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Sample Configurations



Understanding and Verifying Cisco Personal Assistant and CallManager Integration

Document ID: 44925

Contents

[Introduction](#)

[Before You Begin](#)

[Conventions](#)

[Prerequisites](#)

[Components Used](#)

[Background Theory](#)

[Network Diagram](#)

[PA Route Plan](#)

[Understanding Partitions and Calling Search](#)

[Spaces with PA](#)

[Verifying the Partitions](#)

[Verifying the Calling Search Spaces](#)

[PA CTI Route Points](#)

[Understanding the PA Server Auto Attendant](#)

[CTI Route Point](#)

[Verifying the Configuration of the PA Auto](#)

[Attendant CTI Route Point on the Cisco CallManager Server](#)

[Verifying the Configuration of the PA Auto Attendant CTI Route Point on the PA Server](#)

[Understanding the PA Interceptor Port CTI Route Point](#)

[Verifying the Configuration of the PA Interceptor Port CTI Route Point on the Cisco](#)

[CallManager Server](#)

[Verifying the Configuration of the PA Interceptor Port CTI Route Point on the PA](#)

[Server](#)

[Understanding the PA Server CTI Route Point](#)

[Verifying the Configuration of the PA Server CTI Route Point on the Cisco CallManager](#)

[Server](#)

[Verifying the Configuration of the PA Server CTI Route Point on the PA Server](#)

[PA Translation Pattern](#)

[Understanding the PA Translation Pattern](#)

[Verifying the Configuration of the PA Translation Pattern](#)

[TAC Notice: What's Changing on TAC Web](#)

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PA Media Ports

[Understanding the PA Media Ports](#)

[Verifying the Configuration of the PA Media Ports on the Cisco CallManager Server](#)

[Verifying the Media Port Configuration on the PA Server](#)

PA User Account and the JTAPI Service

[Understanding the PA User and JTAPI Service Account on the Cisco CallManager Server](#)

[Verifying the Configuration of the PA User JTAPI Service Account on the Cisco CallManager Server](#)

[PAUSER Account](#)

[Understanding the PA User and JTAPI Configuration on the PA Server](#)

[Verifying the Configuration of the JTAPI Configuration on the PA Server Telephony](#)

[Configuration Page](#)

[Verifying the Configuration of the JTAPI Configuration on the PA Server Configuration Page](#)

Verifying the PA Server Configuration Parameters

[System > Speech Services](#)

[System > Telephony](#)

[System > Corporate Directory Settings](#)

[System > Miscellaneous Settings](#)

[Servers > Server Configuration](#)

PA Managed IP Phones and Unmanaged IP Phones

Verify

[Verifying the Status of the PA Components](#)

[Verify that the PA Services have Started](#)

[Use PA to initiate a call between PA managed IP phones](#)

Troubleshoot

[PA Components Will Not Start](#)

[Some PA Managed IP Phones Work with PA and Others Do Not](#)

Related Information

Introduction

This document is one of a set of documents that can help you configure Personal Assistant (PA) and integrate it with Cisco CallManager and Cisco Unity.

This document explains how the integration of Cisco CallManager with PA is established as well as how some of the components of the integration work.

[Configuring Cisco Personal Assistant and Cisco Unity Integration](#) will help you establish the integration of PA and Cisco Unity.

Note: You must have completed the steps for integrating Cisco CallManager with PA before you start configuring the integration of PA with Cisco Unity.

You can use this document as a basis for creating a working configuration for integrating PA and Cisco CallManager or you can use the [Configuring Cisco CallManager for Personal Assistant](#) product documentation. The product documentation includes all of the steps required for integrating PA and

Cisco CallManager. It does not go into as much detail on how the various components of the integration work and why they are required. If you are familiar with how PA and Cisco CallManager work together, the product documentation will probably be all that you need to use to create a working configuration.

On the other hand, if you have never worked with PA and do not understand the concepts that make the Cisco CallManager and PA integration work, this document will help you achieve this understanding. You can use this documentation as a guide for creating a working system that integrates Cisco CallManager and PA. Please note that this document was created from an established configuration. Therefore, the screen shots from PA and Cisco CallManager that it contains will show action buttons that say **Update** rather than **Add** or **Insert**.

This document assumes that you have already installed your PA server. An explanation of the installation of PA and the best practices for deploying PA in your network is beyond the scope of this document. Please refer to the [PA Product Documentation](#) for more information on these subjects.

This document uses a very simple PA and Cisco CallManager integration to explain the concepts that make the integration work. It uses the same PA server for running the PA services; the PA Licensing service and the PA Language services. The concepts that are explained in this document apply to more complex scenarios where these services are deployed on different servers.

Before You Begin

Conventions

For more information on document conventions, see the [Cisco Technical Tips Conventions](#).

Prerequisites

You should be familiar with basic Cisco CallManager administrative tasks such as adding and configuring devices. You should be familiar with the concepts of Partitions and Calling Spaces. If you would like to review the concepts of Partitions and Calling Spaces please refer to [Understanding and Using Partitions and Calling Search Spaces With Cisco CallManager 3.x](#).

You should already have a working Cisco CallManager 3.2 or 3.3 server. It should have at least two IP phones registered to it.

You should already have installed PA 1.4(1) or later on a Cisco approved server. If you have not, please refer to the PA Product Installation documentation titled [Cisco Personal Assistant Installation and Administration Guide, Release 1.4](#).

Components Used

The information in this document is based on the software and hardware versions below.

- Cisco CallManager 3.3(2)
- Personal Assistant (PA) 1.(4)1b
- Cisco IP Phones (7960, 7940)

The information presented in this document was created from devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If you are working in a live network, ensure that you understand the potential impact of any command before using it.

Background Theory

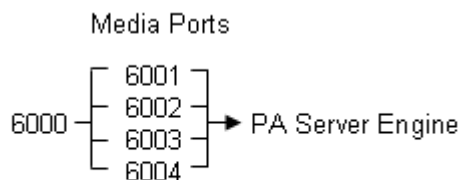
PA has three core functions:

1. A voice activated interactive server that allows you to use your voice to make calls, create conference calls, forward your calls to other phones, as well as many other options.
2. A service that intercepts calls to your phone and redirects them based on your current settings.
3. An Auto Attendant feature that allows you to use your voice or a dialed digit string to call another person.

A complete explanation of these functions is beyond the scope of this document. Please refer to the [PA Product Documentation](#) for more information on these subjects.

Integrating PA with Cisco CallManager allows PA to take advantage of the directory server that you are using for Cisco CallManager. This document assumes that you are using Cisco CallManager's DC Directory server for your users. When you give PA a voice instruction to contact another user, the PA server contacts the Cisco CallManager database to lookup the user's name and obtain his or her extension number.

You contact the PA voice service by dialing the number your system administrator has assigned. This document uses DN 6000 for this purpose. PA uses a series of Media Ports to act as a Hunt Group for calls that come into the main number. The image below shows how this works. You dial 6000 and Cisco CallManager works with the PA server to immediately hand the call off to an available Media Port. This frees up the primary PA number to accept another call. The Media Port controls the conversation with the PA server.



Media Ports Function as a Hunt Group

You need to create a sufficient amount of Media Ports to handle your normal PA server call volume. An explanation of how to determine the number of Media Ports that your system requires is beyond the scope of this document. Please refer to the [PA Product Documentation](#) for more information on this subject.

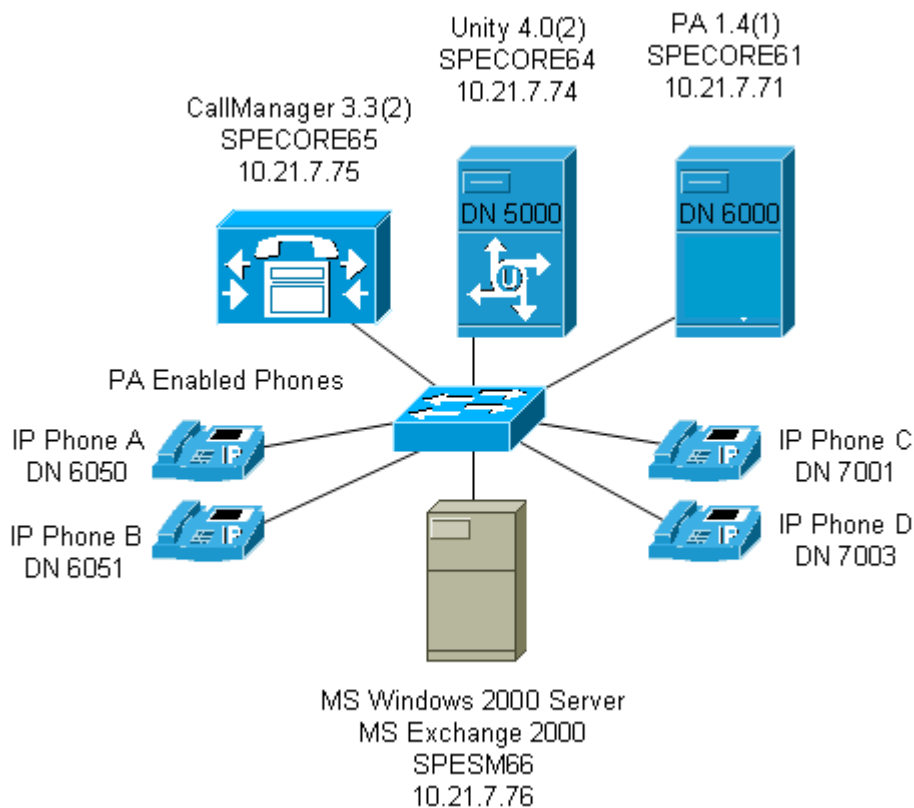
Once you have logged into the PA server you can give voice commands to call other people, create conference calls, and many other options. You can also forward your calls based on rules that you create using your voice.

