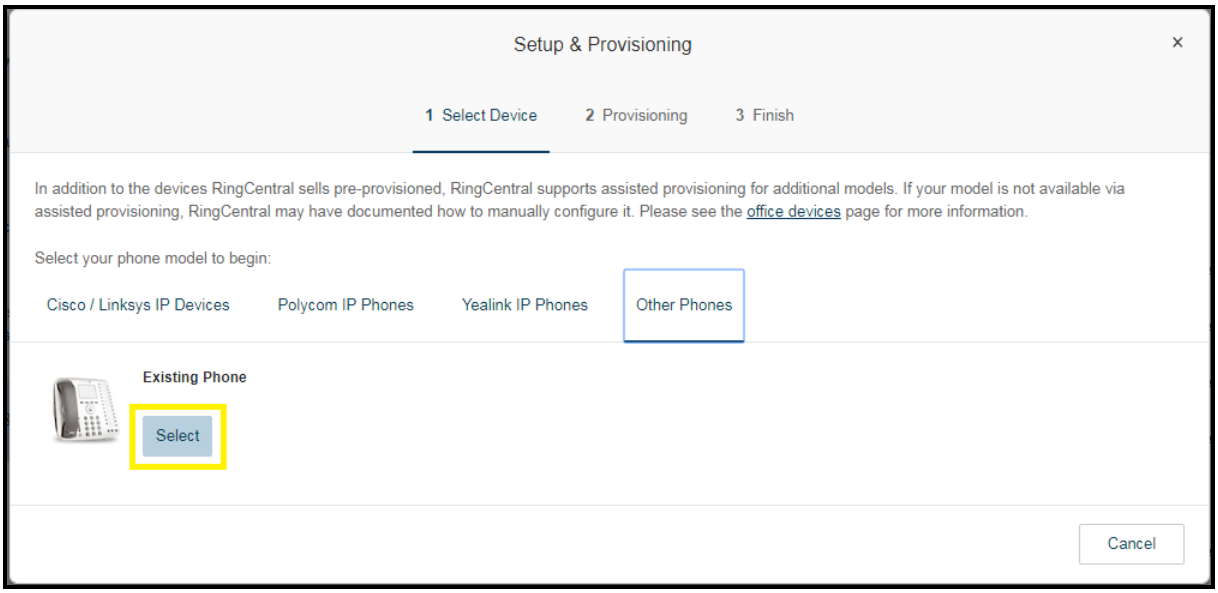
13. From the **Phones & Devices** menu, select **User Phones** and select the user phone designated for the SIP Speaker. Click **Setup and Provision**.

Figure 6-6: Setup and Provision



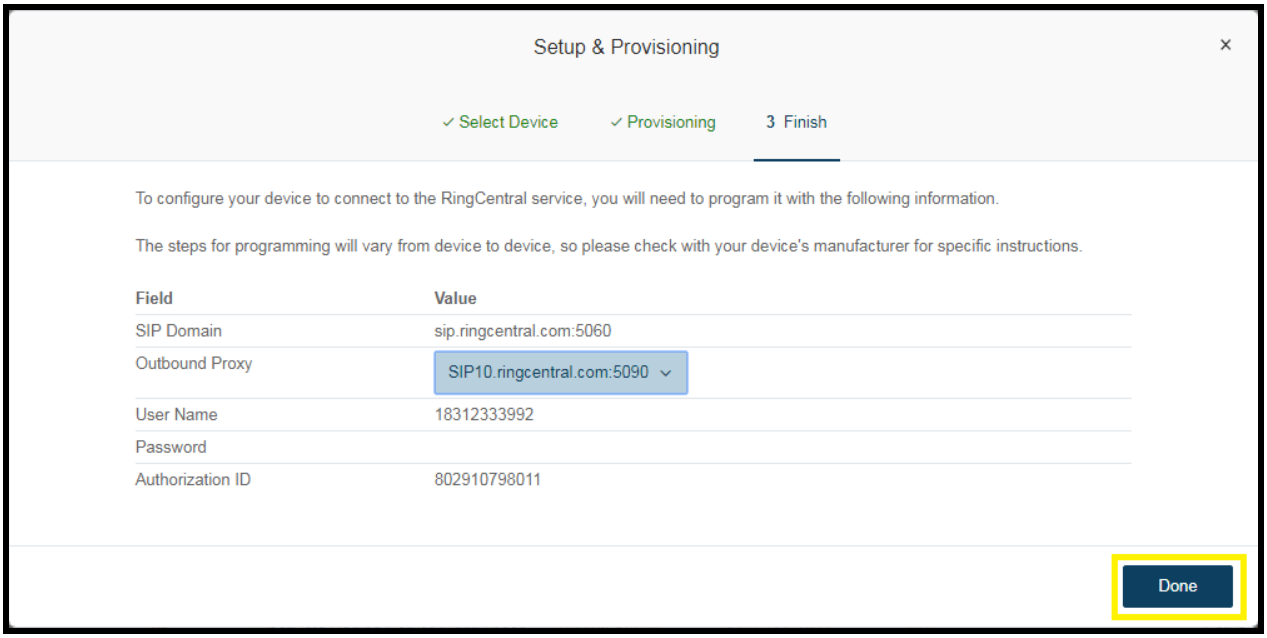
14. A popup window labeled **Assisted provisioning – Step 1** will appear. Select **Other Phones** and click **Next**.

Figure 6-7: Assisted provisioning – Step 1



15. A popup window labeled **Assisted Generic IP Phone/Adaptor Provisioning** will appear. The provisioning information to register the primary extension with RingCentral.

Figure 6-8: IP Phone Provisioning Information



Note: *The Password has been obscured. These values are published only for reference.*

SIP Fields Table

Use the following table to determine how the RingCentral SIP field values above correlate to the CyberData SIP field values.

