

This quick configuration guide explains how to create and define a class of service (CoS) on the ADTRAN Operating System (AOS) voice products. These instructions are only applicable to products running AOS 14.1 firmware or later. Although some features may be enhanced with each new release and menus may not appear exactly as shown, the overall functionality should be the same. It is assumed that the AOS product has been configured as instructed in the quick start guide provided with your unit and the hardware installation guide provided on the *ADTRAN OS System Documentation CD*.


Configuring Classes of Service

A CoS defines the permissions available to a system user for making voice calls, and is required before calls can be made (other than to the operator and 911). The permissions include the types of calls and actions a user can perform. There are three default classes (**normal_users**, **executive_users**, and **public_phones**), or you can create your own. A maximum of 10 CoS types can be defined.

Accessing the CoS Menu

1. Open a Web-based Graphical User Interface (GUI) session. If you need assistance, follow the steps in the *NetVanta 7000 Series Web GUI Quick Configuration Guide* available on the *ADTRAN OS System Documentation CD* shipped with your unit or from www.adtran.com.



While navigating the GUI you will notice question mark symbols  that indicate additional information is available. Simply place your cursor over the symbol to view the additional information.

2. Navigate to **Voice > System Setup > Classes of Service** on the left side of the main GUI menu to display the **Classes of Service** menu.

Select an existing CoS to modify its settings.

Select an undefined CoS to create a new one.

Only a CoS without any users assigned can be deleted.

Select the number under **Users Assigned** to add more users.

Class of Service	New User Default	Users Assigned
normal_users	✓	6
public_phones		1
executive_users		0
<Undefined Class Of Service 4>		0
<Undefined Class Of Service 5>		
<Undefined Class Of Service 6>		
<Undefined Class Of Service 7>		
<Undefined Class Of Service 8>		
<Undefined Class Of Service 9>		
<Undefined Class Of Service 10>		

Adding Users

Existing users can be added to an existing CoS. To add users to a previously defined CoS (or one of the defaults), follow these steps:

1. Select the number under the **Users Assigned** column of the **Classes of Service** menu.
2. Select the **Add Members** button.
3. Select users to add to the CoS, using the check boxes.
4. Select the **Add Selected User** button to return to the previous screen.
5. Select the **Return to Classes of Service** button to navigate back to the main menu.

Select users from the list.

Add the users with checks by selecting **Add Selected Users**.

Add?	Last Name	First Name	Extension	Current CoS
<input type="checkbox"/>			1234	<No Access>
<input type="checkbox"/>	Port 0/1	Analog FXS	2001	normal_users
<input type="checkbox"/>	Port 0/2	Analog FXS	2002	normal_users
<input type="checkbox"/>	Smith	Joe	1212	<No Access>
<input checked="" type="checkbox"/>	Taylor	John	2004	normal_users
<input type="checkbox"/>	Wales	Patrick	2013	normal_users
<input type="checkbox"/>	Williams	Sarah	2006	normal_users

Creating a New CoS

To create a new CoS, follow these steps:

1. From the **Classes of Service** menu, select an **< Undefined Class of Service x >** link to create and define a new CoS. (Where **x** is **1** through **10**, depending on the number of classes already created in the list.) This takes you to the **Configure New Class of Service** menu, where there are several sections for defining permissions and enabling call actions.

The screenshot shows the 'Configure New Class of Service' web interface. The page title is 'Classes of Service > New Class Of Service'. The main heading is 'Configure New Class of Service'. Below this is a sub-heading 'Basic Class of Service Information' with a text box for 'CoS Name' and a text box for 'Override Passcode'. There is also a 'New User Default' checkbox. Below this is the 'Permitted Call Types' section with a grid of checkboxes for 'Internal Calls', 'Local Calls', 'National Calls', 'International Calls', '900 Number Calls', 'Toll-Free Calls', 'Carrier-Specified Calls', and 'Operator Assisted Calls'. There are 'Select All' and 'Deselect All' buttons. Below this are expandable sections for 'Advanced Permit/Deny Call Templates' and 'Auto-Answer Permit Templates'. The 'Basic Permitted Actions' section has checkboxes for 'Overhead Paging', 'Unlock Door', and 'Forward External Call', with 'Select All' and 'Deselect All' buttons. At the bottom, there is an 'Advanced Permitted Actions' section and 'Cancel' and 'Apply' buttons. Callouts point to the 'CoS Name' field, the 'Permitted Call Types' section, the expandable sections, and the 'Apply' button.

