



Interoperability Guide

Configuring Mass Notifications for NetVanta BCS

This document describes the steps required to configure a mass notification service for the NetVanta Business Communication System (BCS). It provides an overview and instructions for configuring the NetVanta 7000 Series and NetVanta Unified Communication (UC) Server. This guide also provides enhancements for the mass notification service and guidelines for verifying the proper operation of the service.

This guide consists of the following sections:

- *NetVanta BCS Mass Notification Overview on page 2*
- *Hardware and Software Requirements and Limitations on page 2*
- *Configuring the NetVanta 7000 Series for Mass Notification on page 2*
- *Configuring the NetVanta UC Server for Mass Notification on page 9*
- *Mass Notification Enhancements on page 17*
- *Verifying the Mass Notification Service on page 19*

NetVanta BCS Mass Notification Overview

In a NetVanta BCS deployment the NetVanta 7000 Series provides private branch exchange (PBX) features while the NetVanta UC Server provides unified communications services. In some cases, NetVanta UC Server can enhance the IP PBX feature set of the NetVanta 7000 Series. One such example is paging through the handsets on the NetVanta 7000 Series.

The inbuilt paging server in the NetVanta 7000 Series is recommended for paging a maximum of 16 users simultaneously. In certain situations, such as Code Blue emergencies in educational environments, there is a need for conveniently paging a larger number of users using prerecorded announcements.

Mass notifications can be achieved in NetVanta BCS environments by creating a service that sends an alert to paging groups configured on the NetVanta 7000 Series. This general technique initiates a page on the NetVanta 7000 Series which in turn triggers a paging service on the NetVanta UC Server. The paging service then initiates paging on the NetVanta 7000 Series in groups that are of appropriate sizes for the unit. After a group is paged, the service on the NetVanta UC Server then starts paging the next group.

Hardware and Software Requirements and Limitations

The following table outlines the equipment and firmware versions used during verification testing.

Equipment	Software/Firmware Version
ADTRAN NetVanta 7000 Series	ADTRAN Operating System (AOS) R10.8.0
NetVanta UC Server	5.4.1.8202

Configuring the NetVanta 7000 Series for Mass Notification

To configure the NetVanta 7000 Series for mass notification, the paging groups to be paged by the mass notification service on the NetVanta UC Server must be created. Additionally, members must be added to the paging groups and a permission template for the identity used for the mass notification service must be added to the NetVanta UC Server trunk group. Finally, an auto-answer permit template corresponding to the paged users' extensions must be added to the users' class of service (CoS).

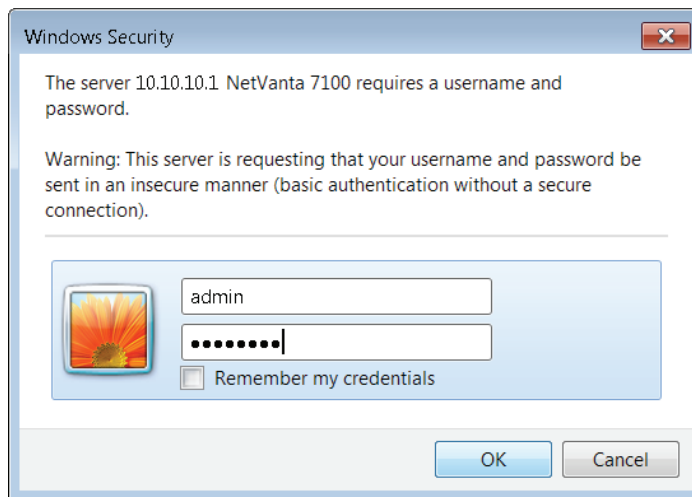
To configure the NetVanta 7000 Series, follow these steps:

1. *Log in to the NetVanta 7000 Series GUI as an Administrator on page 3*
2. *Create the Mass Notification Paging Groups on page 3*
3. *Add Members to the Paging Groups on page 4*
4. *Add a Permit Template for the Mass Notification Identity on page 6*
5. *Add an Auto-Answer Permit Template to the User's Class of Service on page 7*

Step 1: Log in to the NetVanta 7000 Series GUI as an Administrator

To log in to the NetVanta 7000 Series web-based graphical user interface (GUI) as an administrator, follow these steps:

1. Open a new web page in your Internet browser.
2. Enter your AOS product's IP address in the Internet browser's address field in the form **http://<ip address>/admin**, for example:
http://10.10.10.1/admin
3. At the prompt, enter your user name and password and select **OK**.



NOTE

*The default user name is **admin** and the default password is **password**.*

Step 2: Create the Mass Notification Paging Groups

Because the inbuilt paging server in the NetVanta 7000 Series is recommended for paging a maximum of 16 users simultaneously, you must create paging groups of 16 members each to which you want to send the mass notification. For example, if you have 36 users to which you want to send the mass notification, you must create 3 paging groups. The users can then be distributed among the groups.

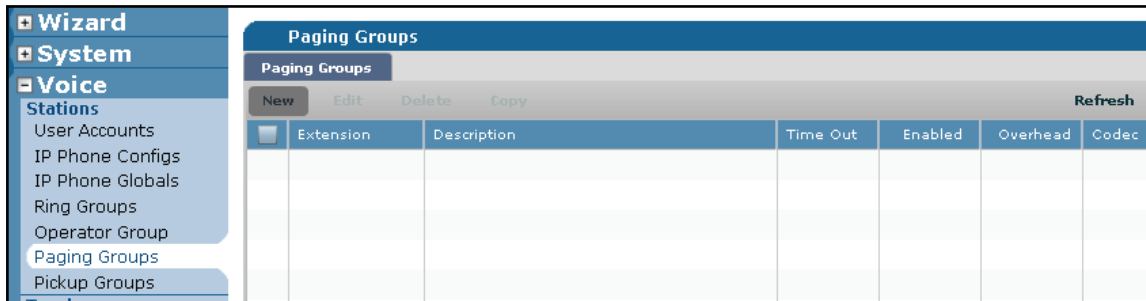


NOTE

Record the extension used for each paging group. They will be used later when creating the mass notification service.

To create the paging groups that will receive the mass notification, follow these steps:

1. In the NetVanta 7000 Series, use the navigation bar on the left side of the menu to navigate to **Voice > Stations > Paging Groups**. The **Paging Groups** menu will appear.



2. In the **Paging Groups** menu, select **New**.
3. In the **Extension** field, enter an available extension for the mass notification paging group, check the **Enable Paging Group** check box. Use the **Codec** drop-down menu to select the **G711u** CODEC. Record the extension used for the paging group because it will be used later when creating the mass notification service. Then select **Create**. The paging group will be created.