Table 6-1: CyberData Configuration Settings

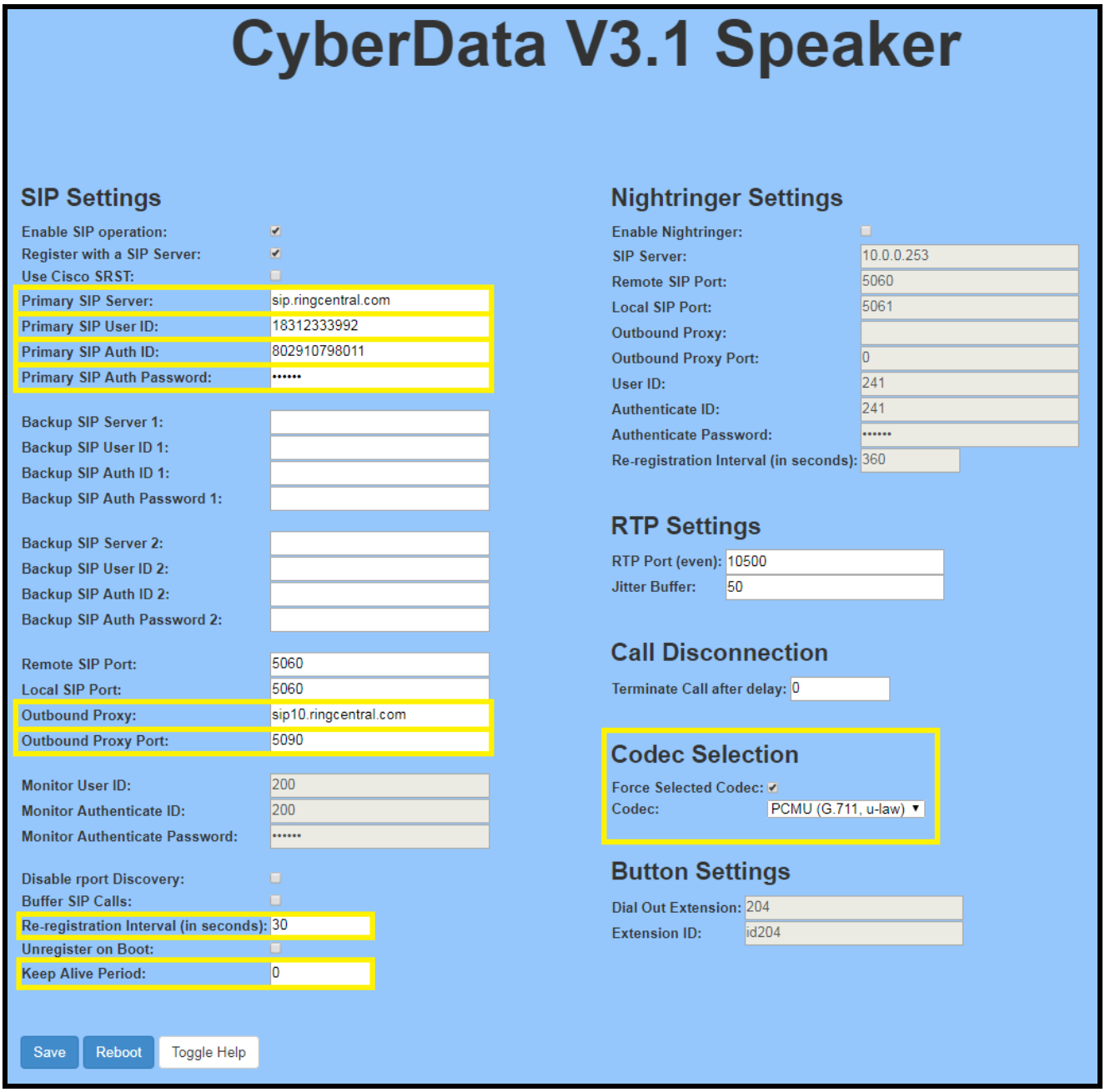
Primary SIP Server field	From the Paging Device Provisioning Information popup: **SIP Server/SIP Domain**
Primary SIP User ID field	From the Paging Device Provisioning Information popup: **User Name**
Primary SIP Auth ID field	From the Paging Device Provisioning Information popup: **Authorization ID**
Primary SIP Auth Password field	From the Paging Device Provisioning Information popup: **Password**
Outbound Proxy field	From the Paging Device Provisioning Information popup: **Outbound Proxy**
Outbound Proxy Port field	From the Paging Device Provisioning Information popup**: Outbound Proxy Port**
Re-registration Interval (in seconds) field	**30**
Keep Alive Period field	**0**
Force Selected Codec checkbox **Codec** dropdown	**Yes** **PCMU (G.711, u-law)**

Configure SIP Parameters

If configuring through the web interface, use the following steps to login to the web interface of the Speaker and register the primary extension with RingCentral.

1. Click **Launch Browser** from the CyberData Discovery Utility or point a browser to the CyberData device's IP address to access the Home Page of the web interface.
2. Enter the web login credentials when prompted and click the **Log In** button.
3. On the Home Page, click **SIP** on the top of the screen to access the SIP Configuration page.
4. Enter the provisioning information from the **Assisted Generic IP Phone Provisioning** popup window. Use Table 6-1 to enter RingCentral SIP values into the proper CyberData SIP fields.
5. Set the *Re-registration Interval (in seconds)* to **30 seconds**.
6. Set the *Keep Alive Period* to **0.**
7. Enable *Force Codec Selection* and use **PCMU.**
8. Click **Save** and **Reboot** to store changes.

Figure 6-9: SIP Configuration



Autoprovisioning

If autoprovisioning the SIP Speaker, use the SIP Settings in the autoprovisioning template to register the paging extension with RingCentral.

