



NetVanta Unified Communications Technical Note

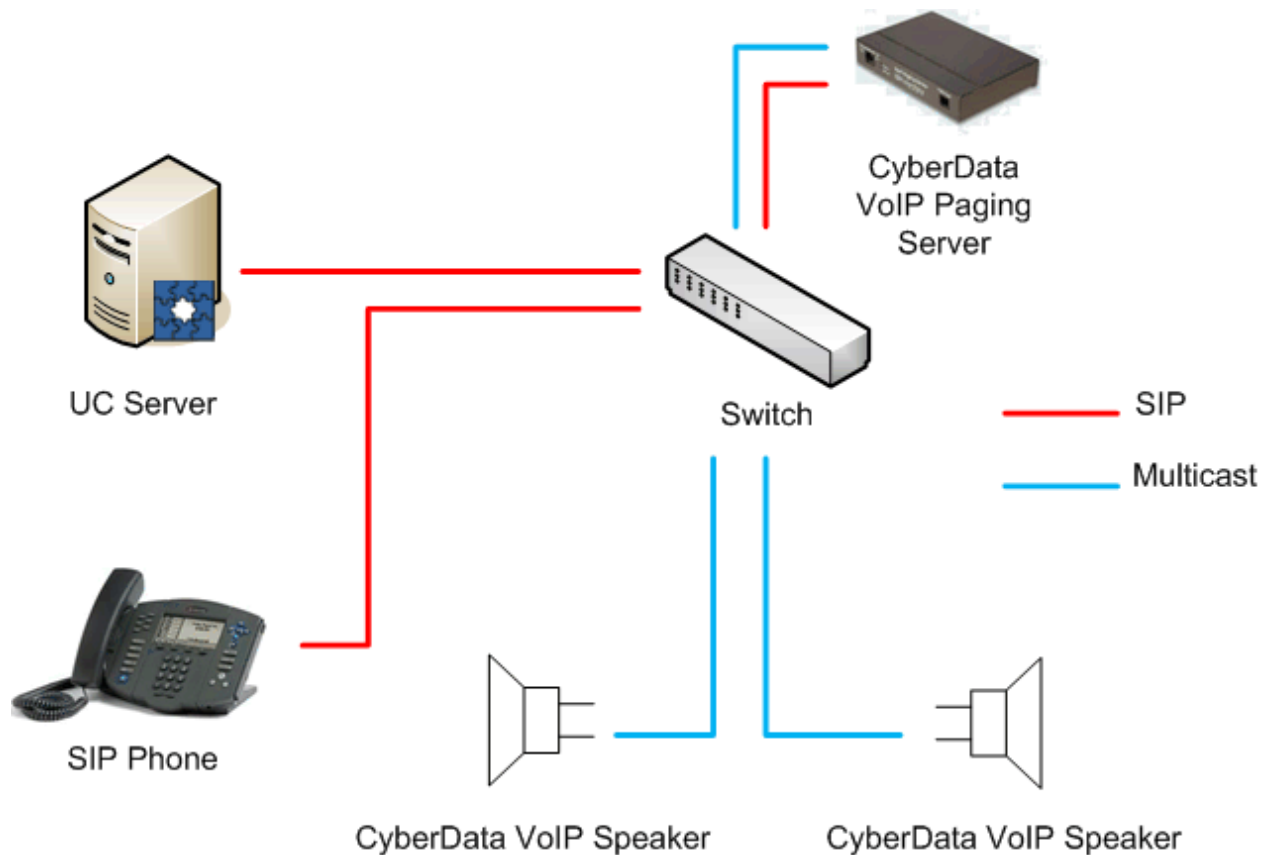
Configuring the CyberData VoIP Paging Server

Introduction

As a single Session Initiation Protocol (SIP) endpoint, the CyberData Voice over Internet Protocol (VoIP) paging server enables users to create defined zones for paging speakers in a VoIP network. The easy-to-use, Web-based configuration provides a graphical user interface (GUI) to set up to 100 paging zones with unique multicast address and port number combinations. This technical note describes configuring the CyberData VoIP paging server with the UC server.

Network Topology

Below is an example of how the CyberData VoIP paging server could be deployed in your network.



Known Integration Issues

Known integration issues include:

- Supervised transfers cannot be completed. Transferring a caller to the paging speaker indicates a successful transfer even though the transfer was incomplete.

Preparation

This section provides instructions on applying firmware updates, if necessary, and setting up the device for manual configuration.

PC Network Settings

The factory default on CyberData products is a static IP address. To access the device, you must change your PC to the same subnet.