Specify basic information in this section of the menu.

Expand the advanced menus and templates by selecting the + sign.

Select types of calls permissible to members of this CoS.

Select **Apply** after making changes to save the settings.

2. Specify the CoS name and its **Override Passcode** in the **Basic Class of Service Information** section. The **Override Passcode** is a 4-digit code used in conjunction with the CoS Override feature (*90). It enables a user to override an extension's configured CoS with this new CoS as represented by this passcode.

This section also allows you to assign a default CoS for all new users. If a CoS is not specified when a new user account is created, the default will be used. To assign a CoS as the default, select the **New User Default** check box.

3. In the **Permitted Call Types** section, select the check box(es) next to the call type(s) you want to allow. A range of phone numbers is assigned to each call type. A description of each type and phone number range is provided in Table 1 on page 4. For an explanation of the variables used in call templates, see Table 2 on page 5.

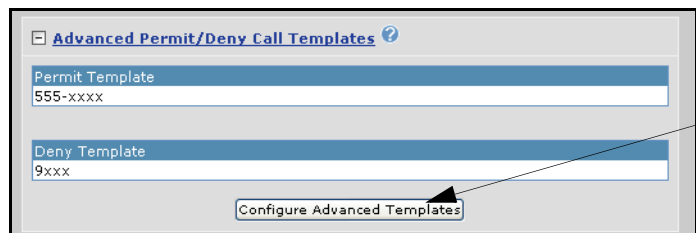
Table 1. Permitted Call Types

Call Types	Descriptions	Number Ranges
Internal Calls	Allows members of this CoS to make internal extension-to-extension calls.	2xxx through 8xxx
Local Calls	Allows members of this CoS to make local calls.	9-Nxx-xxxx
National Calls	Allows members of this CoS to make national long distance calls.	9-1-Nxx-Nxx-xxxx
International Calls	Allows members of this CoS to make international long distance calls.	9-011-\$
900 Number Calls	Allows members of this CoS to make national 1-900 and local 976 pay-per-service calls.	1-900-Nxx-xxxx 976-xxxx
Toll-Free Calls	Allows members of this CoS to make national toll-free calls, including area codes 800, 888, 877, 866, and 855.	9-1-800-Nxx-xxxx
Carrier-Specified Calls	Allows members of this CoS to specify the long distance service provider for each call using a PIC code.	1010xxx-Nxx-Nxx-xxxx
Operator Assisted Calls	Allows members of this CoS to dial an outside operator for assistance with making calls.	9-0-Nxx-Nxx-xxxx

Table 2. Call Template Variables

Variables	Descriptions
0 - 9	Any single digit matches only itself
X	Any single digit 0 through 9
N	Any single digit 2 through 9
M	Any single digit 2 through 8
[]	Any single digit of those within the bracket
-(),	Punctuation characters that are ignored
Examples: 555-81XX matches 555-8100 to 555-8199 555-812[0,1,2] matches 555-8120 to 555-8122	

4. Create additional call templates in the **Advanced Permit/Deny Call Templates** section. Calls are permitted or denied depending on whether they match the indicated number pattern. For an explanation of the variables used in call templates, see Table 2.
5. Select the **Configure Advanced Templates** button to access the **Add/Delete Permit Templates** and **Add/Delete Deny Templates** configuration menus.



Select to add or remove number templates from the list.

Classes of Service > "public_phones" > Advanced Call Templates

Add/Delete Permit Templates

Use this section to add and delete specific call templates that users in the 'public_phones' Class of Service can dial.