You can also log into the PA User Admin Web page to create call forwarding rules and other options. The URL is usually `http://<server-ip-address>/pauseradmin`. If DNS name resolution is available you can substitute the servers DNS name for its IP address. Please refer to the PA user Administration documentation (provide link) for complete instructions on performing these tasks.

When you have instructed PA to intercept and reroute your calls, PA uses a Cisco CallManager CTI Route Point as an Interceptor Port to take control of incoming calls to your Directory Number (DN) and forwards them based on your instructions. This is explained in the [PA Interceptor Ports](#) section below. In order for PA to intercept these calls you must configure your Cisco CallManager Route Plan properly. This is explained in the next section below called [PA Route Plan](#).

Network Diagram

This document uses the network setup shown in the diagram below.



PA Route Plan

The integration of Cisco CallManager and PA requires some very specific relationships within your Route Plan. The explanation that follows will help you to implement these relationships in your existing Route Plan.

Understanding Partitions and Calling Search Spaces with PA

PA has a few very strict requirements for the configuration of Calling Search Spaces (CSS) and Partitions. This is due to the way that PA handles calls to PA enabled IP phones.

Note: An IP phone is PA enabled when one or more of its DNs are in the partition that you create specifically for PA Managed Employee DNs. This is explained in the next two sections.

The PA Enabled IP phones (IP phone A and B in the network diagram) use the Employee CSS as shown in the Route Plan below. The DNs assigned to these phones (6050 and 5051) also use the Employee CSS. These DNs (6050 and 6051) are not in a partition that exists in the Employee CSS. Instead, they are in the PAManagedEmployee partition which is in the PA CSS. This is an unusual configuration. In most cases the DNs assigned to an IP phone will reside in a partition that is in the CSS that the phone uses. The reason that this is a requirement is explained in the [PA Interceptor Port](#) section.

| PACSS | | | | | |
|-------------------------------|---|------------------------------|---------------------------|-------------------------------------|-----------------------------------|
| Devices using this CSS | PA Translation Pattern 605X | PA Media Ports DNs 6001-6004 | PA Server CTI Route Point | PA Interceptor Port CTI Route Point | PA Auto Attendant CTI Route Point |
| Partitions in this CSS | Devices reachable in this CSS by partition | | | | |
| PAManagedEmployee | DN 6050 | DN 6501 | | | |
| VMailPilotDN | DN 5000 | | | | |
| Employee | DN 7001 | DN 7003 | Translation Pattern 605X | MWI On DN 1234 | MWI Off DN 4321 |
| | Media Port DN 6001 | Media Port DN 6002 | Media Port DN 6003 | Media Port DN 6004 | PA Server CTI Route Point DN 6000 |
| | PA AA CTI Route Point DN 6005 | | | | |

| Employee (CSS) | | | | | |
|-------------------------------|---|--------------------|--------------------------|--------------------|-----------------------------------|
| Devices using this CSS | IP Phone A | DN 6050 (PA) | IP Phone B | DN 6051 (PA) | IP Phone C |
| | IP Phone D | | | | |
| Partitions in this CSS | Devices reachable in this CSS by partition | | | | |
| PA | PA Interceptor Port CTI Route Point DN 605X | | | | |
| VMPilotDN | DN 5000 | | | | |
| Employee | DN 7001 | DN 7003 | Translation Pattern 605X | MWI On DN 1234 | MWI Off DN 4321 |
| | Media Port DN 6001 | Media Port DN 6002 | Media Port DN 6003 | Media Port DN 6004 | PA Server CTI Route Point DN 6000 |
| | PA AA CTI Route Point DN 6005 | | | | |

| VoiceMailCSS | | | | | |
|-------------------------------|---|----------------------------------|---------------------------------|-----------------------|---|
| Devices using this CSS | Voice Mail Pilot DN 5000 | Voice Mail Port DNs 5000-5011 | MWI On / Off DNs 1234 / 4321 | | |
| Partitions in this CSS | Devices reachable in this CSS by partition | | | | |
| PAManagedEmployee | DN 6050 | DN 6051 | | | |
| VMPilotDN | DN 5000 | | | | |
| VMRestrictedDNs | DN 5001 | DN 5002 | DN 5003 | DN 5004 | DN 5005 |
| | DN 5006 | DN 5007 | DN 5008 | DN 5009 | DN 5010 |
| | DN 5011 | | | | |
| Employee | DN 7001 | DN 7003 | Translation Pattern 605X | MWI On DN 1234 | MWI Off DN 4321 |
| | Media Port DN 6001 | Media Port DN 6002 | Media Port DN 6003 | Media Port DN 6004 | PA Server CTI Route Point DN 6000 |
| | PA AA CTI Route Point DN 6005 | | | | |

Verifying the Partitions

Use the procedure below to verify the Partitions.

1. Log onto the Cisco CallManager Administration page.
2. Navigate to the **Route Plan > Partitions** page.
3. Use the find option to display your current partitions.

You should have (at least) the following Partitions.

- Employee
- PA
- PAManagedEmployee

Note: The other Partitions are used to control the integration of this Cisco CallManager server with a Cisco Unity server. They are not used in this document.

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

CISCO SYSTEMS

Find and List Partitions

[Add a New Partition](#)

5 matching record(s) for Partition Name begins with ""

Find Partitions where Partition Name Find

and show items per page

To list all items, click Find without entering any search text.

Matching record(s) 1 to 5 of 5

| <input type="checkbox"/> | Partition Name | Description |
|--------------------------|------------------------|---|
| <input type="checkbox"/> | Employee | Robert and Lelia's Partition |
| <input type="checkbox"/> | PA | CTI Ports for PA |
| <input type="checkbox"/> | PAManagedEmployee | PAEmployeeDNs |
| <input type="checkbox"/> | VoiceMailPilotDN | Voice Mail Pilot DN 5000 |
| <input type="checkbox"/> | VoiceMailRestrictedDNs | Voice Mail Restricted DN's and MWI DN's |

Delete Selected

First Previous Next Last

Page of 1

Verifying the Calling Search Spaces

Use the procedure below to verify the CSSes.

1. Navigate to the **Route Plan > Calling Search Space (CSS)** page.
2. Use the find option to display your current CSSes.
 - Employee
 - **Partitions:** PA and Employee
 - PA CSS
 - **Partitions:** PAManagedEmployee and Employee

Note: The other CSS is used to control the integration of this Cisco CallManager server with a Cisco Unity server. It is not used in this document.

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

Find and List Calling Search Spaces [Add a New Calling Search Space](#)

3 matching record(s) for CSS Name begins with ""

Find Calling Search Spaces where CSS Name

and show items per page

To list all items, click Find without entering any search text.

Matching record(s) 1 to 3 of 3

| <input type="checkbox"/> | CSS Name | Description | Copy |
|--------------------------|--------------|-------------------------|------|
| <input type="checkbox"/> | Employee | CSS for Employee Phones | |
| <input type="checkbox"/> | PACSS | CSS for PA | |
| <input type="checkbox"/> | VoiceMailCSS | VoiceMailCSS | |

First Previous Next Last Page of 1

The figure below shows the Employee CSS.

Calling Search Space Configuration [Add New Calling Search Space](#)
[Back to Find/List Calling Search Spaces](#)

Calling Search Space: **Employee (in use)**
Status: Ready

Calling Search Space Information

Calling Search Space Name*

Description

Route Partitions for this Calling Search Space

Find Partitions containing

Available Partitions

- PAManagedEmployee
- VoiceMailRestrictedDNs

Selected Partitions* (ordered by highest priority)

- PA
- VoiceMailPilotDN
- Employee

* indicates required item

The figure below shows the PA CSS.

Calling Search Space Configuration

Calling Search Space: PACSS (in use)
Status: Ready

Copy Update Delete Restart Devices

Calling Search Space Information

Calling Search Space Name* PACSS
Description CSS for PA

Route Partitions for this Calling Search Space

Find Partitions containing [] Find

Available Partitions
PA
VoiceMailRestrictedDNs

Selected Partitions* (ordered by highest priority)
PAManagedEmployee
Employee
VoiceMailPilotDN

* indicates required item

PA CTI Route Points

PA uses three Cisco CallManager Computer Telephony Interface (CTI) Route Points to manage connectivity between PA and Cisco CallManager. The three Route Points are:

1. [PA Server Auto Attendant \(AA\) CTI Route Point](#)
2. [PA Interceptor Port CTI Route Point](#)
3. [PA Server CTI Route Point](#)

The purpose of each CTI Route Point is explained below. The method for verifying the configuration of each CTI Route Point is also provided.