Figure 6-10: Autoprovisioning Template Example – SIP Settings

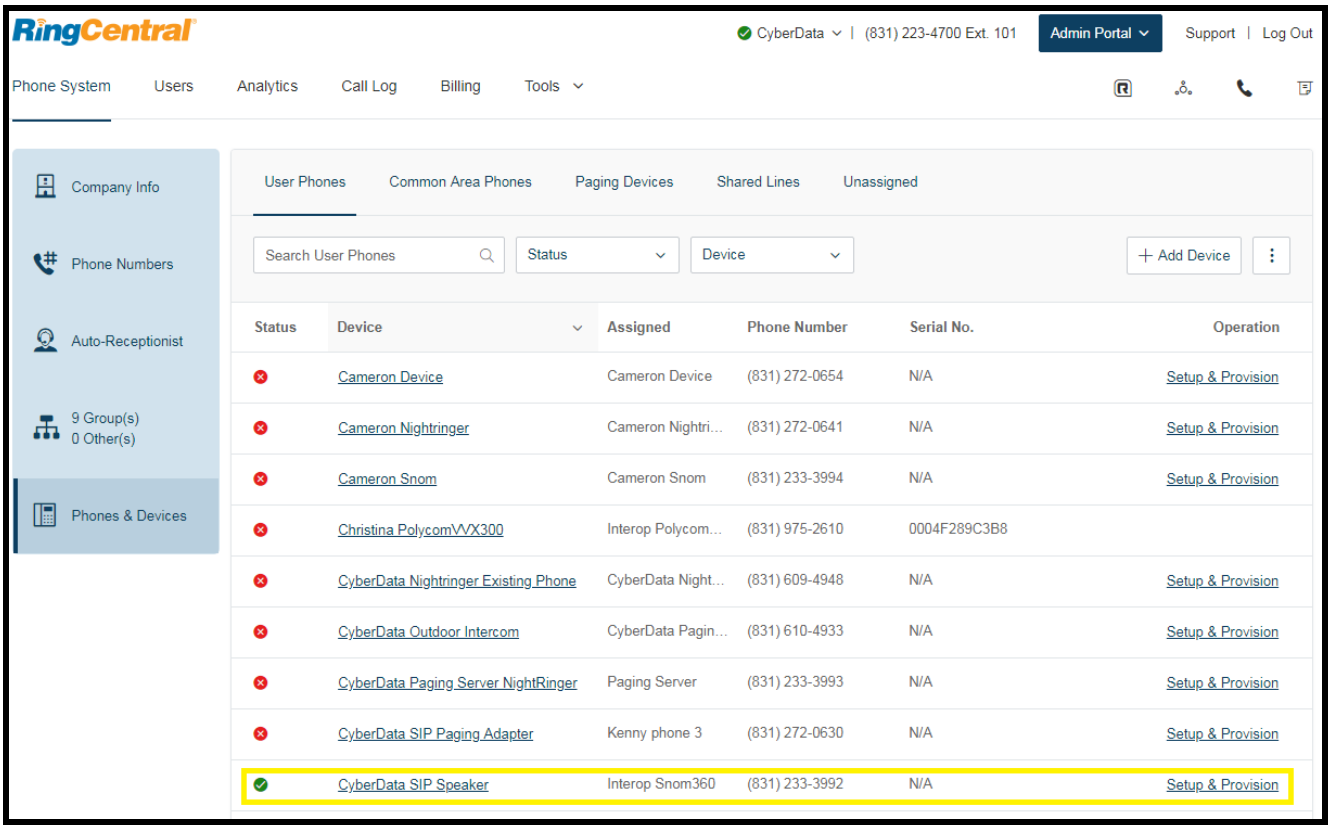
```
<SIPSettings>
    <EnableSIPOperation>Yes</EnableSIPOperation>
    <SIPServer>sip.ringcentral.com</SIPServer>
    <RemoteSIPPort>5060</RemoteSIPPort>
    <BackupSIPServer1></BackupSIPServer1>
    <BackupSIPServer2></BackupSIPServer2>
    <LocalSIPPort>5060</LocalSIPPort>
    <OutboundProxy>sip10.ringcentral.com</OutboundProxy>
    <OutboundProxyPort>5090</OutboundProxyPort>
    <SIPUserID>18312333992</SIPUserID>
    <SIPAuthID>802910798011</SIPAuthID>
    <SIPAuthPassword>******</SIPAuthPassword>
    <SIPUserID2></SIPUserID2>
    <SIPAuthID2></SIPAuthID2>
    <SIPAuthPassword2></SIPAuthPassword2>
    <SIPUserID3></SIPUserID3>
    <SIPAuthID3></SIPAuthID3>
    <SIPAuthPassword3></SIPAuthPassword3>
    <MonitorUserID>200</MonitorUserID>
    <MonitorAuthID>200</MonitorAuthID>
    <MonitorAuthPassword>ext200</MonitorAuthPassword>
    <SIPRegistrationTimeout>30</SIPRegistrationTimeout>
    <SIPUnregisterOnBoot>No</SIPUnregisterOnBoot>
    <SIPRegisterOnBoot>Yes</SIPRegisterOnBoot>
    <BufferSIPCalls>No</BufferSIPCalls>
    <RTPPort>10500</RTPPort>
    <JitterBuffer>50</JitterBuffer>
    <CallTimeout>0</CallTimeout>
    <UseCiscoSRST>No</UseCiscoSRST>
    <DisableRportDiscovery>No</DisableRportDiscovery>
    <DialoutExtension0>204</DialoutExtension0>
    <DialoutID0>id204</DialoutID0>
    <NatPingOptions>No</NatPingOptions>
    <KeepAlive>0</KeepAlive>
    <DefaultCodec>1</DefaultCodec>
</SIPSettings>
```

Note: *These example values are published only for reference. The SIPAuthPassword value should be the actual value from the* ***Assisted Generic IP Phone Provisioning*** *popup window.*

Verify the Paging Extension Is Registered

After the Speaker has rebooted and initialized to store changes, refresh the Home page of the web interface. The device should show as **[Registered with SIP Server]** in green text on the bottom of the Home Page of the web interface. Additionally, the registration status may be verified through RingCentral through the Admin Portal. From the **Phones & Devices** menu, select **User Phones** and the IP Phone created for the Speaker. The status should show as "online" in the **Phone Details**.

Figure 6-11. Phone Details – Status



Once the Primary extension has registered with RingCentral and has been configured with the appropriate Device settings for the installation, a RingCentral phone may be used to dial the extension.

7.0 Configuration Procedure: Nightringer

What is a Nightringer?

The CyberData SIP-enabled IP Speaker offers a secondary SIP extension called "**Nightringer"** in addition to the primary extension used for auto-answer paging. The Nightringer plays a customizable ring tone when an incoming call is detected. The Nightringer extension can be added to ring groups for simultaneous ringing. When added to a ring group, the Nightringer will ring until a ring group member picks up the call. The Nightringer stops ringing when the call is answered by a ring group member or when the caller disconnects before a ring group member picks up the call. The Nightringer extension cannot answer a call.

Provisioning Nightringer with RingCentral

Provisioning a Nightringer extension with RingCentral differs from provisioning the auto-answer paging extension. It is important to note the Paging Extension and Nightringer Extension must use separate sets of SIP extension parameters. That is, each must be assigned their own SIP extension. The Nightringer cannot use the same provisioning information already in use by the Primary Extension (and vice versa).

When integrating with RingCentral, the Nightringer extension must be provisioned as an IP phone rather than a Paging Device which allows the Nightringer to ring.

If the Nightringer is provisioned and registered as a Paging Device, the Nightringer will only ring for 2 seconds before the call is cancelled by the RingCentral server. Thus, it is necessary to provision the Nightringer as an IP phone for full functionality. Please consult with RingCentral for costs associated with IP phone provisioning on the account.