Step 3: Add Members to the Paging Groups

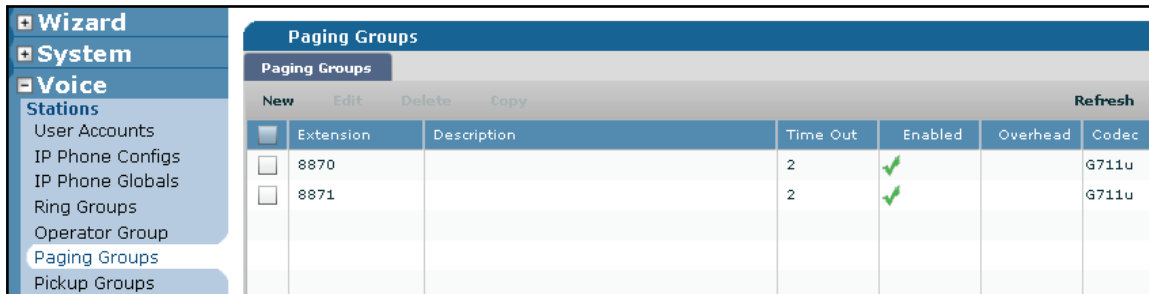
After you have created the paging groups, you must add the users you would like to receive the mass notification to the paging groups you created.



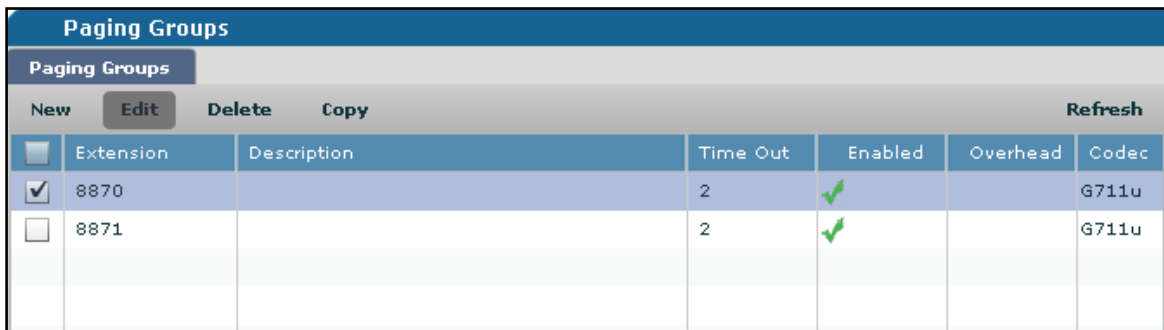
To ensure proper operation of the mass notification, a maximum of 16 users should be added to each paging group.

To add users to a paging group, follow these steps:

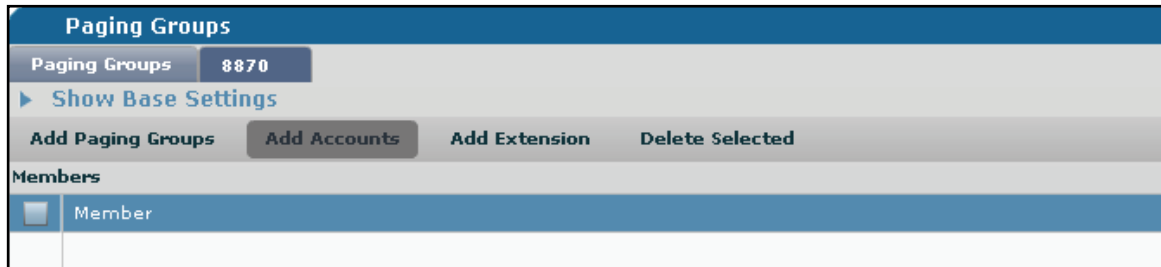
1. In the NetVanta 7000 Series, use the navigation bar on the left side of the menu to navigate to **Voice > Stations > Paging Groups**. The **Paging Groups** menu will appear.



2. In the **Paging Groups** menu, select the check box next to the extension to which you would like to add members, then select **Edit**.



3. In the menu that appears, select **Add Accounts**.



- Select the check boxes next to the members you would like to include in the paging group, and select **Add**. The members will be added to the paging group.

<input type="checkbox"/>	Last Name	First Name	Extension
<input checked="" type="checkbox"/>	SIP User	Default	2025
<input checked="" type="checkbox"/>	SIP User	Default	2003
<input checked="" type="checkbox"/>	SIP User	Default	5566
<input checked="" type="checkbox"/>	Port 0/2	Analog FXS	2002
<input type="checkbox"/>			1
<input type="checkbox"/>			4554
<input type="checkbox"/>			5555
<input type="checkbox"/>			4444
<input type="checkbox"/>			2000

- Repeat Steps 2 through 4 for each paging group created in *Step 2: Create the Mass Notification Paging Groups on page 3*.

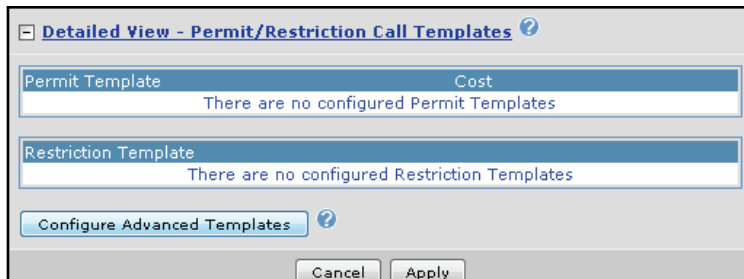
Step 4: Add a Permit Template for the Mass Notification Identity

In order for the mass notification to be initiated from a phone on the NetVanta 7000 Series, a permission template for the identity used for the mass notification service must be added to the NetVanta UC Server trunk group defined on the NetVanta 7000 Series. This number will be used later when configuring the mass notification identity on the NetVanta UC Server. To add the permission template, follow these steps:

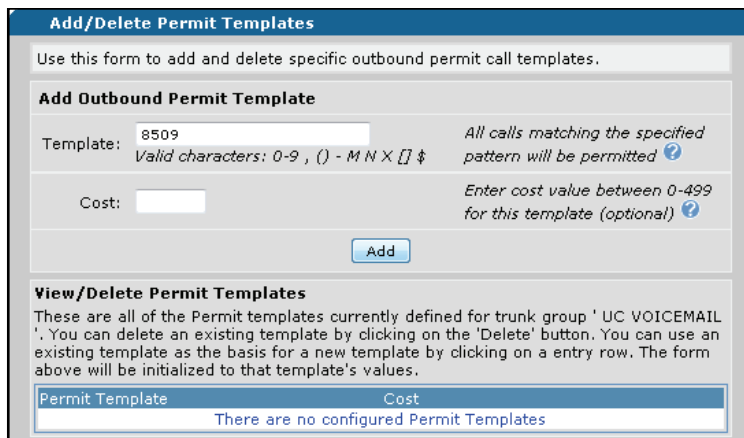
- In the NetVanta 7000 Series, use the navigation bar on the left side of the page to navigate to **Voice > Trunks > Trunk Groups**. The **Add/Modify/Delete Trunk Groups** menu will appear.

- In the **Add/Modify/Delete Trunk Groups** menu, select the trunk group routed to the NetVanta UC Server. The **Edit Trunk Group** menu will appear.

- In the **Edit Trunk Group** menu, select the **+** button next to **Detailed View - Permit/Restriction of Call Templates** to expand the section. Then select **Configure Advanced Templates**. The **Add/Delete Permit Templates** menu will appear.