Understanding the PA Server Auto Attendant CTI Route Point

PA uses a CTI Route Point as the main number that users dial to access PA Auto Attendant (AA). This Route Point uses an explicit DN rather than a pattern. In this case the DN is 6005.

Verifying the Configuration of the PA Auto Attendant CTI Route Point on the Cisco CallManager Server

Use the following procedure to verify the configuration of the PA Auto Attendant CTI Route Point on the Cisco CallManager server.

1. Navigate to the **Device > CTI Route Point** page.
2. Use the find option to display your current CTI Route Points.

- Click on the Route Point that you are using as the PA Route Point to access the PA Auto Attendant.

In this case it is PA-AA6005.

Find and List CTI Route Points [Add a New CTI Route Point](#)

3 matching record(s) for Device Name begins with ""

Find CTI Route Points where begins with

and show items per page

To list all items, click Find without entering any search text, or use "Device Name is not empty" as the search criteria.

Matching record(s) 1 to 3 of 3
Real-time Information Service returned information for 3 of 3 devices listed below.

| <input type="checkbox"/> | Device Name | Description | Device Pool | Status | IP Address | Copy |
|--------------------------|-------------|-------------|-------------|------------|------------|------|
| <input type="checkbox"/> | PA-AA6005 | PA-AA6005 | Default | 10.21.7.75 | 10.21.7.75 | |
| <input type="checkbox"/> | PA-IP605X | PA-IP605X | Default | 10.21.7.75 | 10.21.7.75 | |
| <input type="checkbox"/> | PA-RP6000 | PA-RP6000 | Default | 10.21.7.75 | 10.21.7.75 | |

First Previous Next Last Page of 1

The following screen shot shows the PA Auto Attendant CTI Route Point.

CTI Route Point Configuration [Add a New CTI Route Point](#) [Back to Find/List CTI Route Points](#)

Directory Numbers

- Line 1 - 6005 in Employee
- Line 2 - Add DN

Device: PA-AA6005 (PA-AA6005)
Registration: Registered with Cisco CallManager 10.21.7.75
IP Address: 10.21.7.75
Status: Ready

CTI Route Point Configuration

Device Information

Device Name*

Description

Device Pool* [\(view details\)](#)

Calling Search Space

Location

* indicates a required item.

The following screen shot shows the PA Auto Attendant CTI Route Point DN.

Directory Number Configuration [Configure Device \(PA-AA6005\)](#)

Devices using this Directory Number

PA-AA6005 (Line 1)

Directory Number: **6005 (Employee)**
Status: Ready

Update Delete Reset Devices

Directory Number

Directory Number* 6005

Partition Employee

Directory Number Settings

Voice Mail Profile <None >

Calling Search Space PACSS

AAR Group <None >

Call Waiting Not available on this device.

Auto Answer Not available on this device.

Call Forward and Pickup Settings

| | Voice Mail | Destination | Calling Search Space |
|--------------------|--------------------------|-------------|----------------------|
| Forward All | <input type="checkbox"/> | | <None > |
| Forward Busy | <input type="checkbox"/> | | <None > |
| Forward No Answer | <input type="checkbox"/> | | <None > |
| Forward On Failure | <input type="checkbox"/> | | <None > |
| Call Pickup Group | | | <None > |

Verifying the Configuration of the PA Auto Attendant CTI Route Point on the PA Server

Use the following procedure to verify the configuration of the PA Auto Attendant CTI Route Point on the PA server.

1. On the PA Server navigate to the **Server > Server Configuration** page.
2. Click on the PA server that you are configuring. In this case, it is **PA Server**.

The DN in the Auto Attendant Route Address field must match the DN on the PA Auto Attendant CTI Route Point. In this case, it is 6005.

Server Configuration

PA Server

Specify the values for the attributes for this server and click Save. Entries marked with an asterisk (*) are mandatory.

| | |
|--------------------------------------|--------------------------------------|
| Server Name * | PA Server |
| Hostname or IP Address * | 10.21.7.71 |
| Media Termination UDP Beginning Port | <input type="text" value="32000"/> |
| Route Address Provider | <input type="text" value="PAJTAPI"/> |
| Route Address | <input type="text" value="6000"/> |
| AA Route Address | <input type="text" value="6005"/> |
| Media Port Provider | <input type="text" value="PASCCP"/> |
| Media Port Beginning Address | <input type="text" value="6001"/> |
| Number of Media Ports | <input type="text" value="4"/> |
| Interceptor Port Provider | <input type="text" value="PAJTAPI"/> |

Interceptor Ports (E.g., 2007 or 2XXX or 3.2XXX)

Understanding the PA Interceptor Port CTI Route Point

PA uses a Cisco CallManager CTI Route Point to intercept calls to a PA enabled DN on an IP phone. This is called a PA Interceptor Port. All calls to a PA enabled DN must be handled by this Interceptor Port rather than routed directly to the destination DN in order for the special PA features the called party might have enabled for this DN to take effect.

If the called party DN doesn't have a special PA call handling feature configured, the Interceptor Port hands the call off to the called DN. This applies to calls from IP phones that are PA enabled as well as IP phones that are not PA enabled.

The DN that is assigned to the Interceptor Port is a pattern that matches one or more of the DNs assigned to the PA enabled user phones. In this case there are two PA enabled phones - IP Phones A and B. They have DNs 6050 and 6051 respectively. The Interceptor Port uses the pattern 605X to match these two DNs as well as DNs 6052 through 6059 if they are used.

In order for this to work properly all IP phones must use a CSS that does not contain the partition that the PA enabled DNs are in. In this case, it is PAManagedEmployees. Instead, all IP phones must use a CSS that has the partition which contains only the PA Interceptor Port. See the PA CSS above. This is why it is critical to implement the PA Route Plan that is explained in the previous section.

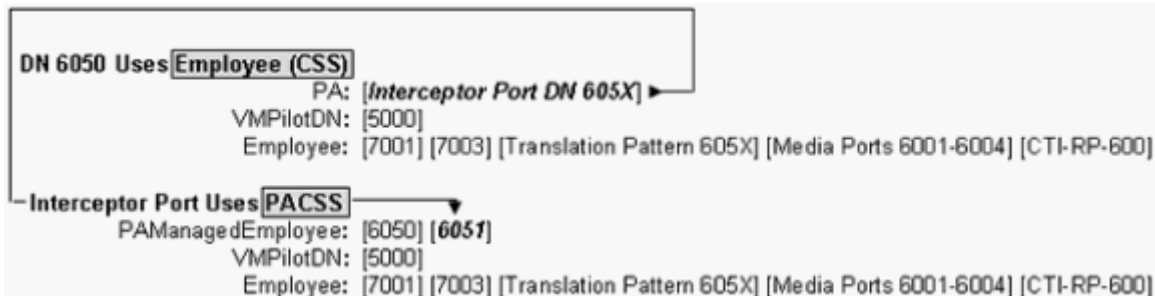
The image below illustrates how calls are handled with the PA Route Plan that is explained in the

previous section.

Note: In the image below, the following names are partitions PA, VMPilotDN, Employee, and PAManagedEmployee.

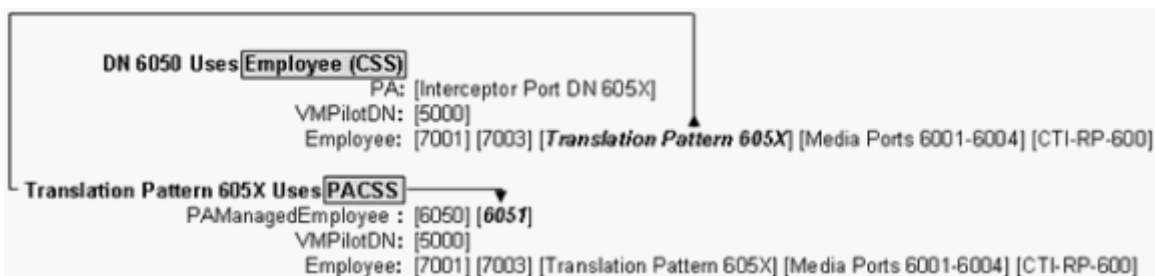
DN 6050 Calls DN 6051 (PA Server Active)

Dialed DN (6051) matches the PA CTI Route Point Interceptor Port DN pattern of 605X. Call control is handed off to the Interceptor Port. In this example the owner of DN 6051 has not configured any special call handling in PA so the call goes through to 6051.



DN 6050 Calls DN 6051 (PA Server Inactive)

The PA CTI Route Point Interceptor Port is inactive because the PA server is down. Therefore, its DN pattern will not be a match for 6051. Dialed DN (6051) matches the Translation Pattern of 605X in the Employee partition. Call control is handed off to the Translation Pattern. The Translation Pattern does not have any digit manipulation configured so the dialed DN is still 6051. In this example, the owner of DN 6051 has not configured any special call handling in PA so the call goes through to 6051.