Add New Permit Template

Template: *Valid characters: 0-9, () - M N X [] \$* *All calls matching the specified pattern will be permitted*

Add

View/Delete Permit Templates

These are all of the permit templates currently defined for class of service 'public_phones'. You can delete an existing permit template by clicking on the 'Delete' button. You can use an existing template as the basis for a new template by clicking on an entry row. The form above will be initialized to that template's values.

Permit Template	Delete
555-xxxx	Delete

Add/Delete Deny Templates

Use this section to add and delete specific call templates that users in the 'public_phones' Class of Service can NOT dial.

Add New Deny Template

Template: *Valid characters: 0-9, () - M N X [] \$* *All calls matching the specified pattern will be denied*

Add

View/Delete Deny Templates

These are all of the deny templates currently defined for class of service 'public_phones'. You can delete an existing deny template by clicking on the 'Delete' button. You can use an existing template as the basis for a new template by clicking on an entry row. The form above will be initialized to that template's values.

Deny Template	Delete
9xxx	Delete

Return to CoS Config

Type the new number template in the blank field.

Select the corresponding Add button to add the new number template.

Select to return to the previous menu.

6. In the **Auto-Answer Permit Templates** section of the **Configure New Class of Service** menu, specify number templates which allow members of the CoS to make auto-answer calls.
7. Select the **Configure Auto Answer Templates** button to add or remove number templates. For an explanation of the variables used in call templates, see Table 2 on page 5.

Auto-Answer Permit Templates

Auto-Answer Template
100x

Configure Auto Answer Templates

Select to add or remove number templates from the list.

Classes of Service > "public_phones" > Auto-Answer Templates

Add/Delete Auto-Answer Permit Templates

Use this section to add and delete number templates that users in the 'public_phones' Class of Service can dial with the Auto-Answer feature enabled.

Add New Auto-Answer Permit Template

Template: Valid characters: 0-9, () - MN X [] \$?

View/Delete Auto-Answer Permit Templates

These are all of the auto-answer permit templates currently defined for class of service 'public_phones'. You can delete an existing template by clicking on the 'Delete' button. You can use an existing template as the basis for a new template by clicking on a entry row. The form above will be initialized to that template's values.

Auto-Answer Template	
100x	<input type="button" value="Delete"/>

Type the new number template in the blank field.

Select the **Add** button to add the new number template.

Select **Delete** to remove a template from the list.

Select to return to the previous menu.

8. The **Basic Permitted Actions** section provides a few basic features that members of this CoS can perform. Select the desired features to allow using the check boxes. For an explanation of the permitted actions, see Table 3.

Table 3. Basic Permitted Actions

Actions	Descriptions
Overhead Paging	Allows users to make overhead pages.
Unlock Door	Allows the use of the remote door unlock feature.
Forward External Call	Allows an extension to be forwarded to an external number.

Basic Permitted Actions

Overhead Paging Unlock Door ?

Forward External Call ?

9. The **Advanced Permitted Actions** section can be expanded to reveal numerous features which can be enabled for members of this CoS. Select the permissible actions, using the check boxes. For an explanation of the **Advanced Permitted Actions**, see Table 4.

The screenshot shows a configuration window titled "Advanced Permitted Actions". It contains a list of 20 features, each with a checkbox and a help icon. The "Billing Codes Not Required" checkbox is checked. At the bottom, there are buttons for "Select All", "Deselect All", "Cancel", and "Apply".