NOTE: *Make a note of the original network settings before making any changes. You must restore these settings after changing the network configuration on the paging server.*

To change the IP address of your computer, do the following:

For Windows® Server 2003/Windows XP:

1. Select **Start > Control Panel**.
2. If you have the Classic View, select **Network Connections**. If you have the Category View, select **Network and Internet Connections**, and then select **Network Connections**.
3. Double-click your active **LAN** or **Internet connection**.
4. Select **Properties**.
5. In the **General** tab, highlight the **Internet Protocol (TCP/IP)** item, and select **Properties**.
6. In the **General** tab, select **Use the following IP address**, and enter:

IP Address	192.168.3.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.3.10

7. Select **OK**.

For Windows Server 2008/Windows Vista:

1. Select **Start > Control Panel**.
2. If you have Classic View, select **Network and Sharing Center** and then **Manage Network Connections**. If you have Category View, select **Network and Internet, View network status and tasks**, and then **Manage Network Connections**.
3. Double-click the active **LAN or Internet connection**.
4. Select **Properties**.
5. In the **Networking** tab, highlight the **Internet Protocol (TCP/IP)** item, and select **Properties**.
6. In the **General** tab, select **Use the following IP address**, and enter:

IP Address	192.168.3.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.3.10

7. Select **OK**.

CyberData VoIP Paging Server Network Settings

The CyberData VoIP paging server is configured with a static IP address on factory default. This must be changed so that the device is connected to your network.

To enter network settings for the CyberData VoIP paging server:

1. Open your browser and enter the IP address of the paging server. The factory default is 192.168.3.10.
2. When prompted, use the following default Web Access user name and password:
 - Web Access User Name: **admin**
 - Web Access Password: **admin**
3. Select **Network Setup**.
4. Under **IP Addressing**, select **DHCP**.
5. Select **Save Settings**.

NOTE: To configure the CyberData VoIP ceiling speakers, refer to [Configuring CyberData VoIP Ceiling Speakers](http://kb.adtran.com/) technical note, available online at <http://kb.adtran.com/>.

Firmware Upgrades

Refer to *UC Server Interoperable SIP Device Features and Comparisons* technical note, available online at <http://kb.adtran.com/>, to determine the most recently supported version of firmware for the device. If the firmware version on your device is earlier than the version noted, upgrade the firmware. The factory firmware version can be found on the check-off list shipped with your VoIP paging server.

To perform the upgrade:

1. Retrieve the latest firmware from the CyberData website at <http://www.cyberdata.net/products/voip/digitalanalog/pagingserver/downloads.html>.
2. Unzip the file to the NetVanta Trivial File Transfer Protocol (TFTP) folder located in *X:\Program Files\ADTRAN\NetVanta UC Server\Data\TFTP*, where *X* is the drive where the UC server program files are installed.
3. Open your browser and enter the IP address of the paging server.
6. When prompted, use the following default Web Access user name and password:
 - Web Access User Name: **admin**
 - Web Access Password: **admin**
4. Select the **Upgrade** button.
5. Enter the IP address of your UC server under the **TFTP Server IP** field.
6. Under **New Filename**, enter the file name of the read only memory (ROM) file you unzipped from the firmware zip file. For example: **400-romdisk-spk-sip.img**.
7. Select **Upload File**.
8. After the ROM image file finishes uploading, repeat Step 6 to upload the image file by entering the file name of the image. For example: **400-image-spk-sip.bin**.
9. Select **Upload File**.
10. Select the **reboot** button.

Multicast Paging Configuration

The CyberData VoIP paging server acts as a software-based paging zone controller and can support up to 100 zones. The server acts as the SIP device and also broadcasts multicast packets to the speaker devices in the designated paging zone. This allows you to have 100 paging zones with one identity. This section provides guidance on configuring various paging zones and configuring multicasting on both the VoIP paging server and VoIP speakers.

Configuring Multicasting on the Paging Server

The paging server must be configured with all the appropriate zones you want for your paging system.

To configure multicasting:

1. Open your browser and enter the IP address of the server.
2. When prompted, use the following default Web Access user name and password:
 - Web Access User Name: **admin**
 - Web Access Password: **admin**
3. Select **PGROUPS Setup**.
4. In the first group (00), select the **Enable** check box and enter the following values:

Multicast IP Address: **224.224.224.224**
Port: **2000**
PGROUP Name: **Zone 00 – ALL (this can be named anything, but Zone 00 will be the zone to broadcast to every speaker).**

5. Fill in the values for additional zones you require, and increase the port number by one each time. It is important that the port changes for every zone so that you can selectively broadcast to different paging zones.

For an example of setting up the paging groups, refer to the figure below.