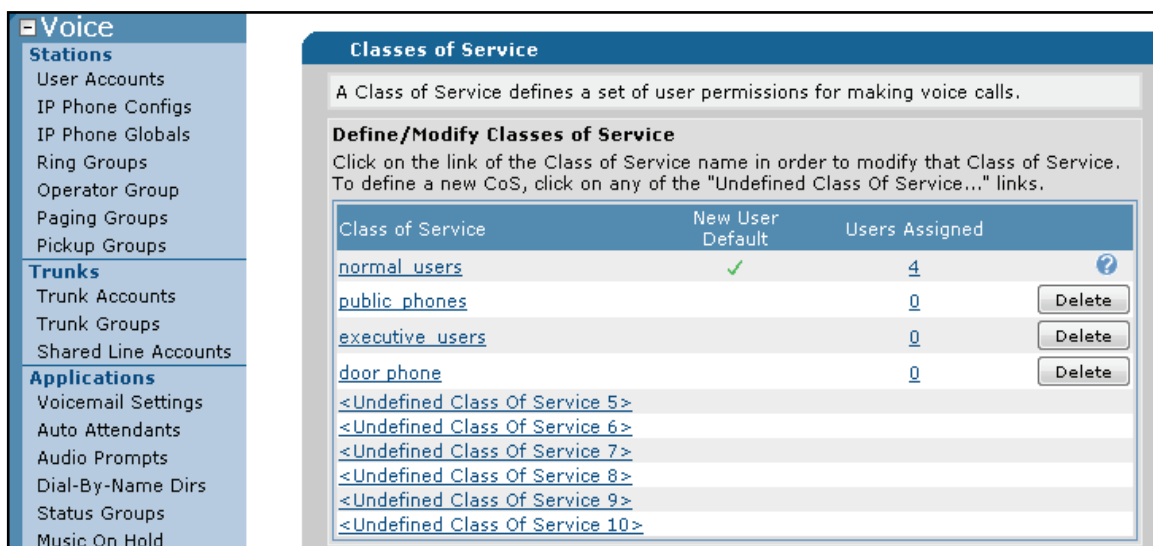
- In the **Template** field in the **Add/Delete Permit Templates** menu, enter the number that you will use for the mass notification identity. Record this number for when you create the mass notification identity on the NetVanta UC Server. Then, select **Add**. The permission template will be added.



Step 5: Add an Auto-Answer Permit Template to the User’s Class of Service

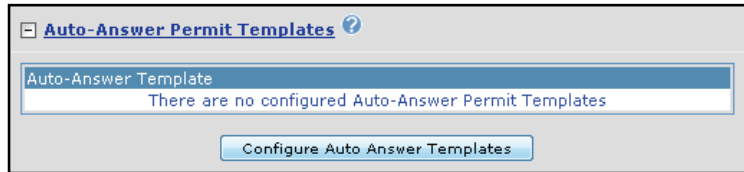
In order for the users’ phones to automatically answer the mass notification page, an auto-answer permit template corresponding to the users’ extensions must be added to the CoS to which the user’s belong. For example, if the mass notification users are within the range of extensions from **3000** to **3099**, an auto-answer permit template of **30XX** should be added to the CoS to which the users belong. To add an auto-answer permit template to a CoS, follow these steps:


- In the NetVanta 7000 Series, use the navigation bar on the left side of the page to navigate to **Voice > System Setup > Classes of Service**. The **Classes of Service** menu will appear.

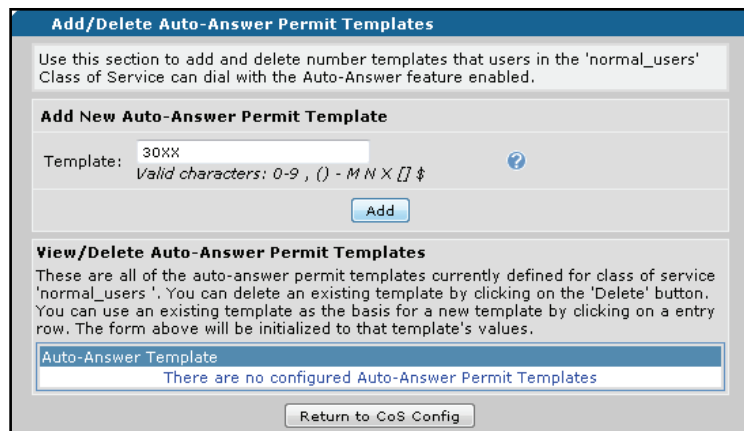


2. In the **Classes of Service** menu, select the CoS to which the mass notification users belong. The **Modify Class of Service** menu will appear.

3. In the **Modify Class of Service** menu, select the **+** button next to **Auto-Answer Permit Templates** to expand the section. Then select **Configure Auto Answer Templates**. The **Add/Delete Auto-Answer Permit Templates** menu will appear.



4. In the **Template** field in the **Add/Delete Auto-Answer Permit Templates** menu, enter a pattern corresponding to the extensions of the mass notification users. For example, if the users receiving the mass notification all have extensions within the range **3000 to 3099**, **30XX** should be entered. For more information on how to use template patterns hover your cursor over the .



5. Select **Add**. The permission template will be added.

Configuring the NetVanta UC Server for Mass Notification

On the NetVanta UC Server, a main service must be created that, when called, will announce that paging has started, and send the recorded **Alert** announcement to each specified paging group on the NetVanta 7000 Series. This requires you to create a **Paging Started** announcement and the **Alert** announcement, define the paging groups receiving the mass notification, and create an alert service and the mass notification service.

To configure the NetVanta UC Server, follow these steps:

1. *Create the Paging Started and Alert Announcements on page 9*
2. *Create the Alert Service on page 11*
3. *Create the Mass Notification Service on page 11*
4. *Create an Identity for the Mass Notification Service on page 16*
5. *Add Dial Plan Routing Templates for the NetVanta 7000 Series Paging Groups on page 17*

Step 1: Create the Paging Started and Alert Announcements

For the mass notification service, two announcements must be created on the NetVanta UC Server: a **Paging Started** announcement and the **Alert** announcement. The **Paging Started** announcement is used to inform the user that the mass notification has been sent. The **Alert** announcement is the announcement you wish to broadcast to the specified paging groups in the mass notification service. Use the instructions provided below to create both the **Paging Started** and **Alert** announcements.

To create a notification, follow these steps:

1. Navigate to **Start > All Programs > ADTRAN > NetVanta UC Server > NetVanta UC Client** to open NetVanta UC Client.
2. Log in to the NetVanta UC Client as an administrator.
3. In the **Admin** tab of the NetVanta UC Client, select the **Announcements** navigation bar.