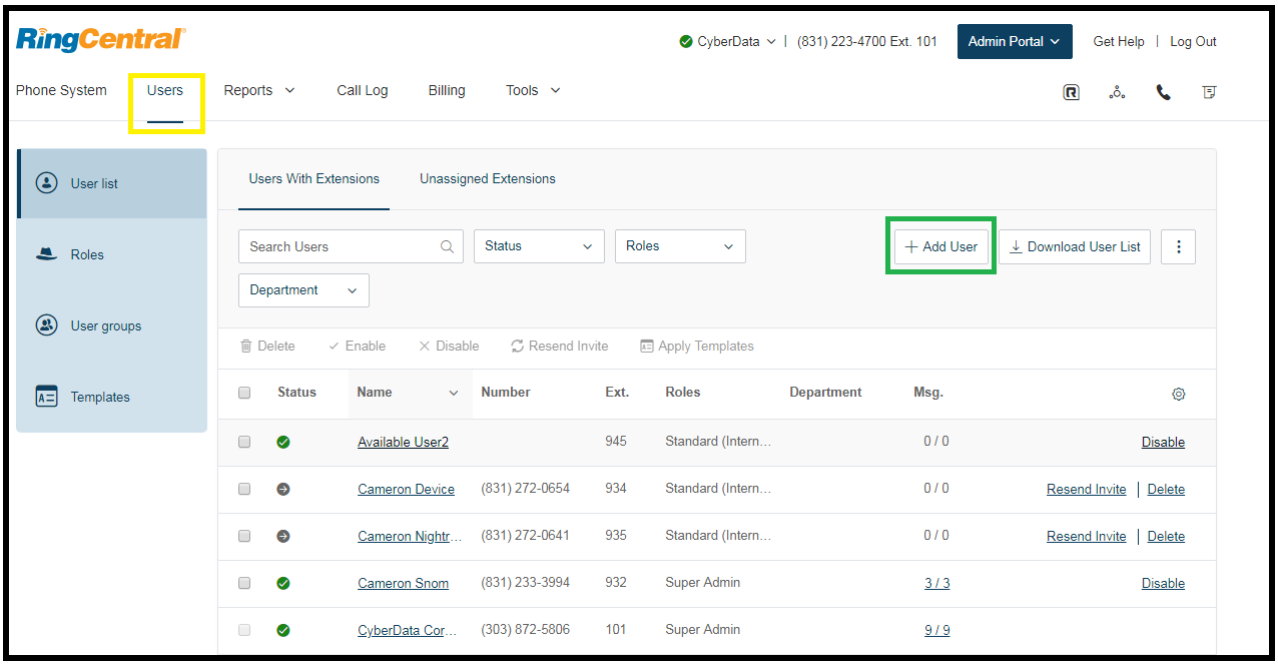
Note: *For voice paging, use the provision the primary extension as a Paging Device following the instructions in* ***Section 4.0 "Configuration Procedure: Auto-answer Paging."***

Add an IP Phone

To provision the speaker's Nightringer extension, add a RingCentral Existing Phone through the RingCentral Admin Portal. First, designate a RingCentral User for the Nightringer.

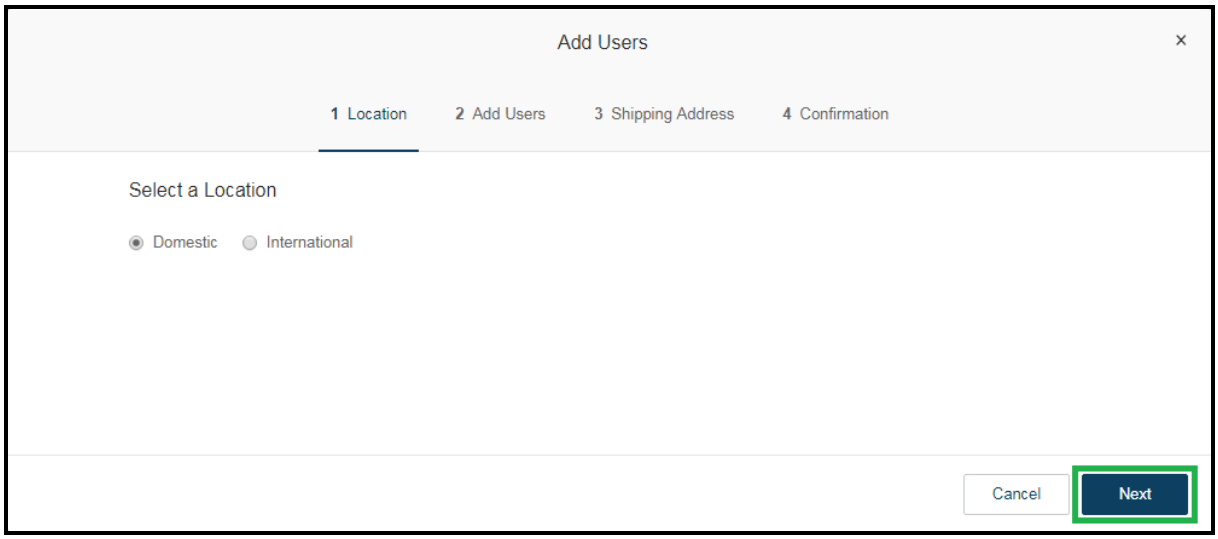
1. From the **Users** menu, click the **Add** button.

Figure 7-1: Add User Button



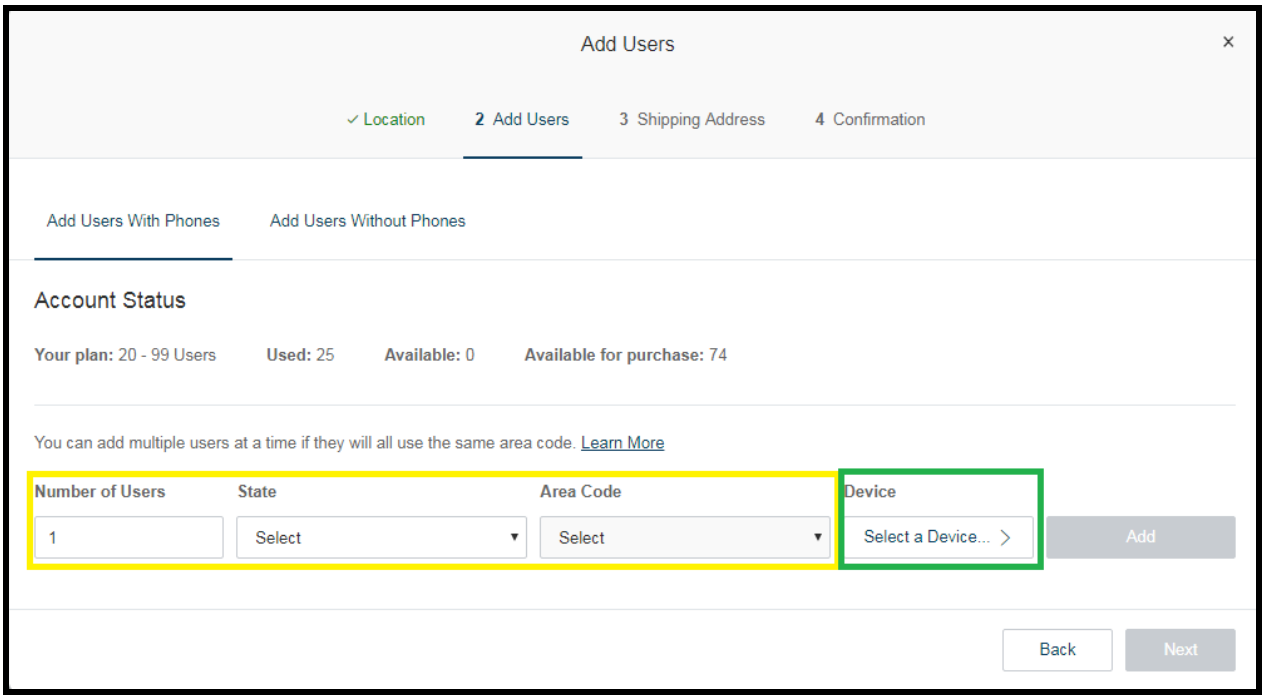
2. A popup window labeled **Add User** will appear. Choose the user location then press **next**.