PGROUPS Setup

Device Name: CD_Paging_Server

	Enable	Multicast IP Address	Port: 2000-65535	PGROUP Name
00	<input checked="" type="checkbox"/>	<input type="text" value="224.224.224.224"/>	<input type="text" value="2000"/>	<input type="text" value="Zone 00 - ALL"/>
01	<input checked="" type="checkbox"/>	<input type="text" value="224.224.224.224"/>	<input type="text" value="2001"/>	<input type="text" value="Zone 01 - SysEng"/>
02	<input checked="" type="checkbox"/>	<input type="text" value="224.224.224.224"/>	<input type="text" value="2002"/>	<input type="text" value="Zone 02 - Sales"/>
03	<input checked="" type="checkbox"/>	<input type="text" value="224.224.224.224"/>	<input type="text" value="2003"/>	<input type="text" value="Zone 03 - QA"/>
04	<input checked="" type="checkbox"/>	<input type="text" value="224.224.224.224"/>	<input type="text" value="2004"/>	<input type="text" value="Zone 04 - Administration"/>
05	<input type="checkbox"/>	<input type="text" value="224.224.224.224"/>	<input type="text" value="9876"/>	<input type="text" value="Zone 05"/>
06	<input type="checkbox"/>	<input type="text" value="224.224.224.224"/>	<input type="text" value="9876"/>	<input type="text" value="Zone 06"/>
07	<input type="checkbox"/>	<input type="text" value="224.224.224.224"/>	<input type="text" value="9876"/>	<input type="text" value="Zone 07"/>
08	<input type="checkbox"/>	<input type="text" value="224.224.224.224"/>	<input type="text" value="9876"/>	<input type="text" value="Zone 08"/>
09	<input type="checkbox"/>	<input type="text" value="224.224.224.224"/>	<input type="text" value="9876"/>	<input type="text" value="Zone 09"/>

Configuring Speakers for Paging Zones

The CyberData speakers must be configured to listen to multicast packets from the VoIP server. You can also configure it to listen to multiple zones, for example, if multiple departments are located in one area and you want to be able to page someone in those departments.

To configure the paging zones:

1. Open your browser and enter the IP address of the speaker.
2. When prompted, use the following default Web Access user name and password:
 - Web Access User Name: **admin**
 - Web Access Password: **admin**
3. Select **MGROUPS Setup**.
4. In the first group (MG-1), select the **Enable** check box and enter the following values:
 - Multicast IP Address: **224.224.224.224**
 - Port: **2000**
 - MGROUP Name: **ALL (this can be named anything, but Zone 00 will be the zone to broadcast to every speaker).**
5. Fill in the values for additional zones you require, and match the port number to the value set on the VOIP server for that particular zone.

For an example of setting up the paging groups, refer to the figure below.

MGROUPS Setup

Device Name: Ceiling Speaker

	Multicast IP Address	Port: 2000-65535	Priority: High	MGROUP Name	Beep
MG-Emergency	<input type="text"/>	<input type="text"/>	<input type="text" value="9"/>	<input type="text"/>	<input checked="" type="checkbox"/>
MG-1	<input type="text" value="224.224.224.224"/>	<input type="text" value="2000"/>	<input type="text" value="1"/>	<input type="text" value="ALL"/>	<input checked="" type="checkbox"/>
MG-2	<input type="text" value="224.224.224.224"/>	<input type="text" value="2001"/>	<input type="text" value="1"/>	<input type="text" value="SysEng"/>	<input checked="" type="checkbox"/>
MG-3	<input type="text" value="224.224.224.224"/>	<input type="text" value="2002"/>	<input type="text" value="1"/>	<input type="text" value="Sales"/>	<input checked="" type="checkbox"/>
MG-4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
MG-5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
MG-6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
MG-7	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
MG-8	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
MG-Background	<input type="text"/>	<input type="text"/>	<input type="text" value="0"/>	<input type="text"/>	<input type="checkbox"/>

Save Settings

Reboot

SIP Configuration

Gathering Information

To configure the device, you need the following information.

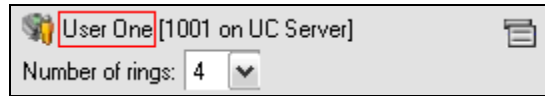
SIP User ID This is equivalent to the identity address that you want to associate with the device.

Authenticate ID This is the SIP authentication identifier associated with the above identity. This is required by any SIP endpoint to register with the SIP private branch exchange (PBX).

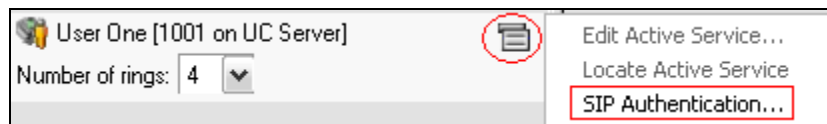
Authenticate Password This is the SIP authentication password associated with the above identity.