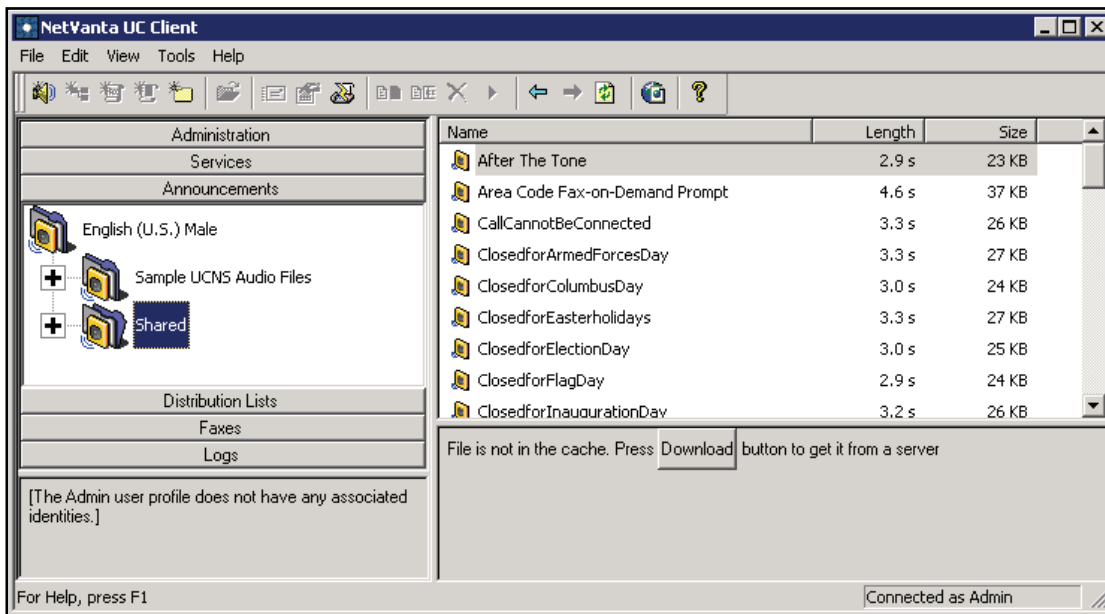
The screenshot shows the NetVanta UC Client interface. On the left is a navigation pane with a tree view of topics including Administration, Users, Phones, Paging Groups, Gateways, Ports, Classes of Service, Authentications, Identities, Data Sources, Servers, Communication Systems, Avaya IP Office, Remote Agents, AvayaCM, and Options. Below this are navigation bars for Services, Announcements, Distribution Lists, Faxes, and Logs. At the bottom is an identities pane showing various services like Default Trunk Service, Main AA, Fax Rx, Tax Rx, and IP Office AA. The main area is divided into a Summary Pane (top right) and a Detail Pane (bottom right). The Summary Pane contains a table of ports:

Port	Identity	Device	Status
AvayaCM	500	SIP:5080:tcp_udp	Idle
Port 1	208	dxoxB1C1	Idle
Port 2	207	dxoxB1C2	Idle
Port 3	217	dxoxB1C3	Disabled
Port 4	218	dxoxB1C4	Disabled

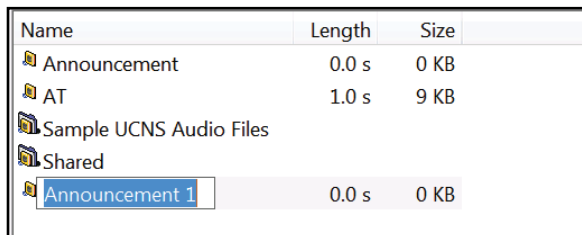
The Detail Pane shows the configuration for Port 1:

Port name: Port 1
 Identity: 208
 Answering enabled: Yes
 Device Id: dxoxB1C1
 State: Enabled

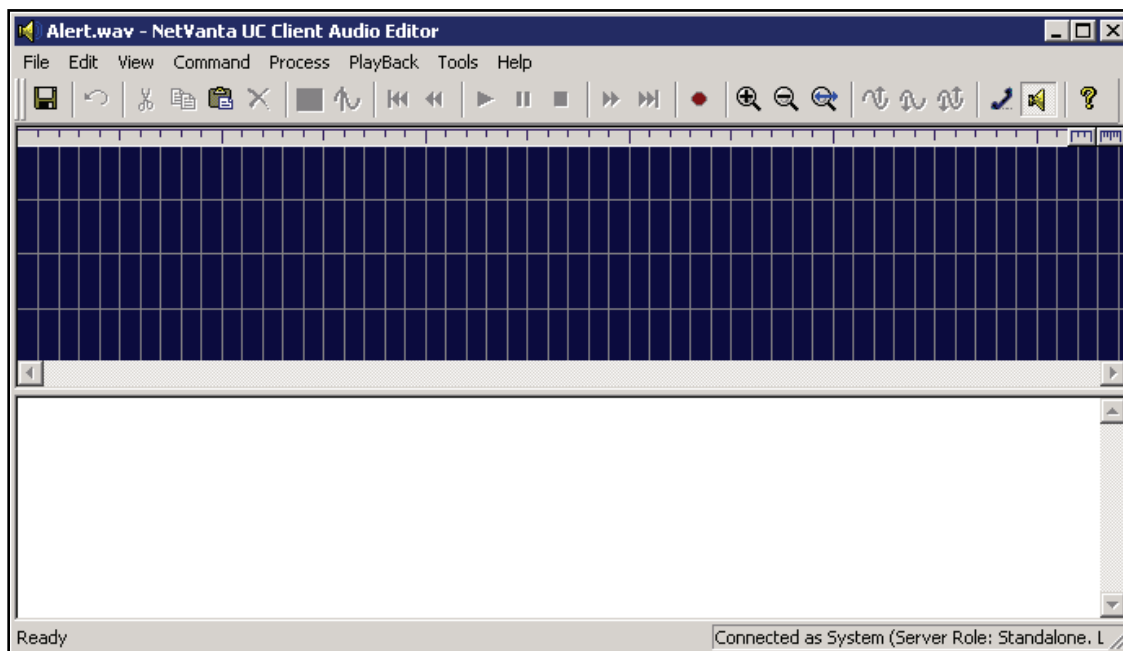
- In the **Announcements** navigation pane, navigate to the folder in which you want to record the **Paging Started** notification.







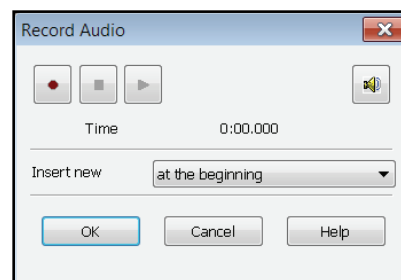
- Right-click in the **Summary** pane
- Select **New > Announcement**. A new announcement is added to the list in the summary pane. The announcement icon denotes the new announcement.
- After adding the new announcement, the announcement's default name will be highlighted in the summary pane and will be bound by an edit box. Enter a new name for the announcement.





8. Double-click the announcement you just created. The **Audio Editor** appears.



9. On the toolbar, select  to open the **Record Audio** menu.
10. Use the  and  buttons to toggle between the handset and computer recording devices, respectively.
11. Using the **Insert new** drop-down menu, select **at the beginning**.
12. Select  to begin recording your message. If you are using your telephone, wait for the beep before you begin to record. As you record, the **Time** will increment and the red record button turns grey.



The maximum length of a recorded announcement is 15 minutes.

