Personal Assistant Failover Configuration Example

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Introduction

A single Cisco Personal Assistant server can handle a number of simultaneous sessions. You define these sessions when you set the number of media ports.

If you do not use failover servers and a Cisco Personal Assistant server becomes disabled, no other server takes over the media ports of the disabled server.

If you use failover and a Cisco Personal Assistant server becomes disabled, the failover server takes control of the media ports and interceptor ports that are configured on the disabled server. For example, if you configure fifteen media ports on the disabled server, the failover server adds fifteen media ports to its configuration. Therefore, if you use failover servers, you must have twice as many servers for a given number of media ports that are required if you do not use failover servers.

Although the failover server takes on the media and interceptor ports of the disabled server, it cannot take over active calls. Any active calls on the disabled server are dropped. However, if Cisco Personal Assistant completes its role in the call process (for example, it has transferred a call based on call−routing rules), the call remains in progress.

In addition to taking over the disabled server ports, the failover server registers itself with Cisco CallManager as the disabled server computer telephony integration (CTI) route point.

When the disabled server becomes active again, it asks the failover server to return its ports. The failover server returns the ports as they become available and no active calls are dropped. When the reactivated server regains all media ports, it reregisters itself as the CTI route point with Cisco CallManager.

Prerequisites

Requirements

Readers of this document should have knowledge of these topics:

- Cisco Personal Assistant
- Cisco CallManager
- CTI Route Points

Components Used

The information in this document is based on these software and hardware versions:

- Cisco Personal Assistant Release 1.4
- Cisco CallManager version 3.3

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

Background Information

There are two main techniques you can use in order to set up failover servers:

- Use Active Cisco Personal Assistant Servers for Failover
- Use Spare Cisco Personal Assistant Servers for Failover

Use Active Cisco Personal Assistant Servers for Failover

When you use an active Cisco Personal Assistant server as a failover server, the server works as a regular Cisco Personal Assistant server that manages calls with users. The server is not idle.

However, if the primary server becomes disabled, the failover server must be able to handle the media and interceptor ports of the disabled server, as well as its own. Therefore, you must have sufficient capacity on the failover server in order to accommodate the ports defined on the disabled server.

For example, if you use two MCS−7835−1000 Cisco Personal Assistant servers, each server supports a maximum of 36 media ports. If you use the servers as failover servers for each other, you must reduce the media ports on each server to no more than 18. Therefore, if server A goes down, server B takes over the 18 ports of server A. This means that server B temporarily runs with 36 ports (its original 18 ports plus the 18 ports of server A).

If you define more than 18 media ports on server A and server B, the servers are not able to take on the full load of the other server if it becomes disabled. For example, if you define 18 ports on server A and 24 on server B, and server A fails, Cisco Personal Assistant assigns 42 ports to B. If the simultaneous call load exceeds 36, calls are dropped because each server supports a maximum of 36 media ports. Also, the quality of service that your users experience deteriorates.

In general, if you use active Cisco Personal Assistant servers as failovers, you need to divide the ports on each

server in half, and double the number of Cisco Personal Assistant servers in the cluster.

You can assign more than one Cisco Personal Assistant server in order to handle failover for any given server (for example, server A can use server B and server C as failovers). However, only one server is actually used if a server becomes disabled. The ports of the disabled server are not distributed among the designated failover servers.

Use Spare Cisco Personal Assistant Servers for Failover

When you use a spare Cisco Personal Assistant server as a failover server, it sits idle unless an active server becomes disabled.

In order to create a spare server, do not define a CTI route point in Cisco CallManager for that server. When an active server becomes disabled, the spare server registers itself with Cisco CallManager as the CTI route point, in place of the disabled server.

When you add a spare server to a Cisco Personal Assistant server cluster, do not define any media ports or interceptor ports. This prevents the server from being used for anything except failover.

Because a spare failover server does not have any active ports, it can take over for a fully−loaded Cisco Personal Assistant server. For example, if you use MCS−7835−1000 systems for your active and spare servers, you can configure 36 media ports on the active server. If the active server becomes disabled, the spare is able to take over the 36 media ports.

Since servers should become disabled on an infrequent basis, you can have fewer failover servers than you have active servers. For example, you can define two failover servers for six active servers. The ratio you use depends on your network reliability and uptime service level agreements. The key is that a failover server must be able to take over all the media ports you define on an active server.

Configure Cisco Personal Assistant Failover

This section provides you with the information on how to configure the Cisco Personal Assistant failover server.