Figure 7-2: Add User Location



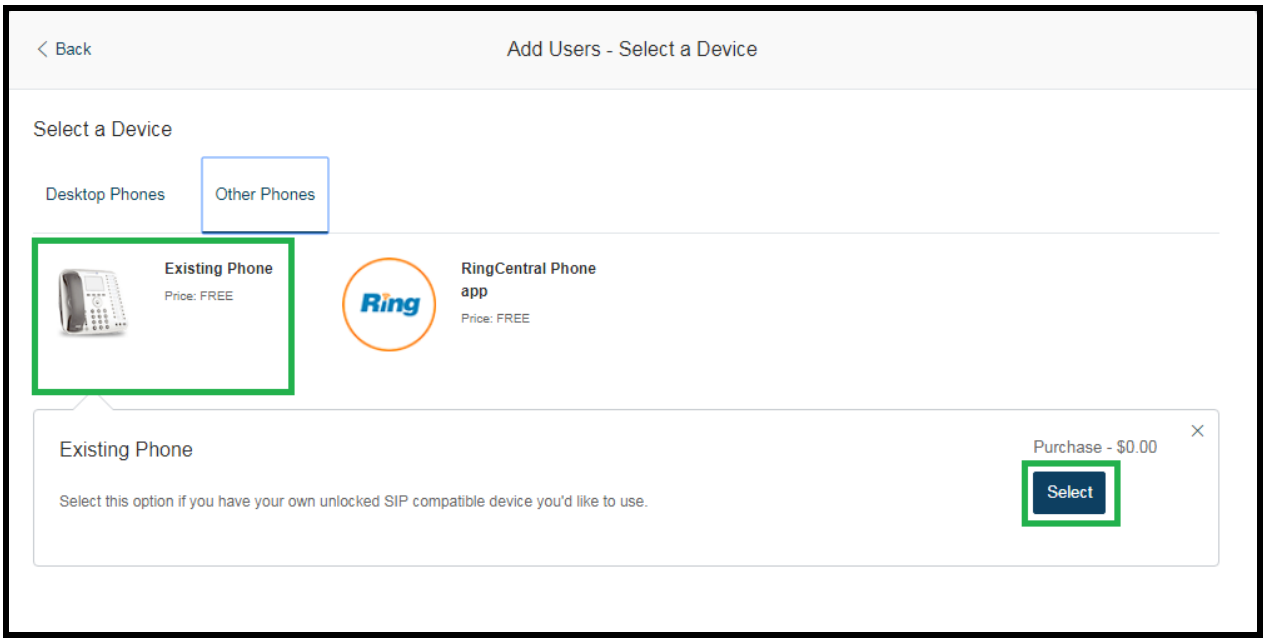
3. In the subsection **Add Users with Phones**, select the number of users, state, area code, and device.

Figure 7-3: Add User Phone Number



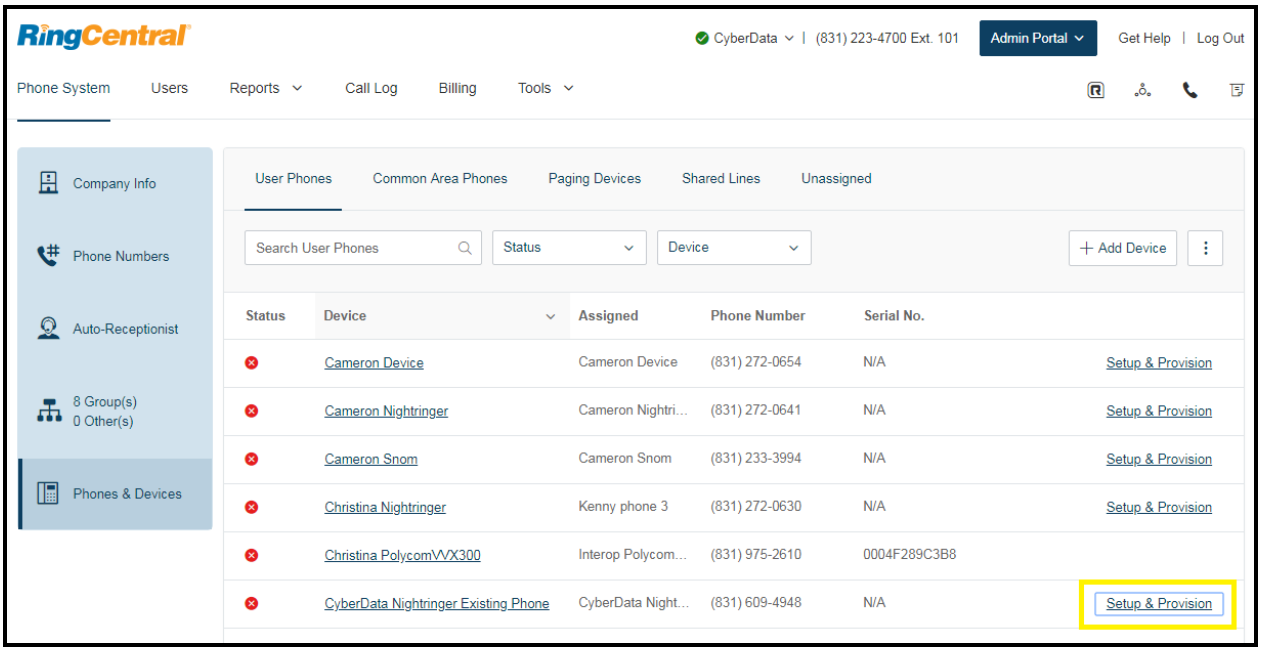
4. Next, select a phone type. Click the **Select** button to choose an **Existing Phone**. Select **Existing Phone**.