Determining the Authentication ID and Password as the User (that owns the identity)

1. Start the UC client.
2. Log in as the user you want to associate to the device. In the bottom left pane, take note of the identity name.



3. Select the icon on the right and select **SIP Authentication**.

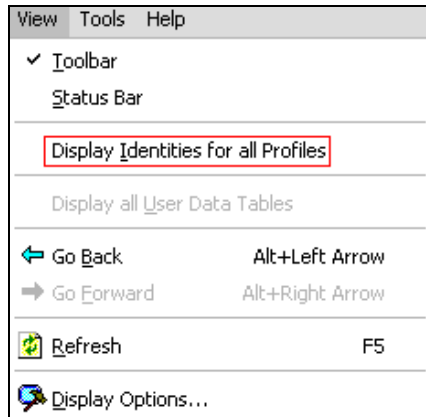


4. Record the **User/login name** and **Password** from the following dialog box. You will need them later when you configure the device.

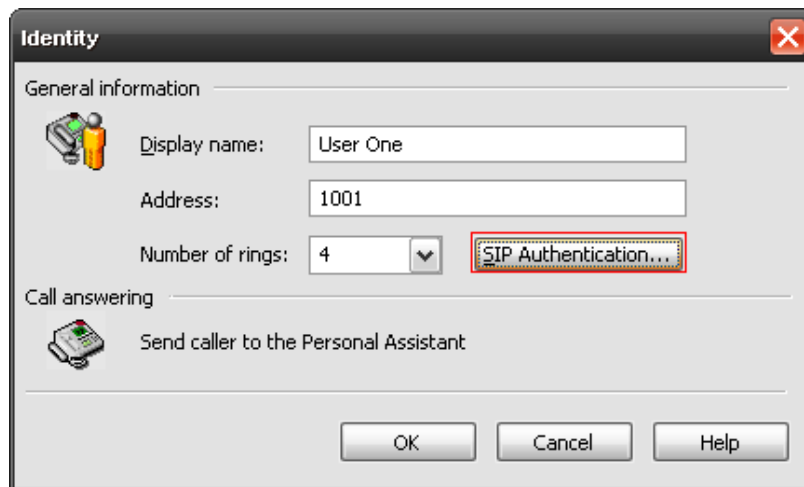


Determining the Authentication ID and Password as the Administrator

1. Start the UC client.
2. Log in as the admin user.
3. Select the Identities tab in the left pane. Select **View > Display Identities for all Profiles**.



4. Find the identity in the list you want to use and double-click the entry.
5. Select **SIP Authentication**.



- Record the **User/login name** and **Password** from the following dialog box. You will need them later when you configure the device.



Device Configuration

- Open your browser and enter the IP address of the server. When prompted, use the following default Web Access user name and password:
 - Web Access User Name: **admin**
 - Web Access Password: **admin**
- Select the **SIP Setup** button.
- Enter the following information:

SIP Server: <IP address of the UC server>

SIP User ID: <SIP User ID>

SIP Authenticate ID: <SIP User ID>

SIP Password: <Authenticate Password>

SIP Registration: Yes
- Select **Save Settings**.

The figure below shows an example of completing the required fields.

SIP Setup

SIP Server:	<input type="text" value="192.168.8.251"/>	*
Outbound Proxy:	<input type="text"/>	*
Remote SIP Port:	<input type="text" value="5060"/>	*
Local SIP Port:	<input type="text" value="5060"/>	*
SIP User ID:	<input type="text" value="700"/>	*
Authenticate ID:	<input type="text" value="700"/>	*
Authenticate Password:	<input type="text" value="1234"/>	*
SIP Registration:	<input checked="" type="radio"/> Yes <input type="radio"/> No	*
Unregister on Reboot:	<input type="radio"/> Yes <input checked="" type="radio"/> No	*
Register Expiration (minutes):	<input type="text" value="60"/>	*

** changing this parameter causes system reboot when saved*

Troubleshooting

1. You receive a voicemail prompt when dialing the identity of the device.

Verify the following:

- The identity was created in the UC server and the correct User ID and password are configured on the device.
 - Refer to [SIP Configuration on page 7](#).
- The SIP Server address on the device is set to the correct IP address of the UC server.
 - Refer to [Device Configuration on page 10](#).
- SIP Registration is enabled on the device.
 - Refer to [Device Configuration on page 10](#).

2. You are unable to access the Web interface to configure the paging device.

Verify the following:

- Your PC is set to the same address range as the device for first-time configuration.
 - Refer to *PC Network Settings on page 2*.

3. No audio when calling into paging device.

Verify the following:

- The volume level is set correctly on the speaker.
- The paging groups are correctly configured.
 - Refer to *Multicast Paging Configuration on page 4*.