You can configure the failover server with the use of an active Cisco Personal Assistant Server or a Spare Cisco Personal Assistant Server. This example is for Spare mode. The configuration when you use the active Cisco Personal Assistant as a failover server is the same. The only exception is that you need to configure the failover server in order to also work as a regular Cisco Personal Assistant server that manages calls with users. If the primary server becomes disabled, the failover server must be able to handle the media and interceptor ports of the disabled server, as well as its own. Before you configure a server as an active falilover server, make sure that there is sufficient capacity on the failover server in order to accommodate the ports defined on the disabled server.

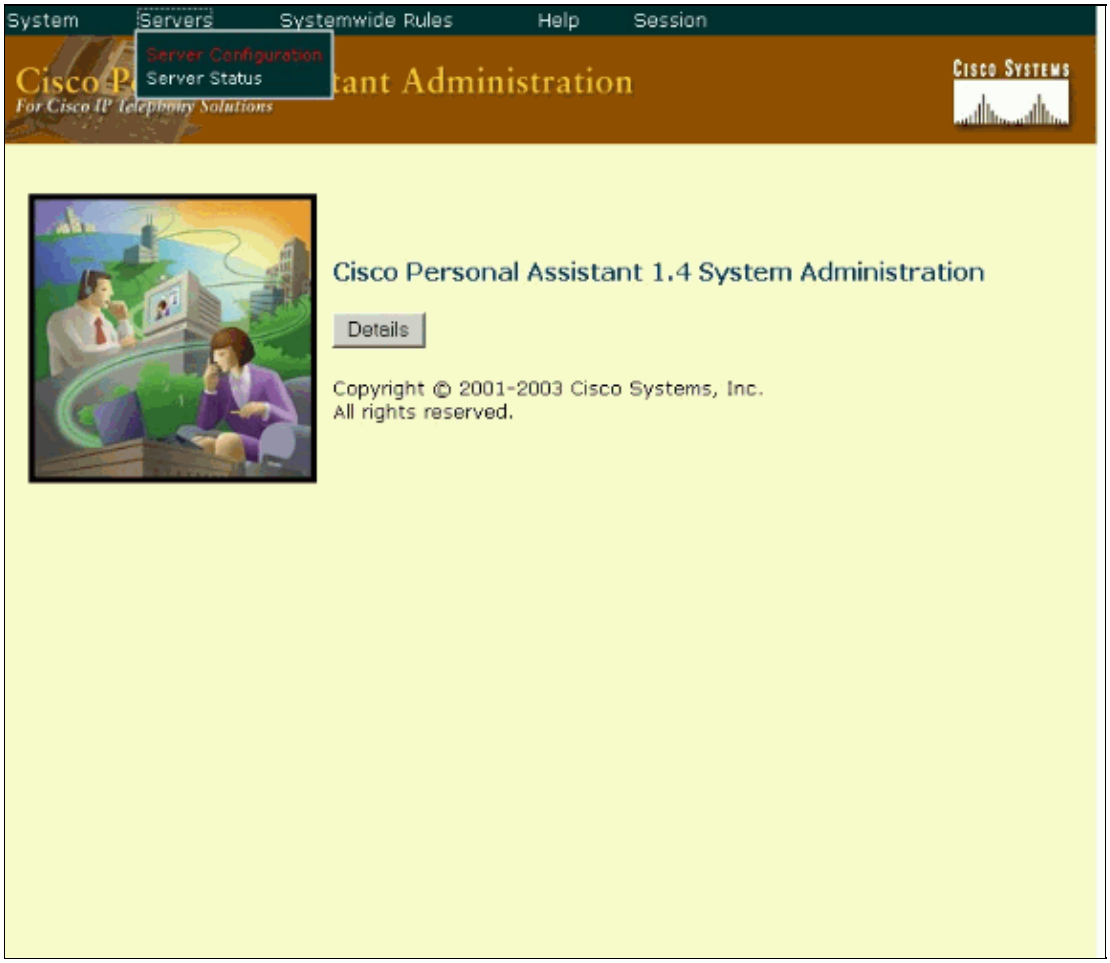
In this example, there are two Cisco Personal Assistant servers out of which one (PA1) is active and the other (PA2) is the spare failover server.

When the active Cisco Personal Assistant server (PA1) becomes disabled, the failover server (PA2) registers itself with Cisco CallManager as the CTI route point in place of the disabled server. It also takes control of the media ports and interceptor ports that are configured on the disabled server (PA1).