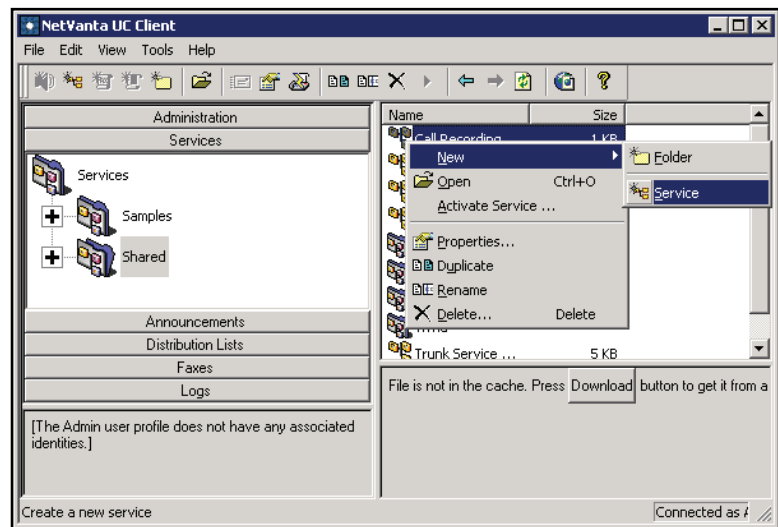
13. When you are finished recording, select .
14. If desired, use the  button to review the recording.
15. Select **OK** to keep the announcement.
16. In the menu bar of the **Audio Editor**, select **File > Update** to save the announcement.


Step 2: Create the Alert Service

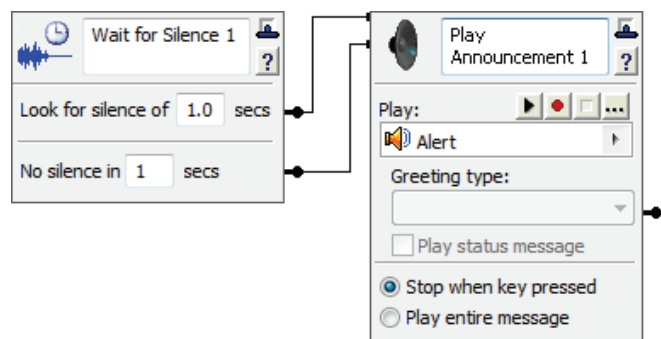
The alert service is the service that is called by the mass notification service to play the **Alert** announcement to the paging groups on the NetVanta 7000 Series. This service waits for 1 second then plays the **Alert** announcement recorded in the previous step.

To create the alert service, follow these steps:

1. In the **Admin** tab of the NetVanta UC Client, select the **Services** navigation bar.
2. Right-click in the summary pane, and select **New > Service**.
3. After adding the new service, the service's default name will be highlighted in the summary pane and will be bound by an edit box. Enter a new name for the service.
4. Double-click the service you just created. The **Service Editor** appears.



5. In the **Service Editor**, drag a **Wait for Silence** element and a **Play Announcement** element from the **Tool Palette** to the canvas.
6. In the **Wait for Silence** element, enter a value of **1** second in the **Look for silence of** and **No silence in** fields. Connect both these parameters' connectors to the **Play Announcement** element as shown. This will ensure that the service waits for 1 second before playing the announcement regardless of silence.
7. In the **Play Announcement** element, use the **Play** pop-up menu to select the **Alert** announcement you created in *Step 1: Create the Paging Started and Alert Announcements on page 9*.
8. Save the service using the  button in the **Service Editor** toolbar.

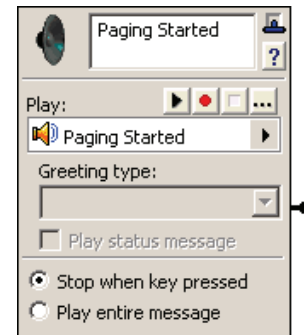


Step 3: Create the Mass Notification Service

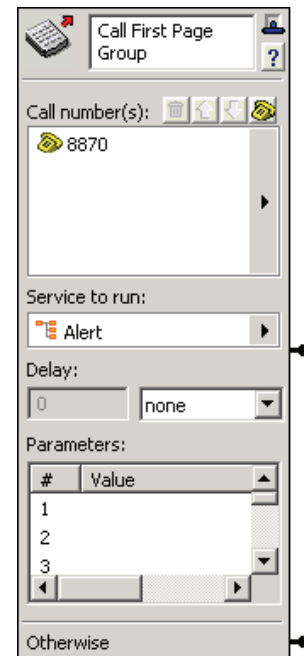
The mass notification service is the service that sends the mass notification to the paging groups configured on the NetVanta 7000 Series. This service should first play the **Paging Started** announcement to notify the initiator that the mass notification is being sent. Next, a **Queue Outdial** element is used to send the **Alert** announcement to the first paging group. Then, a **Wait for Silence** element is used to wait for 10 to 30 seconds (depending on the length of the **Alert** announcement) to allow the NetVanta 7000 Series to clear the paging calls before sending the **Alert** announcement to another paging group using another **Queue Outdial** element. The **Wait for Silence** and **Queue Outdial** elements can be repeated for each additional paging group on the NetVanta 7000 Series that should receive the mass notification. For additional information about how to use the **Service Editor** to create services, refer to the *NetVanta Unified Communication Server Administrator Guide* available from the ADTRAN Support Community (<https://supportforums.adtran.com>).

To create the alert service, follow these steps:

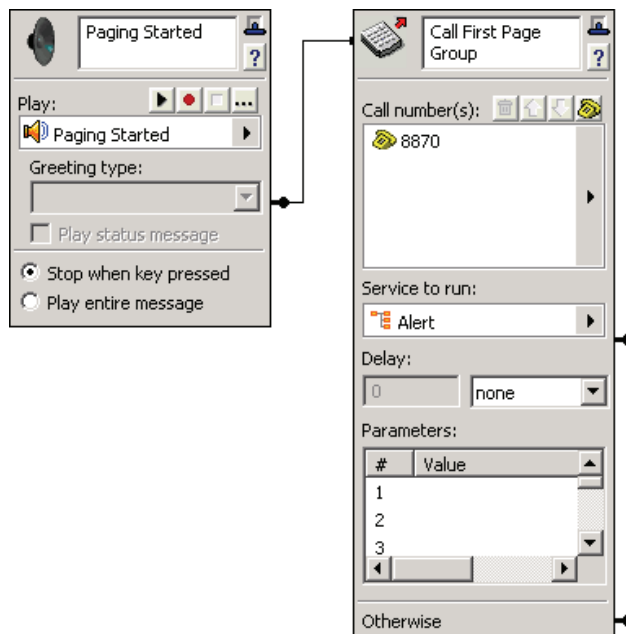
1. In the **Admin** tab of the NetVanta UC Client, select the **Services** navigation bar.
2. Right-click in the summary pane, and select **New > Service**.
3. After adding the new service, the service's default name will be highlighted in the summary pane and will be bound by an edit box. Enter a new name for the announcement.
4. Double-click the service you just created. The **Service Editor** appears.
5. In the **Service Editor**, drag a **Play Announcement** element from the **Tool Palette** to the canvas.
6. In the **Play Announcement** element, use the **Play** pop-up menu to select the **Paging Started** announcement you created in *Step 1: Create the Paging Started and Alert Announcements on page 9*.



7. Drag a **Queue Outdial** element from the **Tool Palette** to the canvas.
8. In the **Queue Outdial** element, right-click in the **Call number(s)** field, and select **New**. Enter the extension of one of the paging groups you created on the NetVanta 7000 Series. Then, use the **Service to run** pop-up menu to select the **Alert** announcement you created in *Step 1: Create the Paging Started and Alert Announcements on page 9*.