Verifying the Configuration of the PA Interceptor Port CTI Route Point on the Cisco CallManager Server

Use the following procedure to verify the configuration of the PA Interceptor Port CTI Route Point on the Cisco CallManager server.

1. Navigate to the **Device > CTI Route Point** page.
2. Use the find option to display your current CTI Route Points.
3. Click on the Route Point that you are using as the PA Interceptor Port. In this case, it is **PA-IP605X**.

Find and List CTI Route Points [Add a New CTI Route Point](#)

3 matching record(s) for Device Name begins with ""

Find CTI Route Points where begins with

and show items per page

To list all items, click Find without entering any search text, or use "Device Name is not empty" as the search criteria.

Matching record(s) 1 to 3 of 3
Real-time Information Service returned information for 3 of 3 devices listed below.

| <input type="checkbox"/> | Device Name | Description | Device Pool | Status | IP Address | Copy |
|--------------------------|-------------|-------------|-------------|------------|------------|------|
| <input type="checkbox"/> | PA-AA6005 | PA-AA6005 | Default | 10.21.7.75 | 10.21.7.75 | |
| <input type="checkbox"/> | PA-IP605X | PA-IP605X | Default | 10.21.7.75 | 10.21.7.75 | |
| <input type="checkbox"/> | PA-RP6000 | PA-RP6000 | Default | 10.21.7.75 | 10.21.7.75 | |

First Previous Next Last Page of 1

The following image shows the PA Interceptor Port CTI Route Point .

CTI Route Point Configuration [Add a New CTI Route Point](#) [Back to Find/List CTI Route Points](#)

Directory Numbers

- Line 1 - 605X in PA
- Line 2 - Add DN

Device: PA-IP605X (PA-IP605X)
Registration: Registered with Cisco CallManager 10.21.7.75
IP Address: 10.21.7.75
Status: Ready

CTI Route Point Configuration

Device Information

Device Name*

Description

Device Pool* [\(View details\)](#)

Calling Search Space

Location

* indicates a required item.

The following image shows the PA Interceptor Port CTI Route Point DN.

Directory Number Configuration

[Configure Device \(PA-IP605X\)](#)

Devices using this Directory Number

PA-IP605Line (X 1)

Directory Number: 605X (PA)
 Status: Ready

Update Delete Reset Devices

Directory Number

Directory Number*

Partition

Directory Number Settings

Voice Mail Profile

Calling Search Space

AAR Group

Call Waiting Not available on this device.

Auto Answer Not available on this device.

Call Forward and Pickup Settings

| | Voice Mail | Destination | Calling Search Space |
|--------------------|---|----------------------|---|
| Forward All | <input type="checkbox"/> | <input type="text"/> | <input type="text" value="< None >"/> |
| Forward Busy | <input type="checkbox"/> | <input type="text"/> | <input type="text" value="< None >"/> |
| Forward No Answer | <input type="checkbox"/> | <input type="text"/> | <input type="text" value="< None >"/> |
| Forward On Failure | <input type="checkbox"/> | <input type="text"/> | <input type="text" value="< None >"/> |
| Call Pickup Group | <input type="text" value="< None >"/> | | |

Verifying the Configuration of the PA Interceptor Port CTI Route Point on the PA Server

Use the following procedure to verify the configuration of the PA Interceptor Port CTI Route Point on the PA server.

1. On the PA Server navigate to the **Server > Server Configuration** page.
2. Click on the PA server that you are configuring. In this case, it is **PA Server**.

The pattern in the Interceptor Ports field must match the pattern on the PA Interceptor Port CTI Route Point. In this case, it is 605X.

Server Configuration

PA Server

Specify the values for the attributes for this server and click Save. Entries marked with an asterisk (*) are mandatory.

| | |
|--------------------------------------|--------------------------------------|
| Server Name * | PA Server |
| Hostname or IP Address * | 10.21.7.71 |
| Media Termination UDP Beginning Port | <input type="text" value="32000"/> |
| Route Address Provider | <input type="text" value="PAJTAPI"/> |
| Route Address | <input type="text" value="6000"/> |
| AA Route Address | <input type="text" value="6005"/> |
| Media Port Provider | <input type="text" value="PASCCP"/> |
| Media Port Beginning Address | <input type="text" value="6001"/> |
| Number of Media Ports | <input type="text" value="4"/> |
| Interceptor Port Provider | <input type="text" value="PAJTAPI"/> |

Interceptor Ports (E.g., 2007 or 2XXX or 3.2XXX)

Understanding the PA Server CTI Route Point

PA uses a CTI Route Point as the main number that users dial to access PA services. This Route Point uses an explicit DN rather than a pattern. In this case the DN is 6000.

Verifying the Configuration of the PA Server CTI Route Point on the Cisco CallManager Server

Use the following procedure to verify the configuration of the PA server CTI Route Point on the Cisco CallManager server.

1. Navigate to the **Device > CTI Route Point** page.
2. Use the find option to display your current CTI Route Points.
3. Click on the Route Point that you are using as the PA Route Point to access the PA services.

In this case, it is **PA-RP6000**.

Find and List CTI Route Points [Add a New CTI Route Point](#)

3 matching record(s) for Device Name begins with ""

Find CTI Route Points where begins with

and show items per page

To list all items, click Find without entering any search text, or use "Device Name is not empty" as the search criteria.

Matching record(s) 1 to 3 of 3
Real-time Information Service returned information for 3 of 3 devices listed below.

| <input type="checkbox"/> | Device Name | Description | Device Pool | Status | IP Address | Copy |
|--------------------------|-------------|-------------|-------------|------------|------------|------|
| <input type="checkbox"/> | PA-AA6005 | PA-AA6005 | Default | 10.21.7.75 | 10.21.7.75 | |
| <input type="checkbox"/> | PA-IP605X | PA-IP605X | Default | 10.21.7.75 | 10.21.7.75 | |
| <input type="checkbox"/> | PA-RP6000 | PA-RP6000 | Default | 10.21.7.75 | 10.21.7.75 | |

First Previous Next Last Page of 1

The following image shows the PA Server CTI Route Point.

CTI Route Point Configuration [Add a New CTI Route Point](#) [Back to Find/List CTI Route Points](#)

Directory Numbers

- Line 1 - 6000 in Employee
- Line 2 - Add DN

Device: PA-RP6000 (PA-RP6000)
Registration: Registered with Cisco CallManager 10.21.7.75
IP Address: 10.21.7.75
Status: Ready

CTI Route Point Configuration

Device Information

Device Name*

Description

Device Pool* [\(View details\)](#)

Calling Search Space

Location

* indicates a required item.

The following image shows the PA Server CTI Route Point DN.

Directory Number Configuration Configure Device (PA-RP6000)

Devices using this Directory Number

PA-RP6000 (Line 1)

Directory Number: 6000 (Employee)
Status: Ready

Directory Number

Directory Number*

Partition

Directory Number Settings

Voice Mail Profile

Calling Search Space

AAR Group

Call Waiting Not available on this device.

Auto Answer Not available on this device.

Call Forward and Pickup Settings

| | Voice Mail | Destination | Calling Search Space |
|--------------------|---|----------------------|---|
| Forward All | <input type="checkbox"/> | <input type="text"/> | <input type="text" value="< None >"/> |
| Forward Busy | <input type="checkbox"/> | <input type="text"/> | <input type="text" value="PACSS"/> |
| Forward No Answer | <input type="checkbox"/> | <input type="text"/> | <input type="text" value="PACSS"/> |
| Forward On Failure | <input type="checkbox"/> | <input type="text"/> | <input type="text" value="< None >"/> |
| Call Pickup Group | <input type="text" value="< None >"/> | | |

Verifying the Configuration of the PA Server CTI Route Point on the PA Server

Use the following procedure to verify the configuration of the PA server CTI Route Point on the PA server.

1. On the PA Server navigate to the **Server > Server Configuration** page.
2. Click on the PA server that you are configuring. In this case, it is **PA Server**.

The DN in the Route Address field must match the pattern on the PA Server CTI Route Point. In this case, it is 6000.

Server Configuration

PA Server

New Save Delete

Specify the values for the attributes for this server and click Save. Entries marked with an asterisk (*) are mandatory.

| | |
|--------------------------------------|------------|
| Server Name * | PA Server |
| Hostname or IP Address * | 10.21.7.71 |
| Media Termination UDP Beginning Port | 32000 |
| Route Address Provider | PAJTAPI |
| Route Address | 6000 |
| AA Route Address | 6005 |
| Media Port Provider | PASCCP |
| Media Port Beginning Address | 6001 |
| Number of Media Ports | 4 |
| Interceptor Port Provider | PAJTAPI |

Interceptor Ports (E.g., 2007 or 2XXX or 3.2XXX)

| | | |
|----------------------|--------|------|
| <input type="text"/> | Add | 605X |
| <input type="text"/> | Remove | |

PA Translation Pattern

Understanding the PA Translation Pattern

PA uses a Translation Pattern as a fall back for call routing to PA enabled phones when the PA server is down. The Translation Pattern must have the same pattern as the Interceptor Port. This document uses 605X.