Feature	Enabled
Conferencing (analog only)	<input type="checkbox"/>
Do Not Disturb	<input type="checkbox"/>
Auto-Answer Do Not Disturb	<input type="checkbox"/>
Redial	<input type="checkbox"/>
Forwarding	<input type="checkbox"/>
Transfer (analog only)	<input type="checkbox"/>
Parking (analog only)	<input type="checkbox"/>
User speed Dial	<input type="checkbox"/>
System Speed Dial	<input type="checkbox"/>
Group Logout	<input type="checkbox"/>
Caller ID Block (analog only)	<input type="checkbox"/>
Disable Call Waiting	<input type="checkbox"/>
Message Waiting	<input type="checkbox"/>
Station Lock	<input type="checkbox"/>
Door Phone Access	<input type="checkbox"/>
Hold (analog only)	<input type="checkbox"/>
Camp On (analog only)	<input type="checkbox"/>
Return Last Call	<input type="checkbox"/>
Remote Forwarding	<input type="checkbox"/>
Retrieve Parked Call	<input type="checkbox"/>
Program User Speed Dial	<input type="checkbox"/>
Billing Codes Not Required	<input checked="" type="checkbox"/>
Hotel (analog only)	<input type="checkbox"/>

Table 4. Advanced Permitted Actions

Permitted Actions	Descriptions
Conferencing	Allows users to establish conference calls.
Hold	Allows users to put calls on hold.
Do Not Disturb	Allows users to place an extension in Do Not Disturb (DND) mode.
Camp On	Allows users to request a callback when a busy number becomes idle.
Auto-Answer Do Not Disturb	Allows users to force incoming auto-answer calls to ring the phone instead.
Redial	Allows users to use the redial functionality of the system to call the last dialed number.
Return Last Call	Allows users to return the call of the last incoming caller.
Transfer	Allows users to transfer calls to an internal user.
Forwarding	Allows users to enable call forwarding.
Remote Forwarding	Allows users to enable call forwarding from a remote location.
Parking	Allows users to park calls to a public hold zone.
Retrieve Parked Call	Allows users to retrieve parked calls from a public hold zone.

Table 4. Advanced Permitted Actions (Continued)

Permitted Actions	Descriptions
User Speed Dial	Allows users to have personal speed dial numbers.
Program User Speed Dial	Allows users to modify personal speed dial numbers.
System Speed Dial	Allows users to use the system speed dial numbers.
Group Logout	Allows users to log out of a call group.
Caller ID Block	Allows users to block caller ID for outbound calls.
Disable Call Waiting	Allows users to disable the shared call appearance known as call waiting (if available).
Billing Codes Not Required	Allows users to bypass entering a billing code prior to dialing a number.
Message Waiting	Allows users to change the manner in which message notification takes place.
Hotel	Allows users to log into a phone designated for hotelling or hotdesking.
Station Lock	Allows users to place an extension in a locked mode.
Door Phone Access	Allows users to make calls to the intercom designated as the door phone.

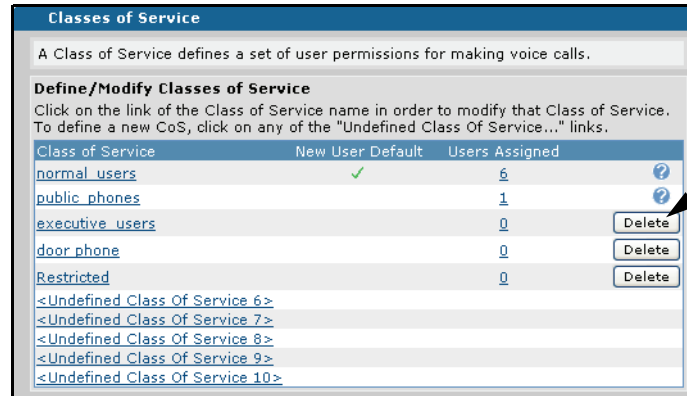
10. Select **Save** at the top right of the current screen to save the CoS configuration to nonvolatile memory. If the save is successful, a prompt will display. Select **OK** to close the window and return to the previous screen.