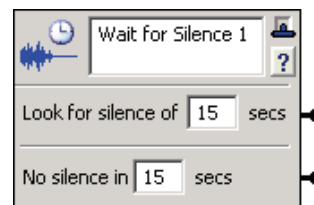


- Connect the **Play Announcement** connector to the **Queue Outdial** element as shown.

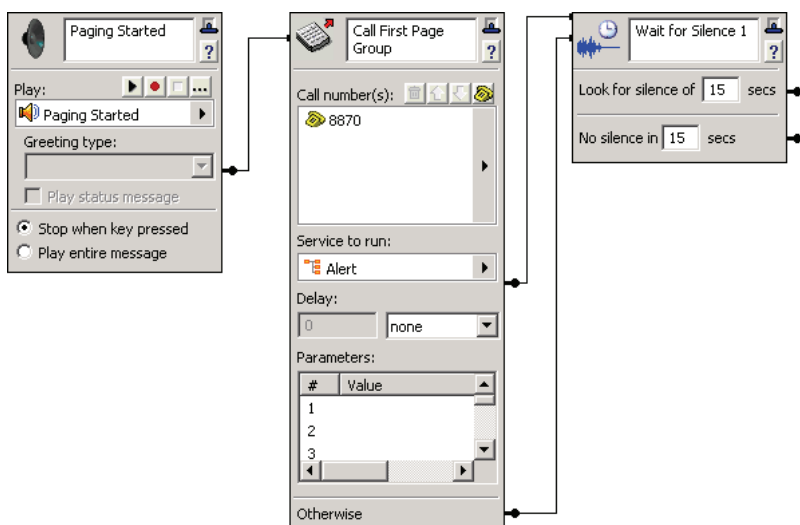


- Next, drag a **Wait for Silence** element from the **Tool Palette** to the canvas.

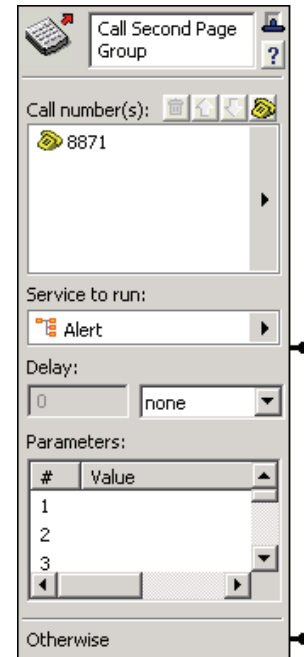
- In the **Wait for Silence** element, enter a value of **10 to 30** seconds (depending on the length of the **Alert** announcement sent to the paging groups) in the **Look for silence of** and **No silence in** fields. The duration must be long enough to allow the NetVanta 7000 Series to clear the alert page to the first page group before sending the alert page to the second page group.



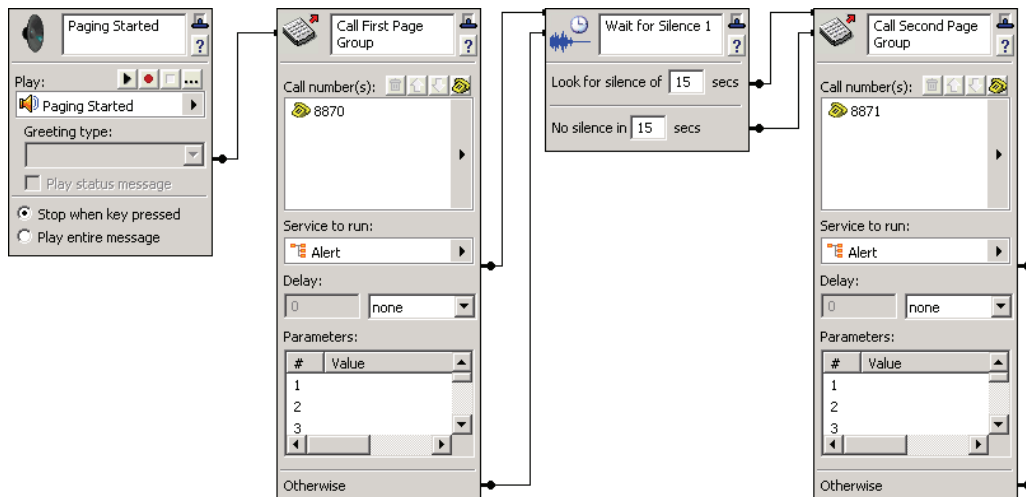
- Connect both of the **Queue Outdial** connectors to the **Wait for Silence** element as shown.



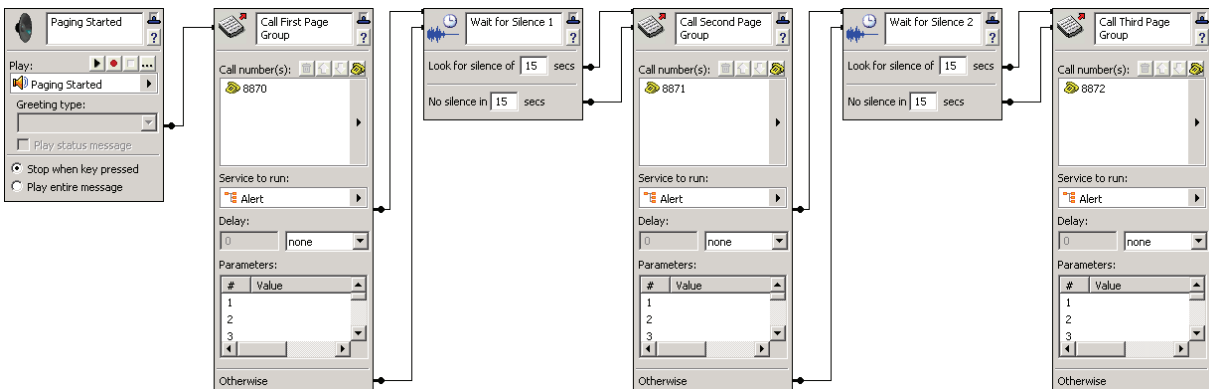
13. Drag another **Queue Outdial** element from the **Tool Palette** to the canvas.
14. In the **Queue Outdial** element, right-click in the **Call number(s)** field, and select **New**. Enter the extension of another one of the paging groups you created on the NetVanta 7000 Series. Then, use the **Service to run** pop-up menu to select the **Alert** announcement you created in *Step 1: Create the Paging Started and Alert Announcements on page 9*.



15. Connect both the **Look for silence of** and **No silence in** connectors on the **Wait for Silence** element to the **Queue Outdial** element as shown. This will ensure that the service waits for the specified time to allow the NetVanta 7000 Series to clear the alert page to the first page group before sending the alert page to the second page group.