Refer back to the [PA Interceptor Port diagram](#) for an example of how this works.

Verifying the Configuration of the PA Translation Pattern

Use the following procedure to verify the configuration of the PA Translation Pattern.

1. Navigate to the **Route Plan > Translation Pattern** page.
2. Use the find option to display your current Translation Patterns

Find and List Translation Patterns [Add a New Translation Pattern](#)





2 matching record(s) for Pattern begins with ""

Find Translation patterns where begins with

and show items per page

To list all items, click Find without entering any search text.

Matching record(s) 1 to 2 of 2

| <input type="checkbox"/> | Translation Pattern | Partition | Description | Route Filter | Copy |
|--------------------------|---|-----------|-----------------|--------------|---|
| <input type="checkbox"/> |  52222 | Employee | Corporate VMail | |  |
| <input type="checkbox"/> |  605X | Employee | 605X TP | |  |

First Previous Next Last Page of 1

The following image shows the Translation Pattern DN.

Translation Pattern Configuration [Add a New Translation Pattern](#) [Back to Find/List Translation Patterns](#)

Translation Pattern: 605X
Status: Ready

Pattern Definition

Translation Pattern:

Partition:

Description:

Numbering Plan*:

Route Filter:

Calling Search Space:

Route Option: Route this pattern Block this pattern

Provide Outside Dial Tone Urgent Priority

Calling Party Transformations

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask:

Prefix Digits (Outgoing Calls):

Calling Party Presentation:

Called Party Transformations

Discard Digits:

Called Party Transform Mask:

Prefix Digits (Outgoing Calls):

* indicates required item.

PA Media Ports

Understanding the PA Media Ports

The concept of Media Ports was introduced in the [Background Theory](#) section above. You create media

ports by adding fake 7960 phones with special MAC addresses. The Media Ports are Skinny devices. This is why they can be created using fake 7960 phones.

The MAC address that you use must have a prefix of eight "9s" followed by the DNs that you will be assigning to the media ports. The DNs must be sequential. In this example the DNs are 6001-6004. Therefore, the MAC addresses are:

- 999999996001
- 999999996002
- 999999996003
- 999999996004









Verifying the Configuration of the PA Media Ports on the Cisco CallManager Server

Use the following procedure to verify the configuration of the PA Media Ports in the Cisco CallManager server.

1. Navigate to the **Device > Phone** page.
2. Use the find option to display your current phones.

You must create the Media Port phones as well as two real IP phones to test PA.

Note: Only the Media Port entries are shown below.

| | | | | | | | |
|--------------------------|---|----------------|---------------------|---------|------------|------------|---|
| <input type="checkbox"/> |  | SEP99999996001 | PA Media Port One | Default | 10.21.7.75 | 10.21.7.71 |  |
| <input type="checkbox"/> |  | SEP99999996002 | PA Media Port Two | Default | 10.21.7.75 | 10.21.7.71 |  |
| <input type="checkbox"/> |  | SEP99999996003 | PA Media Port Three | Default | 10.21.7.75 | 10.21.7.71 |  |
| <input type="checkbox"/> |  | SEP99999996004 | PA Media Port Four | Default | 10.21.7.75 | 10.21.7.71 |  |

The two images below are from the first Media Port as shown in the image above.

The image below shows phone SEP99999996001 (PA Media Port One).

Phone Configuration

[Add a new phone](#)
[Add/Update Speed Dials](#)
[Subscribe/Unsubscribe Services](#)
[Back to Find/List Phones](#)

| | |
|---|---|
| Directory Numbers Base Phone <div style="font-size: small; margin-top: 5px;"> ■ 7962 Line 1 - 6001 in Employee ■ 7963 ■ 7962 Line 2 - Add new DN ■ 7963 </div> | Phone: SEP99999996001 (PA Media Port One) Registration: Registered with Cisco CallManager 10.21.7.75 IP Address: 10.21.7.71 Status: Ready <div style="margin-top: 5px;"> <input type="button" value="Copy"/> <input type="button" value="Update"/> <input type="button" value="Delete"/> <input type="button" value="Reset Phone"/> </div> |
| Phone Configuration (Model = Cisco 7960) | |
| Device Information | |
| MAC Address* | <input type="text" value="999999996001"/> |
| Description | <input type="text" value="PA Media Port One"/> |
| Device Pool* | <input type="text" value="Default"/> <input type="button" value="(view details)"/> |
| Calling Search Space | <input type="text" value="PACSS"/> |

The image below shows phone SEP999999996001 (PA Media Port One) DN.

Directory Number Configuration [Configure Device \(SEP999999996001\)](#)

Devices using this Directory Number

SEP999999996001 (Line 1)

Directory Number: 6001 (Employee)
Status: Ready

Update Delete Reset Devices

Directory Number

Directory Number* 6001

Partition Employee

Directory Number Settings

Voice Mail Profile < None >

Calling Search Space PACSS

AAR Group < None >

User Hold Audio Source < None >

Network Hold Audio Source < None >

Call Waiting Off

Auto Answer Auto Answer Off

Call Forward and Pickup Settings

| | Voice Mail | Destination | Calling Search Space |
|-------------------|--------------------------|-------------|----------------------|
| Forward All | <input type="checkbox"/> | | < None > |
| Forward Busy | <input type="checkbox"/> | | < None > |
| Forward No Answer | <input type="checkbox"/> | | < None > |
| Call Pickup Group | | | < None > |

Verifying the Media Port Configuration on the PA Server

There are two pages on the PA server that you need to view to verify the configuration of the media ports. The first is the **System** > [Telephony](#) page. The second is the **Server** > [Server Configuration](#) page.

Telephony Page

Use the following procedure to verify the configuration on the Telephone page.

1. On the PA Server navigate to the **Server** > **Telephony** page.
2. Click on the name that you gave to the Skinny provider type. In this case, it is **PASCCP**.

The Provider Type is set to Skinny

The Telephony Provider is the Cisco CallManager server. In this case, it is 10.21.7.75.

Note: You do not need to enter a username or password for the Skinny provider.

Telephony Configuration

PAJTAPI
PASCCP

New Save Delete

Provider Group Name PASCCP

Provider Type Skinny

Telephony Providers

| | | |
|--|--------|------------|
| | Add | 10.21.7.75 |
| | Remove | |

User Name

Password

Server Configuration

Use the following procedure to verify the configuration for the server configuration.

1. On the PA Server navigate to the **Server > Server Configuration** page.
2. Click on the PA server that you are configuring. In this case, it is **PA Server**.

There are three Media Port parameters to verify:

1. **Media Port Provider.** In this case, it is PASCCP (from the [Telephony](#) page)
2. **Media Port Beginning Address:** In this case, it is [6001](#) (from the DN assigned to the first dummy 7960)
3. **Number of Media Ports:** In this case, it is [4](#).

Server Configuration

PA Server

Specify the values for the attributes for this server and click Save. Entries marked with an asterisk (*) are mandatory.

| | |
|--------------------------------------|--------------------------------------|
| Server Name * | PA Server |
| Hostname or IP Address * | 10.21.7.71 |
| Media Termination UDP Beginning Port | <input type="text" value="32000"/> |
| Route Address Provider | <input type="text" value="PAJTAPI"/> |
| Route Address | <input type="text" value="6000"/> |
| AA Route Address | <input type="text" value="6005"/> |
| Media Port Provider | <input type="text" value="PASCCP"/> |
| Media Port Beginning Address | <input type="text" value="6001"/> |
| Number of Media Ports | <input type="text" value="4"/> |
| Interceptor Port Provider | <input type="text" value="PAJTAPI"/> |

Interceptor Ports (E.g., 2007 or 2XXX or 3.2XXX)

605X

PA User Account and the JTAPI Service

Understanding the PA User and JTAPI Service Account on the Cisco CallManager Server

PA uses a Cisco CallManager account to allow its JTAPI service to access the Cisco CallManager server. The JTAPI service logs into the Cisco CallManager server using the name and password that you assign to this user.

Verifying the Configuration of the PA User JTAPI Service Account on the Cisco CallManager Server

Use the following procedure to verify the configuration of the PA user JTAPI service account on the Cisco CallManager server.

1. On the Cisco CallManager server, navigate to the **User > Global Directory** page.
2. Use the search option to display your current users.
3. Click on the user account that you created for JTAPI. In this case, it is **PA User (pauser)**.

User Information

Find and List Users

6 matching record(s)

All Users

[New Basic Search](#)
[New Advanced Search](#)

| Last Name ▽ ▲ | First Name ▽ ▲ | User ID ▽ ▲ | Department ▽ ▲ | Delete |
|------------------|-------------------|----------------|-------------------|--------|
| Admin | CRS | crsadmin | | |
| Jones | George | gjones | | |
| Smith | Peter | psmith | | |
| User | PA | pauser | | |
| Wright | Lelia | lewright | | |
| Wright | Robert | rwright | | |

PAUSER Account

There are two important parameters to configure for the user account. The first is the **Enable CTI Application Use** option. The second is that the PA CTI Route Points must be associated with this user.