Figure 7-4: Select Phone Type



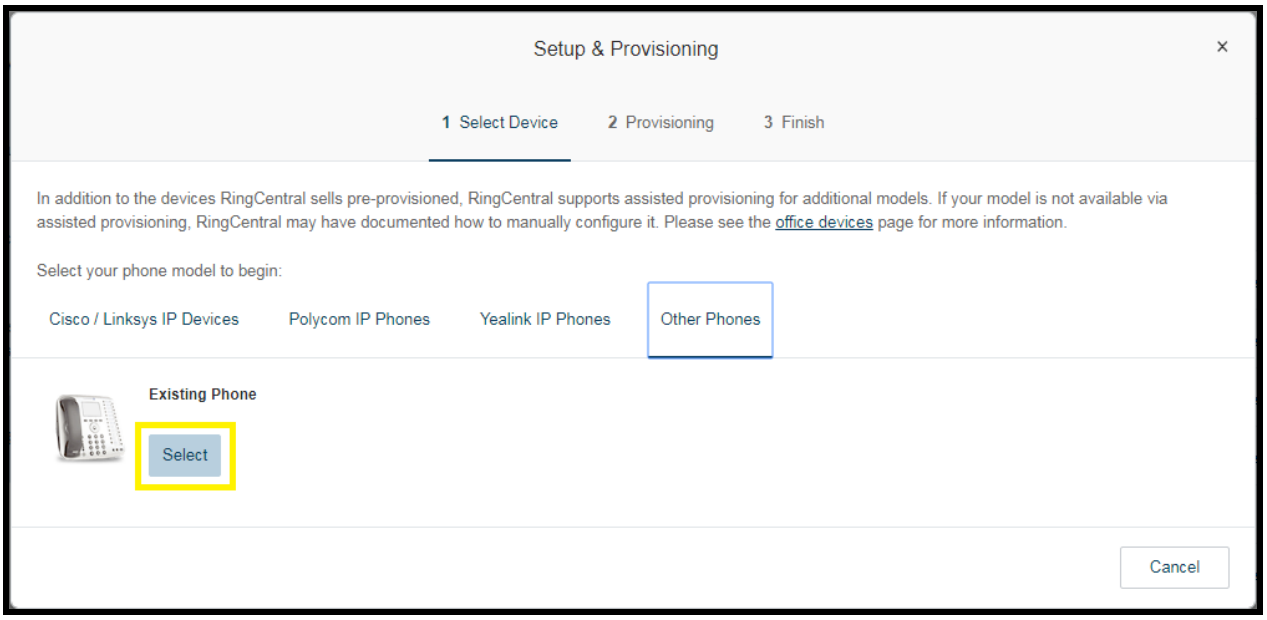
5. From the **Phones & Devices** menu, select **User Phones** and the select the user phone designated for the Nightringer. Click **Setup and Provision**.

Figure 7-5: Setup and Provision



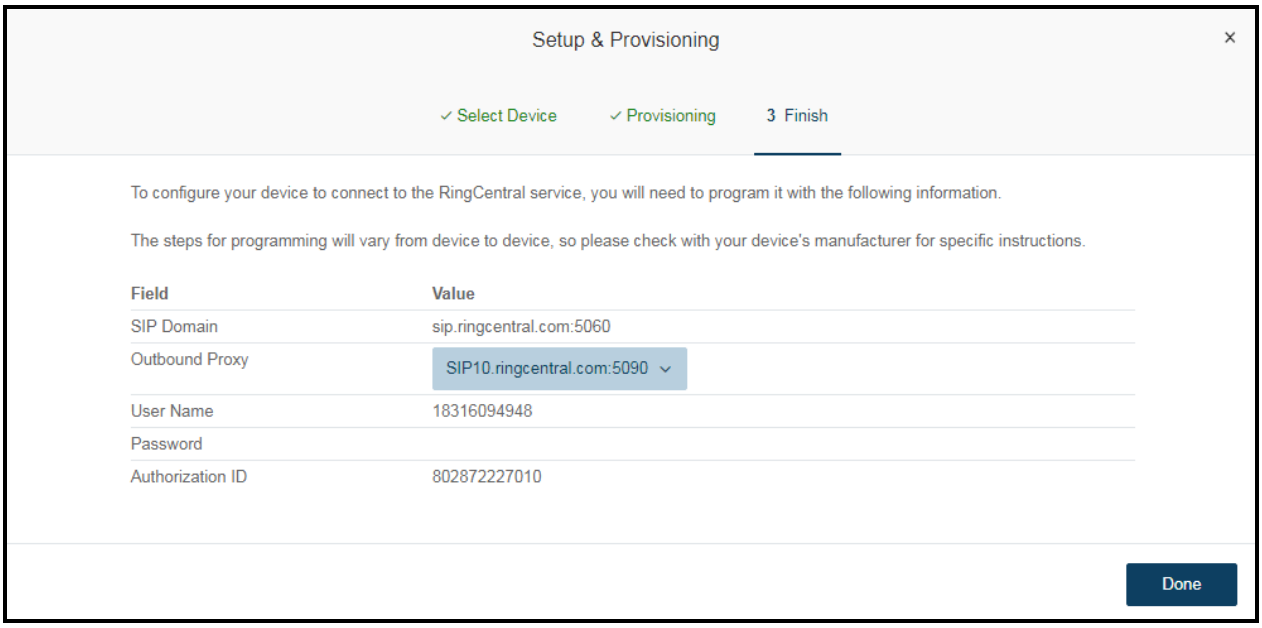
6. A popup window labeled **Assisted provisioning – Step 1** will appear. Select **Other Phone** and click **Next**.

Figure 7-6: Assisted Provisioning – Step 1



7. A popup window labeled **Assisted Generic IP Phone/Adaptor Provisioning** will appear. The provisioning information is used to register the SIP Speaker's Nightringer extension with RingCentral.

Figure 7-7: IP Phone Provisioning Information



Note: *The Password has been obscured. These values are published only for reference.*

SIP Fields Table

Use the following table to determine how the RingCentral SIP field values above correlate to the CyberData SIP field values.