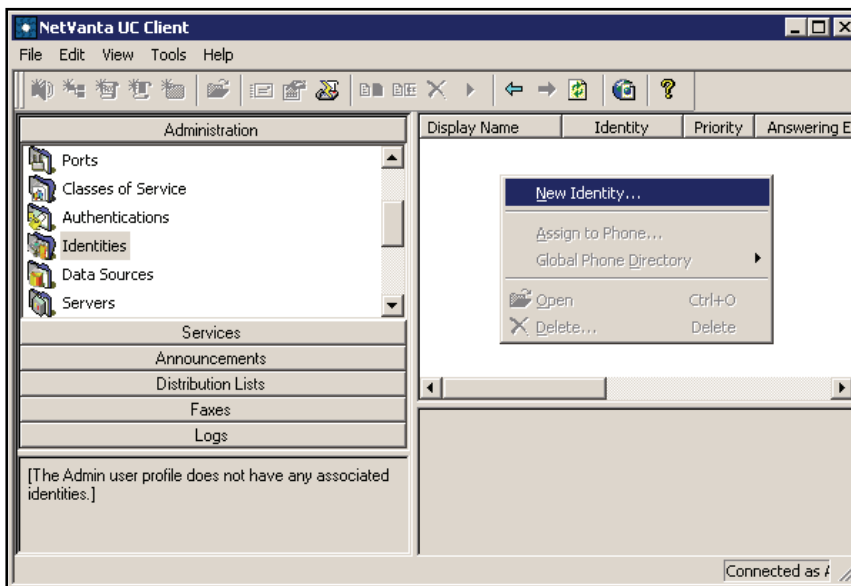
16. Repeat Steps 10 through 15 for the remaining page groups.



Step 4: Create an Identity for the Mass Notification Service

After creating the mass notification service, an identity number for the service must be created. The number used for the service must match the permit template added to the NetVanta 7000 Series in [Step 4: Add a Permit Template for the Mass Notification Identity on page 6](#). To create the identity, follow these steps:

1. In the **Admin** tab of the NetVanta UC Client, select the **Administration** navigation bar.
2. In the **Administration** navigation pane, select the **Identities** topic.
3. Right-click in the summary pane, and select **New Identity**. The **New Identity Wizard** will appear.
4. Select **Next** in the **New Identity Wizard** welcome menu. The **Select Identity Type** menu will appear.



5. In the **Select Identity Type** menu, perform the following:
 - a. Use the **Select a communication system** drop-down menu to select **NetVanta 7000 Series**.
 - b. Use the **Select a user profile** drop-down menu to select the administrator profile.
 - c. Select the **Attendant service** radio button.
 - d. Select the **Next** button. The **Configure Attendant Identity** menu will appear.

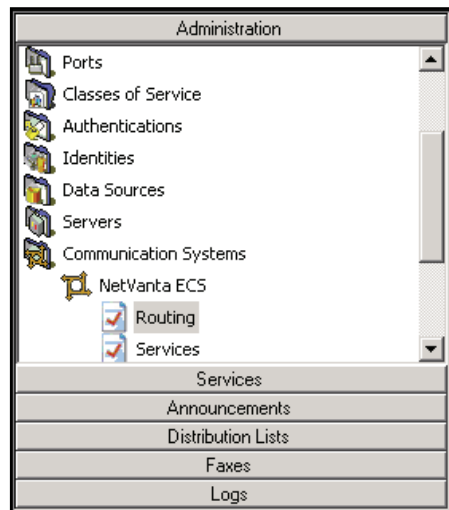
6. In the **Configure Attendant Identity** menu, perform the following:
 - a. In the **Name** field, enter a descriptive name for the identity.
 - b. In the **Address** field, enter the identity for the mass notification service. This number should match the permit template number you defined on the NetVanta 7000 Series in *Step 4: Add a Permit Template for the Mass Notification Identity on page 6*.
 - c. Use the **Run service** pop-up menu, select the mass notification service you created in *Step 3: Create the Mass Notification Service on page 11*.
 - d. Select the **Next** button.


7. Select the **Finish** button to create the mass notification identity.

Step 5: Add Dial Plan Routing Templates for the NetVanta 7000 Series Paging Groups

In order for the mass notification service to route the alert to the paging groups on the NetVanta 7000 Series, a dial plan routing template corresponding to the paging groups' extensions must be added to the NetVanta Enterprise Communications Server (ECS) routing dial plan. To add a dial plan routing template to the NetVanta ECS, follow these steps:

1. In the **Admin** tab of the NetVanta UC Client, select the **Administration** navigation bar.
2. In the **Administration** navigation pane, select **Routing** under **NetVanta ECS** in the **Communications Systems** topic.



3. In the summary pane, select the  button in the **Dial Plan** section. The **Dial Plan Entry** menu will appear.

Destination	Digits	Priority	Digits...	Prefix To Add	Suffix To Add	Description
pbxservices	[*]98[0-9]*	1	3	pickup-		Pickup Service
pbxservices	[*]99[0-9]*	1	3	park-		Park Service
PAGER@pbxservices	[*]75	1	0			Live Paging
PAGERMGR@pbxserv...	[*]77	1	0			Preview Paging
pbxservices	[*]78[0-9]...	10	3	ringpickup-		Ringin Call Pickup
ucservices	[*]86[0-9]...	10	3	vm-		Direct Transfer to Voicemail
pagingservices	[*][*].+	10	2	hfaa-		HFAA Feature Access Code
pagingservices	[*]72.+	10	3			Paging Services Feature Ac
gateway1	1[2-9][0-9]...	30	0			1 + 10 digit long distance c
gateway1	[2-9][0-9]...	30	0			7 digit local dialing
gateway1	[2-9][0-9]...	30	0			10 digit local dialing

4. In the **Dial Plan Entry** menu perform the following:
 - a. In the **Original digits** field, use regular expressions to enter a template corresponding to the paging groups' extensions. For example, to create a template for all extensions with the pattern 88XX, enter **88[0-9]{2}** in the field.
 - b. In the **Description** field, enter a description for the dial plan entry.
 - c. Select the **Gateway** radio button, and use the drop-down menu to select the gateway associated with the NetVanta 7000 Series.
 - d. Select the **OK** button. The dial plan entry will be created.

Mass Notification Enhancements

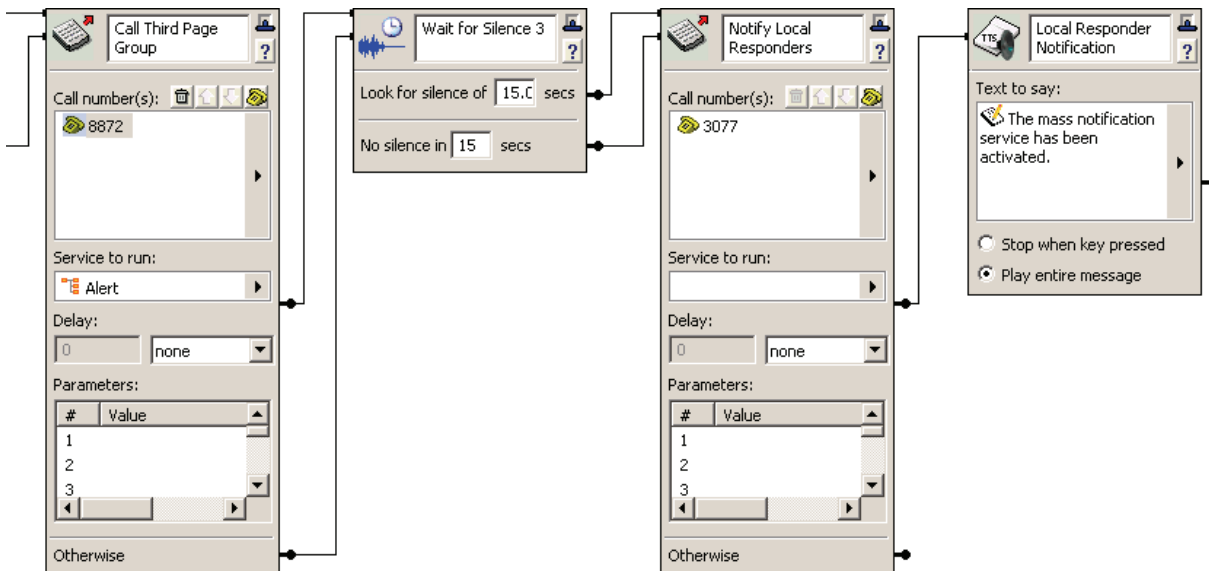
The mass notification service can be enhanced by adding service elements that send emails or make phone calls to notify interested parties that the mass notification service has been activated. Additionally, a live recording can be used instead of a pre-recorded announcement so that the mass notification can be both recorded and initiated without accessing the NetVanta UC Client.