Enable CTI Application Use

In the image below you can see that this option is enabled.

System Route Plan Service Feature Device User Application Help

Cisco CallManager Administration
For Cisco IP Telephony Solutions

CISCO SYSTEMS

User Configuration

[Add a New User](#)
[Back to User List](#)

Application Profiles of PA

- Device Association
- Cisco IPMA
- Extension Mobility
- SoftPhone

User : PA User

Status: Ready

First Name

Last Name*

User ID pauser

User Password*

PIN *

Telephone Number

Manager User ID

Department

User Locale

Enable CTI Application Use

Call Park Retrieval Allowed

Associated PC Not Defined

Primary Extension none

ICD Extension Not Defined

Controlled Devices PA-AA6005, PA-IP605X, PA-RP6000

Enable Authentication Proxy Rights False

Controlled Device Profiles none

* indicates required item.

View page in

Page displayed at Thu Aug 21 13:30:00 MDT 2003
Copyright © 2001 Cisco Systems, Inc. All rights reserved

PA CTI Route Points

The CTI Route Points that you created have been associated with this user.

Note: The Primary Extension option should not be selected.

Available Devices

Check All on Page Check All in Search No Primary Extension
 No ICD Extension

| | Type | Device Name | Description | Primary Ext. | Extension | ICD Ext. |
|-------------------------------------|------|-------------|-------------|-----------------------|-----------|-----------------------|
| <input checked="" type="checkbox"/> | | PA-AA6005 | PA-AA6005 | <input type="radio"/> | 6005 | <input type="radio"/> |
| <input checked="" type="checkbox"/> | | PA-IP605X | PA-IP605X | <input type="radio"/> | 605X | <input type="radio"/> |
| <input checked="" type="checkbox"/> | | PA-RP6000 | PA-RP6000 | <input type="radio"/> | 6000 | <input type="radio"/> |

Understanding the PA User and JTAPI Configuration on the PA Server

There are two pages on the PA server that you can view to verify the JTAPI service configuration. The

first page that you need to verify is on the [Telephony Configuration page](#). The second is on the [Server Configuration](#) page.

Verifying the Configuration of the JTAPI Configuration on the PA Server Telephony Configuration Page

Use the following procedure to verify the configuration of the JTAPI configuration on the PA server Telephony Configuration page.

1. On the PA server, navigate to the **System > Telephony** page.
2. Click on the entry that you created for the PA JTAPI service.

In this case the name **PAJTAPI** is used.

There are four JTAPI parameters to verify:

- The Provider Type is set to **Jtapi**
- The Telephony Provider is the Cisco CallManager server. In this case, it is **10.21.7.75**.
- The User Name in this case is **pauser**.
- Set the password to what you entered on the Cisco CallManager server.

The screenshot shows the 'Telephony Configuration' page for a service named 'PAJTAPI'. The page has a yellow background and a sidebar on the left with 'PAJTAPI' and 'PASCCP' icons. At the top right, there are 'New', 'Save', and 'Delete' buttons. The 'Provider Group Name' is 'PAJTAPI'. The 'Provider Type' is set to 'Jtapi' in a dropdown menu. Below this is a section for 'Telephony Providers' with an 'Add' button and a text input field containing '10.21.7.75'. There are also 'Remove' and 'Add' buttons. At the bottom, the 'User Name' is 'Pauser' and the 'Password' field is empty.

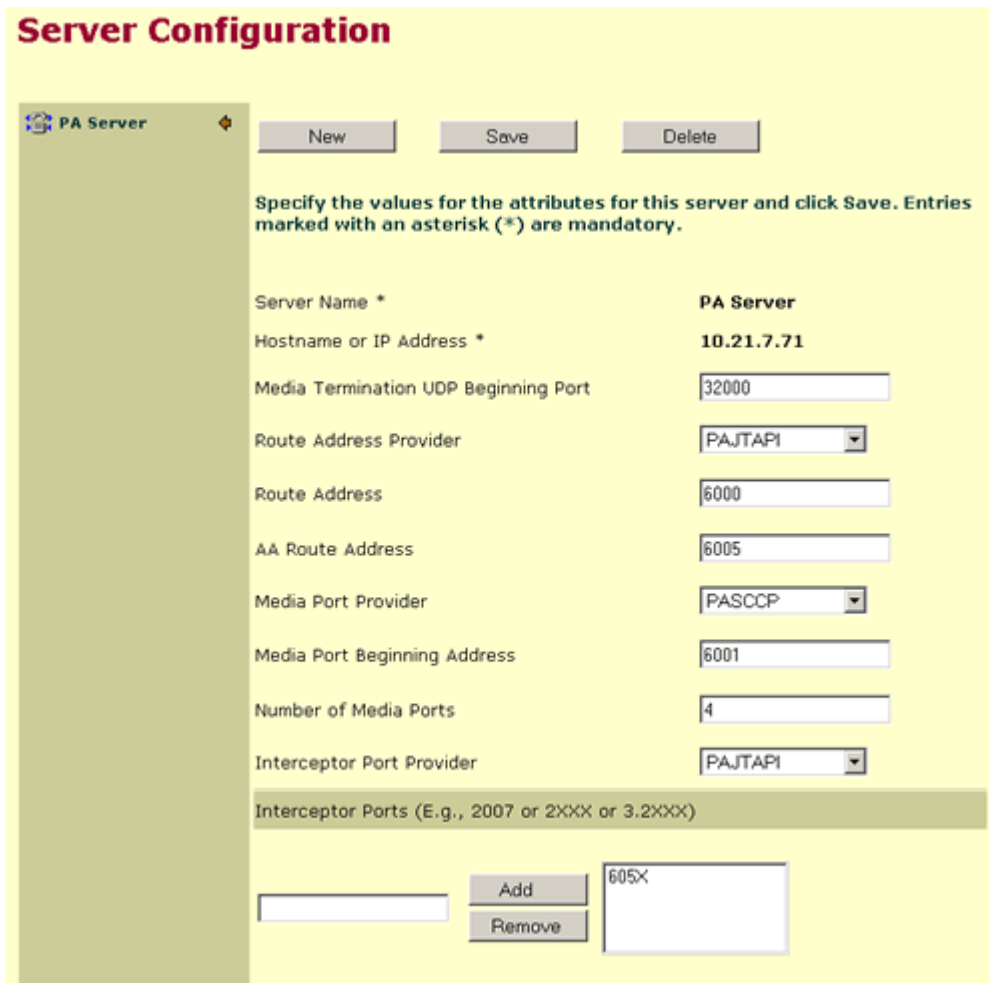
Verifying the Configuration of the JTAPI Configuration on the PA Server Configuration Page

This parameter is used as the Route Address Provider and the Interceptor Port Provider. The name that is used is the name that you gave to the JTAPI service when you configured it on the **PA Server > Telephony** page.

Note: The remaining parameters are covered in the next section called [Verifying the PA Server](#)

Configuration Parameters.

1. On the PA Server navigate to the **Server > Server Configuration** page.
2. Click on the PA server that you are configuring.
3. Verify the two JTAPI service parameters.
 - The Route Address Provider in this case is **PAJTAPI**.
 - The Interceptor Port Provider in this case is **PAJTAPI**.



Server Configuration

PA Server

New Save Delete

Specify the values for the attributes for this server and click Save. Entries marked with an asterisk (*) are mandatory.

| | |
|--------------------------------------|------------|
| Server Name * | PA Server |
| Hostname or IP Address * | 10.21.7.71 |
| Media Termination UDP Beginning Port | 32000 |
| Route Address Provider | PAJTAPI |
| Route Address | 6000 |
| AA Route Address | 6005 |
| Media Port Provider | PASCCP |
| Media Port Beginning Address | 6001 |
| Number of Media Ports | 4 |
| Interceptor Port Provider | PAJTAPI |

Interceptor Ports (E.g., 2007 or 2XXX or 3.2XXX)

Add Remove

605X

Verifying the PA Server Configuration Parameters

This section summarizes the parameters on the PA Server configuration pages.

There are five pages on the PA server that contain configuration parameters that must be configured properly for this PA and CallManager integration to work successfully.

- [System > Speech Services](#)
- [System > Telephony](#)

- [System > Corporate Directory Settings](#)
- [System > Miscellaneous Settings](#)
- [Servers > Server Configuration](#)

System > Speech Services

On the PA Server navigate to the **System > Speech Services** page.

Refresh User Information from Directory

Any time that you add a new user to the Cisco CallManager directory or change the settings of an existing user on the Cisco CallManager server, you should manually refresh the local copy of the user database information.

If you are configuring a new system and have not yet performed a refresh, you must do this to activate the voice service on the PA server. Do this after you have completed all of the other configuration steps for the integration.