Table 7-1: CyberData Configuration Settings

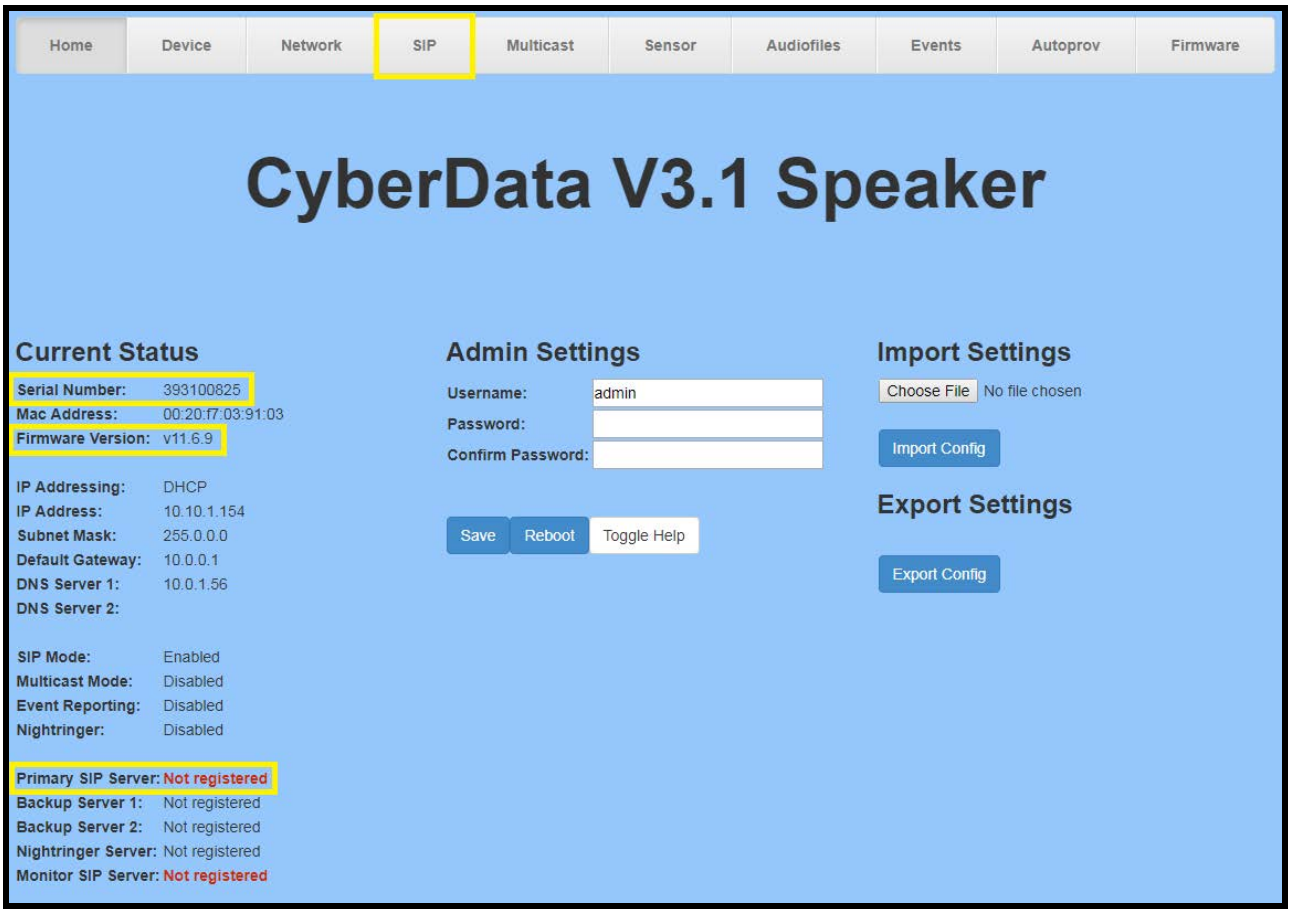
Primary SIP Server field	From the Digital Line Provisioning Information popup: **SIP Server**
Primary SIP User ID field	From the Digital Line Provisioning Information popup: **SIP User ID**
Primary SIP Auth ID field	From the Digital Line Provisioning Information popup: **Authenticate ID**
Primary SIP Auth Password field	From the Digital Line Provisioning Information popup: **Authenticate Password**
Outbound Proxy field	From the Digital Line Provisioning Information popup: **Outbound Proxy**
Outbound Proxy Port field	From the Digital Line Provisioning Information popup**: Outbound Proxy Port**
Re-registration Interval (in seconds) field	**30**
Keep Alive Period field	**0**
Force Selected Codec checkbox **Codec** dropdown	**Yes** **PCMU (G.711, u-law)**

Configure Nightringer SIP Parameters

If configuring the Nightringer extension through the web interface, use the following steps to register Nightringer with RingCentral.

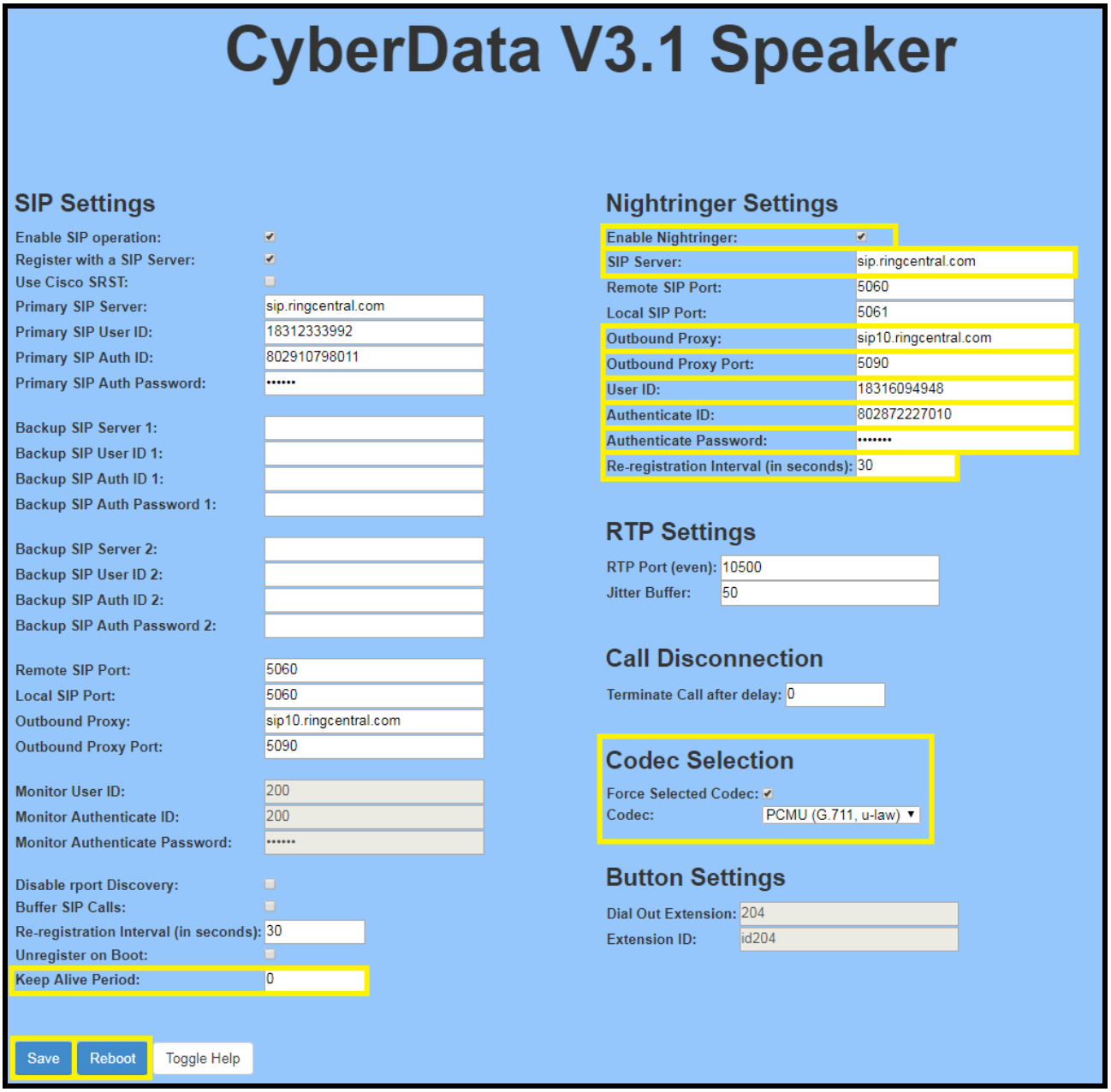
1. Review **Configure the SIP Parameters**.
2. From the Home page of the web interface, click **SIP** on the toolbar on the top side of the screen.