Automatic Notification

By adding service elements that send emails or make phone calls, interested parties can be notified that the mass notification service has been activated. Adding these elements can allow you to notify service responders at the local facility that an emergency has occurred. Using both methods together increases the probability of informing the desired party that the mass notification service has been activated.

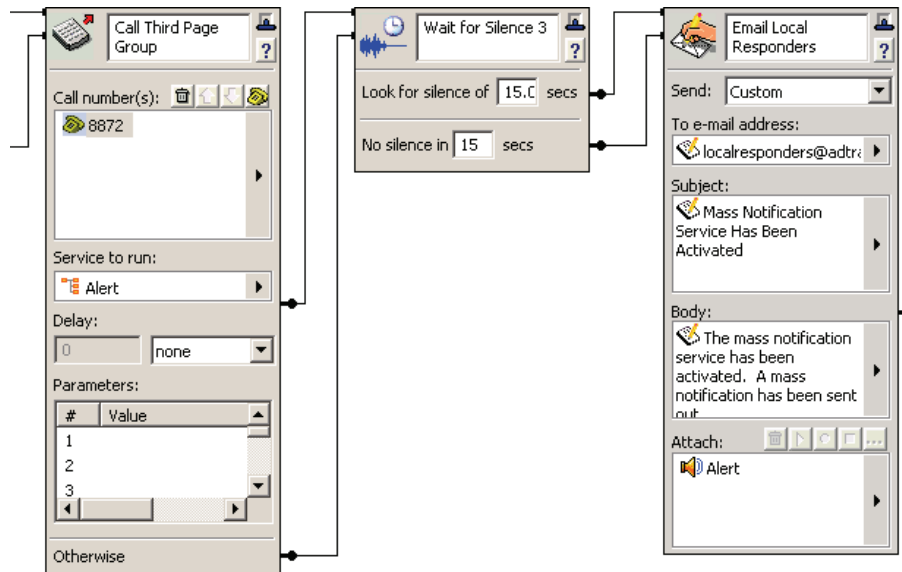
Automatic Notification by Phone

To notify local responders or other interested parties by phone that the mass notification service has been activated, **Queue Outdial** and **Text to Speech** elements can be appended at the end of the mass notification service. The example below shows how the elements can be used at the end of the mass notification service:



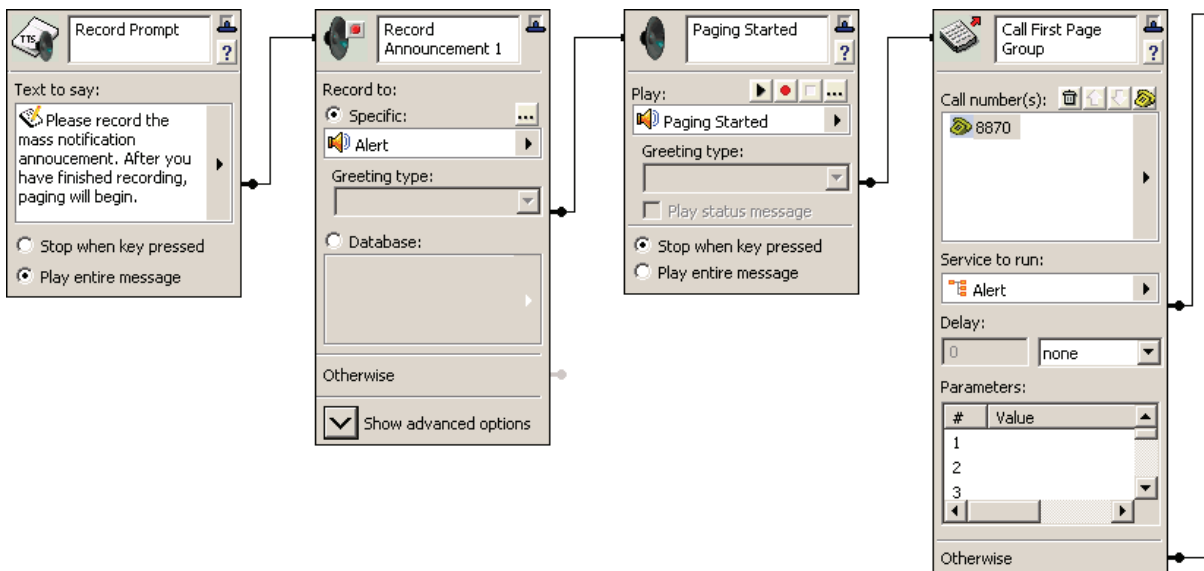
Automatic Notification by Email

To notify local responders or other interested parties by email that the mass notification service has been triggered, the **Send E-mail** element can be appended at the end of the mass notification service. To send an email with a custom subject and body with a copy of the mass notification announcement attached, **Custom** should be selected from the **Send** drop-down menu. The email's subject and body can be entered in the **Subject** and **Body** fields, respectively, and the mass notification announcement selected using the **Attach** pop-up menu. The example below shows how the element can be used at the end of the mass notification service:



Using a Live Recording for the Mass Notification

A live recording can be used in the mass notification instead of a pre-recorded announcement by adding a **Record Announcement** element at the beginning of the mass notification service. The example below shows how the **Text to Speech** element can be used to prompt the user to record an announcement. The **Record Announcement** element is then used to record over the existing **Alert** announcement sent to the configured paging groups through the **Alert** service.



Verifying the Mass Notification Service

ADTRAN suggests that the system be tested in two pieces to simplify debugging any issues.

1. Verify that the paging groups are operational on the NetVanta 7000 Series. Dial each of the paging groups and ensure they operate correctly. For example, dial **8870** and **8871** on the NetVanta 7000 Series and verify that the appropriate phones are paged.
2. After the paging groups have been verified to operate properly, dial the mass notification service identity from a phone on the NetVanta 7000 Series. The call should be sent from the NetVanta 7000 Series to the NetVanta UC Server, which will first play the **Paging Started** message, and then call each of the paging groups on the NetVanta 7000 Series in succession to play the **Alert** announcement.