The voice service is not shown on the **PA Servers > Server Status** page. You must look at the Services console on the Speech Recognition Server Host (in this document this is the PA server itself). Look at the service named PASPCS_xx_YY and PASPREC_xx_YY where xx = the language and YY = the region. This server uses PASPCS_en_US and PASPREC_en_US for English / United States.

Speech License Configuration

This is where you must enter a valid speech license code. The speech services will not start until you have entered a valid code.

Speech Recognition Server Hosts

This is the server that will perform the voice recognition for your integration. In this case it is the PA server itself: 10.21.7.71.

Speech Recognition License Manager Hosts

This is the server that will manage the licenses for your integration. In this case it is the PA server itself: 10.21.7.71.

Locale Information

This is where the languages that you selected during the installation process will appear. In this case American English and British English were installed. Only American English has been configured.

Speech Recognition Parameters

In this configuration these parameters have been left at their defaults. If you want to change the defaults refer to the **PA Help For This Screen** option for the main PA menu.

Speech Services Configuration

Refresh User Information from Directory

Refresh Now Last Refresh Details

Daily Automatic Refresh

Refresh Schedule 02 : 00

Refresh Notification

Send Refresh Status

Administrator E-mail Address

Speech Licenses

License Key OSOR-PJHI-GPUM-VMRT

Number of Licenses 2 Speech Ports (Multiple Locales)

Speech Recognition Server Hosts

Add Remove 10.21.7.71

Speech Recognition License Manager Hosts

Add Remove 10.21.7.71

Locales

Available Locales Supported Locales

British English >> American English

<<

Default Locale American English

Speech Recognition Parameters

Maximum Number for Disambiguation 3

Allow Barge-in

Rejection Confidence Level 45

Reconfirm Confidence Level 60

Max Error Count per Dialog 3

Max Error Count per Call 8

Max Help Count per Dialog 2

Max Help Count per Call 5

Save Configuration

Save

System > Telephony

This page is where you configure the JTAPI and Skinny Client Control Protocol (SCCP) settings for the PA server so that it can interact with the Cisco CallManager server.

The parameters on this page are explained in the sections above titled:

- [Verifying the Media Port Configuration on the PA Server](#)
- [Verifying the Configuration of the JTAPI Configuration on the PA Server Telephony Configuration Page](#)

System > Corporate Directory Settings

Most of these settings have been left at the default values. If you want to change the defaults refer to the **PA Help For This Screen** option for the main PA menu.

On the PA Server navigate to the **System > Corporate Directory Settings** page.

- **Unique User Attribute Name** - cn (default)
- **Directory Server URL** - ldap://10.21.7.75:8404 (the IP address is the CallManager server).
- **Directory Admin DN** - cn=Directory Manager, o=cisco.com (default)
- **Directory Admin Password / Reconfirm Password** - This is the password that you assigned for the Directory Admin account for DC Directory on the CallManager server.
- **Directory Search Base DN for Users** - ou=Users, o=cisco.com (default)
- **Directory Search Filter** - (objectclass=person) (default)

Test Filter

You should test the filter before you leave this configuration page. You should see a result that displays the users in your DC directory.



Caution: Do not forget to save your changes before you move onto a new page.

Corporate Directory Settings

| | |
|------------------------------------|--|
| Unique User Attribute Name | <input type="text" value="cn"/> |
| Directory Server URL | <input type="text" value="ldap://10.21.7.75:8404"/> |
| Directory Admin DN | <input type="text" value="cn=Directory Manager, o=cisco.com"/> |
| Directory Admin Password | <input type="password" value="*****"/> |
| Directory Search Base DN for Users | <input type="text" value="ou=Users, o=cisco.com"/> |
| Directory Search Filter | <input type="text" value="(objectclass=person)"/> |

LDIF Configuration

| | |
|-------------------------------|--------------------------|
| Use LDIF File | <input type="checkbox"/> |
| LDIF File Location (UNC Path) | <input type="text"/> |

Use Paging for Corporate Directory LDAP Queries

| | |
|----------------------------|--------------------------|
| Limit Page Size | <input type="checkbox"/> |
| Number of Results per Page | <input type="text"/> |

Save Configuration

System > Miscellaneous Settings

This is the PA configuration page that is used for several PA configuration parameters that do not fall under any of the other categories.

The only parameter on this screen that is not set to the default is the Operator Extension. This document uses DN 5000.

On the PA Server navigate to the **System > Miscellaneous Settings** page.

If you want to change the defaults refer to the **PA Help For This Screen** option for the main PA menu.

Miscellaneous Settings

| Security Settings | |
|--|--------------------------------------|
| Allow Only Cisco CallManager Users | <input type="checkbox"/> |
| Disallow Calls from Unknown Phones | <input type="checkbox"/> |
| Enforce Authentication by PIN from Personal Destinations | <input type="checkbox"/> |
| Apply Rules Only to Calls to Corporate Destinations | <input type="checkbox"/> |
| For Authentication by Phone | |
| Use Cisco CallManager PIN | <input checked="" type="radio"/> |
| Use Cisco Unity Subscriber Phone Password | <input type="radio"/> |
| Call-Screening | |
| Record and Play Name of Unknown Caller | Only When Caller ID is Not Available |
| Direct Transfer to Voice Mail | |
| Allow Direct Transfer To Voice Mail | <input type="checkbox"/> |
| Caller Input Timeout (seconds) | 0 |
| JTAPI Application Interoperability | |
| Apply Rules for Calls through Personal Assistant Route Point | <input checked="" type="checkbox"/> |
| Miscellaneous | |
| Operator Extension | 5000 |
| Call Pickup Timeout (seconds) | 10 |
| Peer Keep-Alive Interval (seconds) | 20 |
| Peer TCP Port | 16001 |
| Cisco Works 2000 Hostname (e.g: logserver.cisco.com) | |
| Write to Syslog | <input type="checkbox"/> |
| Number of Buffered Trace Lines | 4 |
| Save Configuration | |
| <input type="button" value="Save"/> | |

Servers > Server Configuration

This is the PA configuration page that you configure many of the PA component parameters on.

On the PA Server navigate to the **Servers > Server Configuration** page and click on the PA server that you are verifying.

- The **Media Termination UDP Beginning Port** is the start of the range of UDP ports that the PA server uses for telephone calls. The number should be even. PA only uses even port numbers. For example, if you use 32000 as the starting port, PA uses ports 32000, 32002, 32004, and so forth.
- The **Route Address Provider** is the name that you created for the [JTAPI service](#) on this server.
- The **Route Address** is the DN that you assigned to the CTI Route Point for the PA service. In this case, it is [6000](#).
- The **AA Route Address** is the DN that you assigned to the CTI Route Point for the PA AA. In this case, it is [6005](#).
- The **Media Port Provider** is name that you created for the [SCCP](#) entry on the System >

Telephony Configuration page. This was covered in the section above on PA Media Ports Verifying the Media Port Configuration on the PA Server.

- The **Media Port Beginning Address** is the DN that you assigned to the first Media Port (dummy 7960) that you created. In this case, it is [6001](#).
- The **Number of Media Ports** is the number of Media Ports that you created. In this case, it is [4](#).
- The **Interceptor Port Provider** is the entry that you created on the PA Server Telephony Configuration page for the [JTAPI](#) service that logs into the Cisco CallManager server.
- The **Interceptor Ports (for example, 2007, 2XXX, or 3.2XXX)** is the DN pattern that you assigned to the CTI Route Point for the PA Interceptor Port. In this case, it is [605X](#).

Server Configuration

PA Server

New Save Delete

Specify the values for the attributes for this server and click Save. Entries marked with an asterisk (*) are mandatory.

| | |
|--|---------------------------------------|
| Server Name * | PA Server |
| Hostname or IP Address * | 10.21.7.71 |
| Media Termination UDP Beginning Port | 32000 |
| Route Address Provider | PAJTAPI |
| Route Address | 6000 |
| AA Route Address | 6005 |
| Media Port Provider | PASCCP |
| Media Port Beginning Address | 6001 |
| Number of Media Ports | 4 |
| Interceptor Port Provider | PAJTAPI |
| Interceptor Ports (E.g., 2007 or 2XXX or 3.2XXX) | |
| <input type="text"/> | <input type="text" value="605X"/> |
| <input type="button" value="Add"/> | <input type="button" value="Remove"/> |

PA Managed IP Phones and Unmanaged IP Phones

PA managed phones have at least one of their DNs in the partition that you assigned for this purpose. In this case, it is PAManagedEmployee.

All phones use the Employee CSS at the device and DN level.

The following image shows the PA Managed phone.

Phone Configuration

[Add a new phone](#)
[Add/Update Speed Dials](#)
[Subscribe/Unsubscribe Services](#)
[Back to Find/List Phones](#)

Directory Numbers

Base Phone

- Line 1 - 6050 in PAManagedEmployee
- Line 2 - Add new DN

Phone: SEP003094C25D4E (PA Phone 1)
 Registration: Registered with Cisco CallManager 10.21.7.75
 IP Address: **10.21.9.22**
 Status: Ready

Phone Configuration (Model = Cisco 7960)

Device Information

MAC Address*

Description

Device Pool* ([View details](#))

Calling Search Space

The following image shows the PA managed phone (DN).