Figure 7-8: Home Page of the Web Interface



3. Enter the provisioning information from the Nightringer's Assisted Generic IP Phone/Adaptor Provisioning popup.
4. Set the *Re-registration Interval (in seconds)* to 30 seconds.
5. Set the *Keep Alive Period* to **0.**
6. Enable *Force Codec Selection* and select **PCMU.**
7. Click **Save** and **Reboot** to store changes.

Figure 7-9: Nightringer Configuration Page of the Web Interface



Autoprovisioning

If autoprovisioning the SIP Speaker, use the Nightringer Settings in the autoprovisioning template to register the Nightringer with RingCentral.

Figure 7-10: Autoprovisioning Template Example – Nightringer Settings

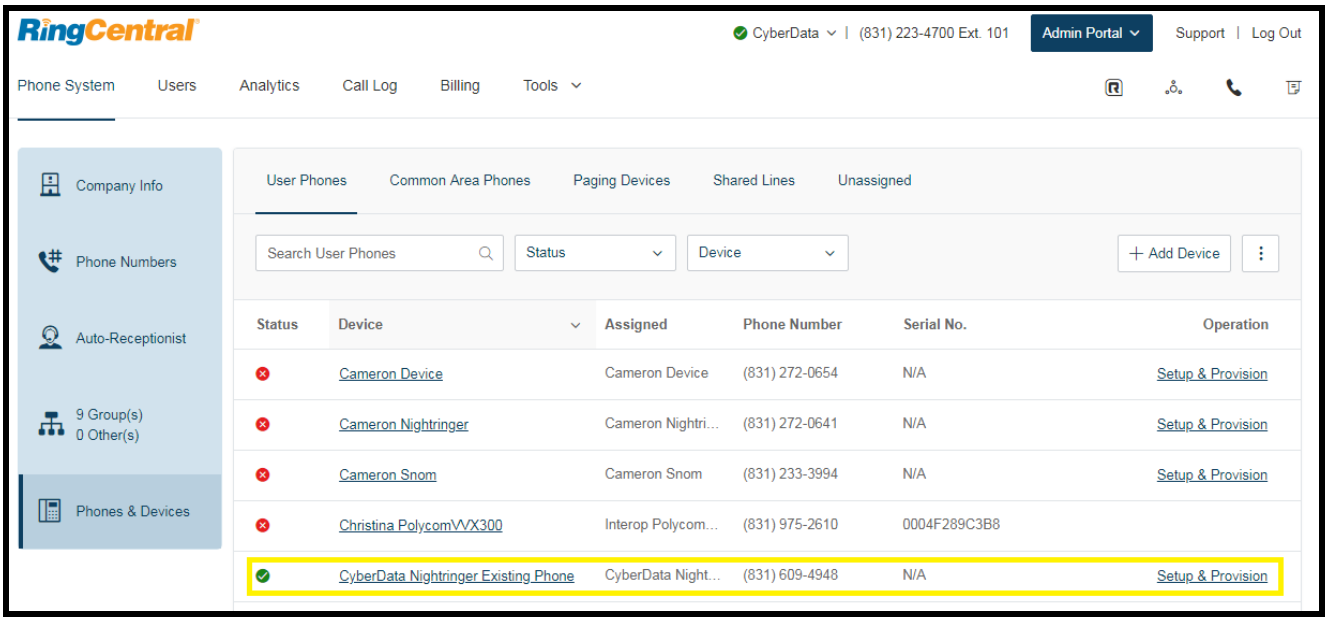
```
<NightringerSettings>
    <EnableNightringer>Yes</EnableNightringer>
    <NightringerSIPServer>sip.ringcentral.com</NightringerSIPServer>
    <NightringerRemotePort>5060</NightringerRemotePort>
    <NightringerLocalPort>5061</NightringerLocalPort>
    <NightringerOutboundProxy>sip10.ringcentral.com</NightringerOutboundProxy>
    <NightringerOutboundProxyPort>5090</NightringerOutboundProxyPort>
    <NightringerUserID>18316094948</NightringerUserID>
    <NightringerAuthID>802872227010</NightringerAuthID>
    <NightringerAuthPassword>******</NightringerAuthPassword>
    <NightringerRegistrationTimeout>30</NightringerRegistrationTimeout>
</NightringerSettings>
```

Note: *These example values are published only for reference. The NightringerAuthPassword value should be the actual value from the* ***Nightringer's Assisted Generic IP Phone/Adaptor Provisioning*** *popup.*

Verify the Nightringer is Registered

After the SIP Speaker has rebooted and initialized, refresh the **Home** page of the web interface. The device should show as [**Registered with SIP Server**] in green text on the bottom of the Home Page of the web interface. Additionally, the registration status may be verified with RingCentral through the admin portal. From the **Phones & Devices** menu, select **User Phones** and the IP Phone just created for the Nightringer. The status should show as "online" in the **Phone Details**.

Figure 7-11: Nightringer Phone Details – Status



Make a Test Call

Once the device has registered with RingCentral, use any RingCentral phone to dial the Nightringer extension.

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