*Updated configurations must be saved to nonvolatile memory (NVRAM) to retain new changes after a loss of power or a reboot. To quickly save your configuration at any time while in the GUI, select **SAVE** at the top right of your current menu.*

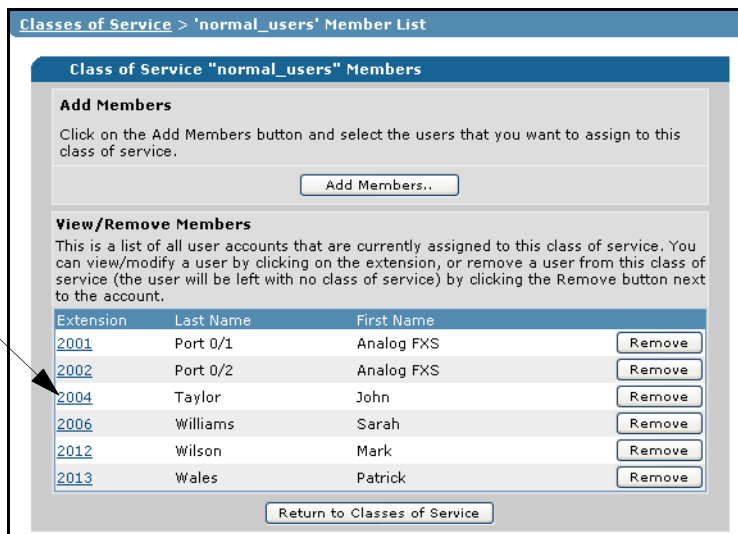
Removing a CoS

A CoS can be deleted only if no users are assigned to it. If you want to remove a class but it currently has users assigned, add those users to another class. Once there are no more users assigned to the CoS, a **Delete** button will be available next to the listing on the **Classes of Service** menu. Select the **Delete** button to remove the class from the list.



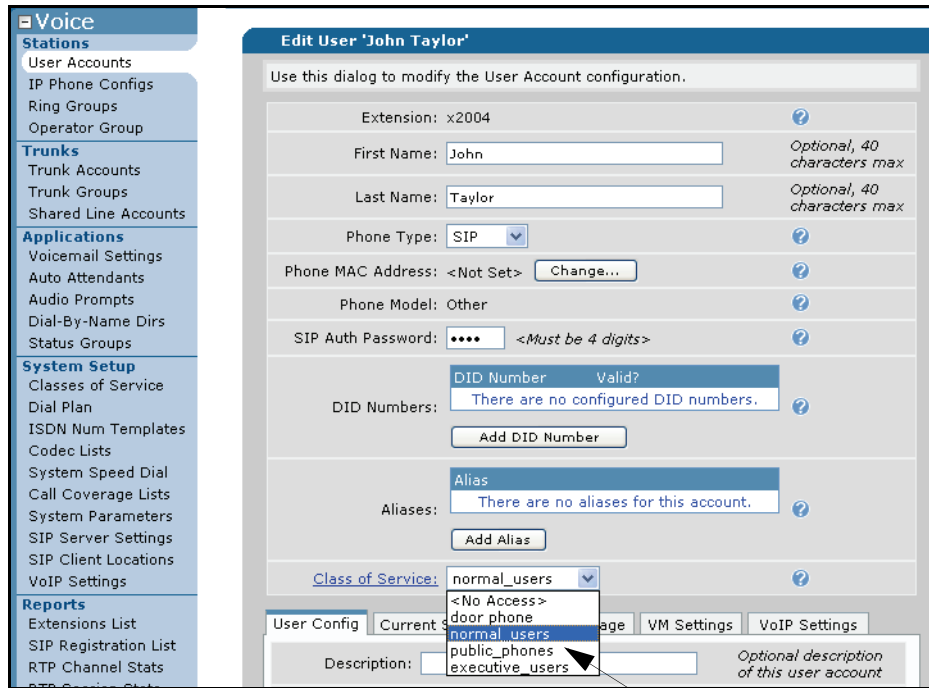
Only a CoS without any users assigned can be deleted.

1. To move a user to another CoS, select the number under **Users Assigned** in the **Class of Service** menu.
2. From the list of users, select the extension of the user whose CoS assignment you want to change. This will take you to the **Edit User** menu.



Select the extension of the user to change their CoS assignment.

3. Select a different CoS from the drop-down menu next to **Class of Service**. Continue these steps until all the users have been reassigned.



- From the **Class of Service** menu, select the **Delete** button next to the CoS you want to delete.