Directory Number Configuration

[Configure Device \(SEP003094C25D4E\)](#)

Devices using this Directory Number

- SEP003094C25D4E (Line 1)

Directory Number: 6050 (PAManagedEmployee)
 Status: Ready

Directory Number

Directory Number*

Partition

Directory Number Settings

Voice Mail Profile

Calling Search Space

AAR Group

User Hold Audio Source

Network Hold Audio Source

Call Waiting

Auto Answer

The following image shows the phone that doesn't support PA.

Phone Configuration

[Add a new phone](#)
[Add/Update Speed Dials](#)
[Back to Find/List Phones](#)

Directory Numbers

- Line 1 - 7005 in Employee

Phone: SEP00049A1C558A (Lab 7910)
 Registration: Registered with Cisco CallManager 10.21.7.75
 IP Address: **10.21.8.23**
 Status: Ready

Phone Configuration (Model = Cisco 7910)

Device Information

MAC Address*

Description

Device Pool* ([View details](#))

Calling Search Space

Verify

The first step in verifying the results is verifying that the PA Server Status page indicates that all PA

components are operational. The second step is to call the PA service from one PA managed IP phone and ask the service to call another PA managed IP phone.

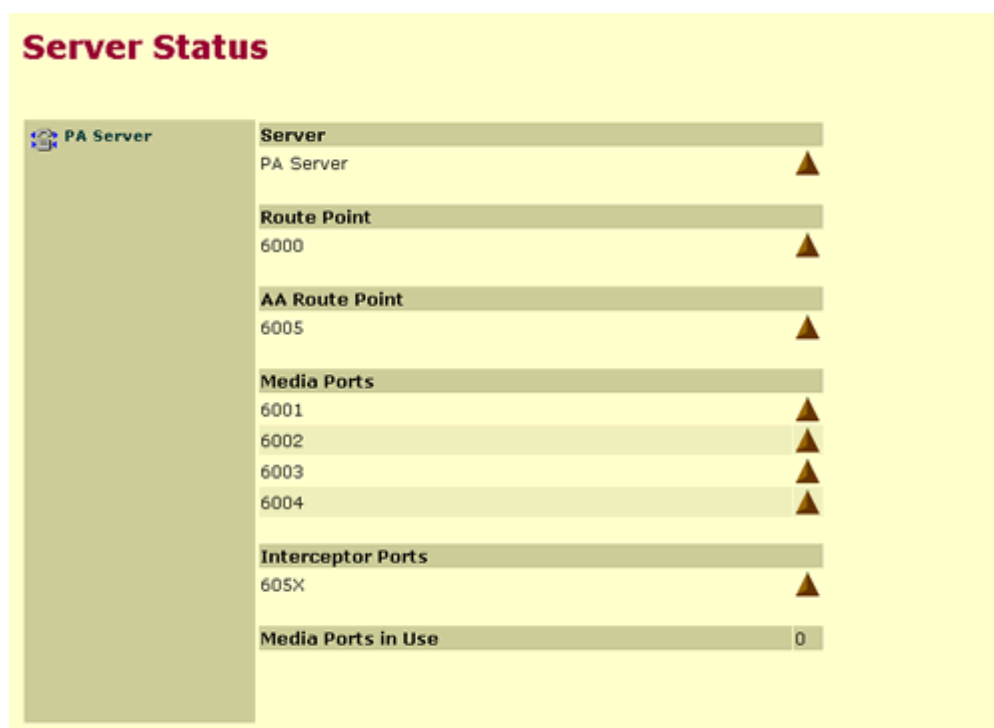
Verifying the Status of the PA Components

On the PA Server navigate to the **Servers > Server Status** page and click on the **PA server**.

All of the components should show the up arrow as shown in the image below.

If the components on your server are active, proceed to the next sub-task [Verify that the Services have Started](#).

If one or more of the components are inactive proceed to the [Troubleshoot](#) section.



Verify that the PA Services have Started

Use the following procedure to verify that the PA services have started.

1. Log onto the server that you are running the PA services on.

Note: In this case all of the PA services are running on the same server. If you have different servers for the PA Speech Recognition and or Licensing you will have to log on to each one of the servers individually.

2. Select **Start > Programs > Administrative Tools > Services**.

The Services console opens.

3. Scroll down to the PA services and verify that all of the services set to automatic have started.

| | | |
|---|---------|-----------|
|  PAServer | Started | Automatic |
|  PASPCS_en_GB | | Manual |
|  PASPCS_en_US | Started | Automatic |
|  PASP.nlm | Started | Automatic |
|  PASPREC_en_GB | | Manual |
|  PASPREC_en_US | Started | Automatic |
|  PASPRM | Started | Automatic |
|  PAWebadmin | Started | Automatic |

If the services on your server are started proceed to the next sub-task [Use PA to initiate a call between PA managed IP phones](#).

If they are not you will need to start them before proceeding. The most common problem for a new installation is that the speech services have not started. This is usually because the PA server has not loaded the user information from the call Manager directory yet. See the **System > Speech Services** section above. If you are having problems with the other services look at the Event Viewer console to see if there are any error messages. If this is a new installation try rebooting the PA server.

Use PA to initiate a call between PA managed IP phones

Dial the PA service DN (in this case 6000) from a PA managed IP phone. When the call is answered say the name of another user in the Cisco CallManager database that is associated with a PA managed IP phone.

If the call goes through your PA service is operational.

Try the same task using the PA AA service DN. In this case 6005. If the call goes through your PA Auto Attendant service is operational.

If you are not able to make the calls refer to the [Troubleshoot](#) section below.

Troubleshoot

Note: Additional troubleshooting information for PA is available in [Troubleshooting Personal Assistant](#).

PA Components Will Not Start

Use the following procedure to troubleshoot if the PA components will not start.

1. The servers must have IP connectivity. Verify that the PA server and the Cisco CallManager server have full IP connectivity by using PING or Trace Route. Look for any fire walls that might be blocking traffic.
2. Make certain that the Cisco CallManager services are active on the Cisco CallManager server.
3. Verify the configuration of each of the components on the PA Server Status page that are not starting. The parameters on the PA server must match the parameters on the Cisco CallManager server.

4. Make sure that you installed the JTAPI plug-in on the PA server from the CallManager server. This must be from the current version of CallManager running on the server. If you configured PA when the Cisco CallManager server was running version 3.3(2) and you upgraded it to 3.3(3) you must update the JTAPI plug-in on the PA server. Log onto the Cisco CallManager administration page from the PA server and use the Application: install Plugin option.
5. Go to the PA Server System Control Center and stop all of the PA services. Then start them again. Go back to the **PA Servers > Server Status** screen to see if the services started. If they didn't try rebooting the PA server.

Some PA Managed IP Phones Work with PA and Others Do Not

Use the following procedure to troubleshoot when some PA managed IP phones work with PA and others do not.

1. Verify that the IP phones have a DN that is in the PAManagedEmployees partition and using the Employee CSS.
2. Verify that the user of the phone has been associated with the phone.
3. Verify that the user's primary extension in the Device Association configuration is set to the DN that is in the PAManagedEmployees partition.
4. Also Verify that the user's extension on the user's main Cisco CallManager User parameters page is set to the DN that is in the PAManagedEmployees partition.

User Configuration

[Add a New User](#)
[Back to User List](#)


| | |
|--|---|
| Application Profiles of George all Device Association all Cisco IPMA all Extension Mobility all SoftPhone | First Name <input type="text" value="George"/> Last Name* <input type="text" value="Jones"/> User ID <input type="text" value="gjones"/> User Password* <input type="button" value="Change..."/> PIN* <input type="button" value="Change..."/> Telephone Number <input type="text" value="6050"/> Manager User ID <input type="text"/> Department <input type="text"/> User Locale <input type="text" value=" < None >"/> Enable CTI Application Use <input type="checkbox"/> Call Park Retrieval Allowed <input type="checkbox"/> Associated PC <input type="text" value="Not Defined"/> Primary Extension <input type="text" value="6050"/> ICD Extension <input type="text" value="Not Defined"/> Controlled Devices <input type="text" value="SEP003094C25D4E"/> Enable Authentication Proxy Rights <input type="text" value="False"/> Controlled Device Profiles <input type="text" value="none"/> * indicates required item. |
|--|---|

View page in

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5. If this is a new user or you recently made changes to this user's configuration and or their IP phone use the Refresh Now option on the PA server's **System > Speech Services** page.

Related Information

- [Cisco Personal Assistant and Unity Configuration Issues](#)
- [Cisco Personal Assistant Documentation](#)
- [Voice, Telephony and Messaging Technologies](#)
- [Voice, Telephony and Messaging Devices](#)
- [Voice, Telephony and Messaging Software](#)
- [Voice, Telephony and Messaging TAC eLearning Solutions](#)
- Recommended Reading: [Troubleshooting Cisco IP Telephony](#)  Cisco Press, ISBN 1587050757
- [Technical Support - Cisco Systems](#)

| | | | | | | |
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