Step−by−Step Instructions

Perform these steps in order to configure Cisco Personal Assistant failover:

1. Enter the **http://<Your Cisco Personal Assistant's name or IP address>/PAsystemadmin/** URL in the browser in order to connect to the Cisco Personal Assistant Administration tool on your Cisco Personal Assistant Server.
2. Select **Servers** > **Server Configuration**.



3. Use the Server Configuration page in order to add Cisco Personal Assistant servers to the Cisco Personal Assistant server cluster and to configure them.

   Refer to Configure Personal Assistant Servers for information on how to add the servers to the cluster.

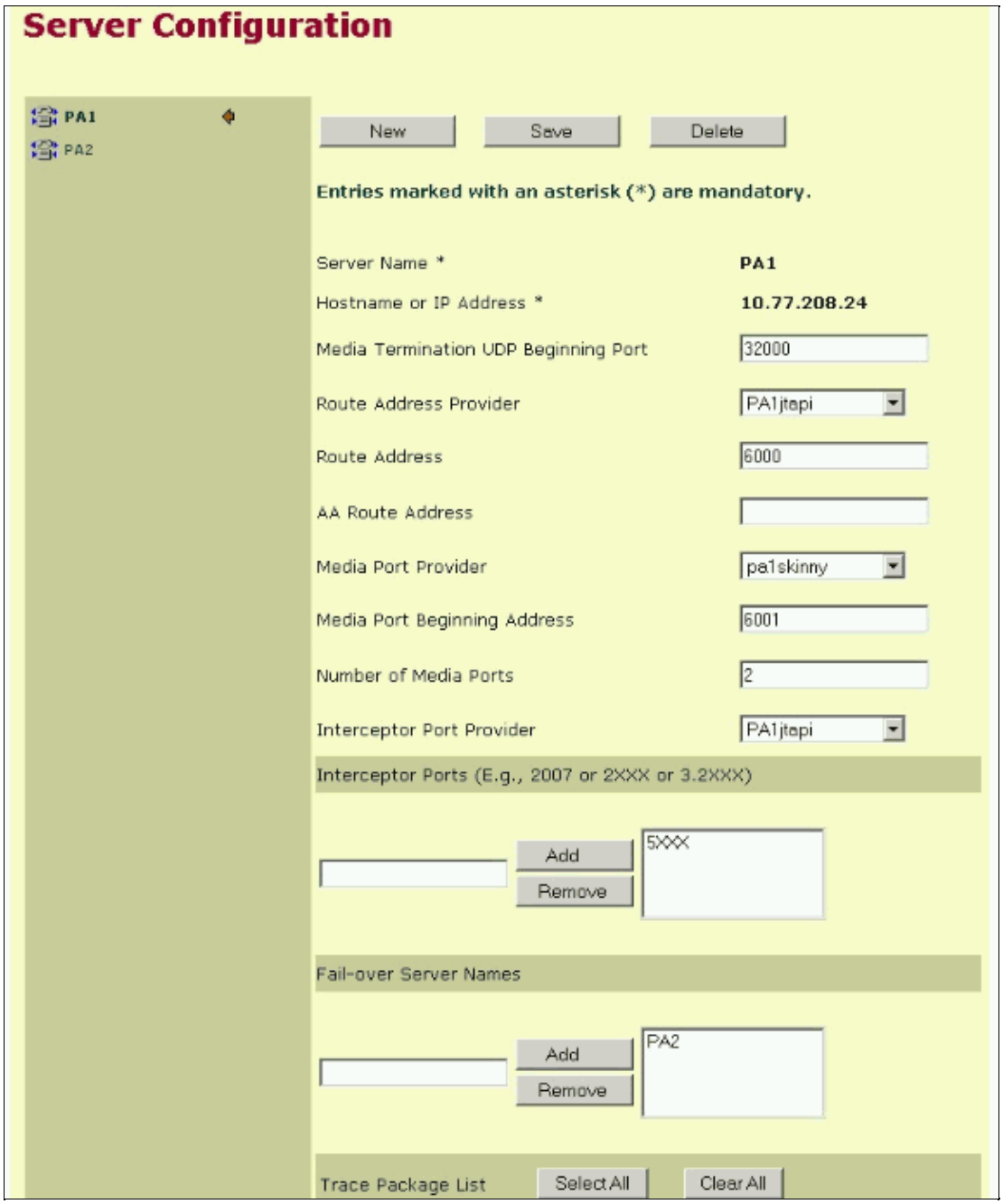
   In this example, there are two Cisco Personal Assistants servers which are added into the Cisco Personal Assistant server cluster (shown in the left column).
4. Click on each Cisco Personal Assistant Server and enter the appropriate settings.

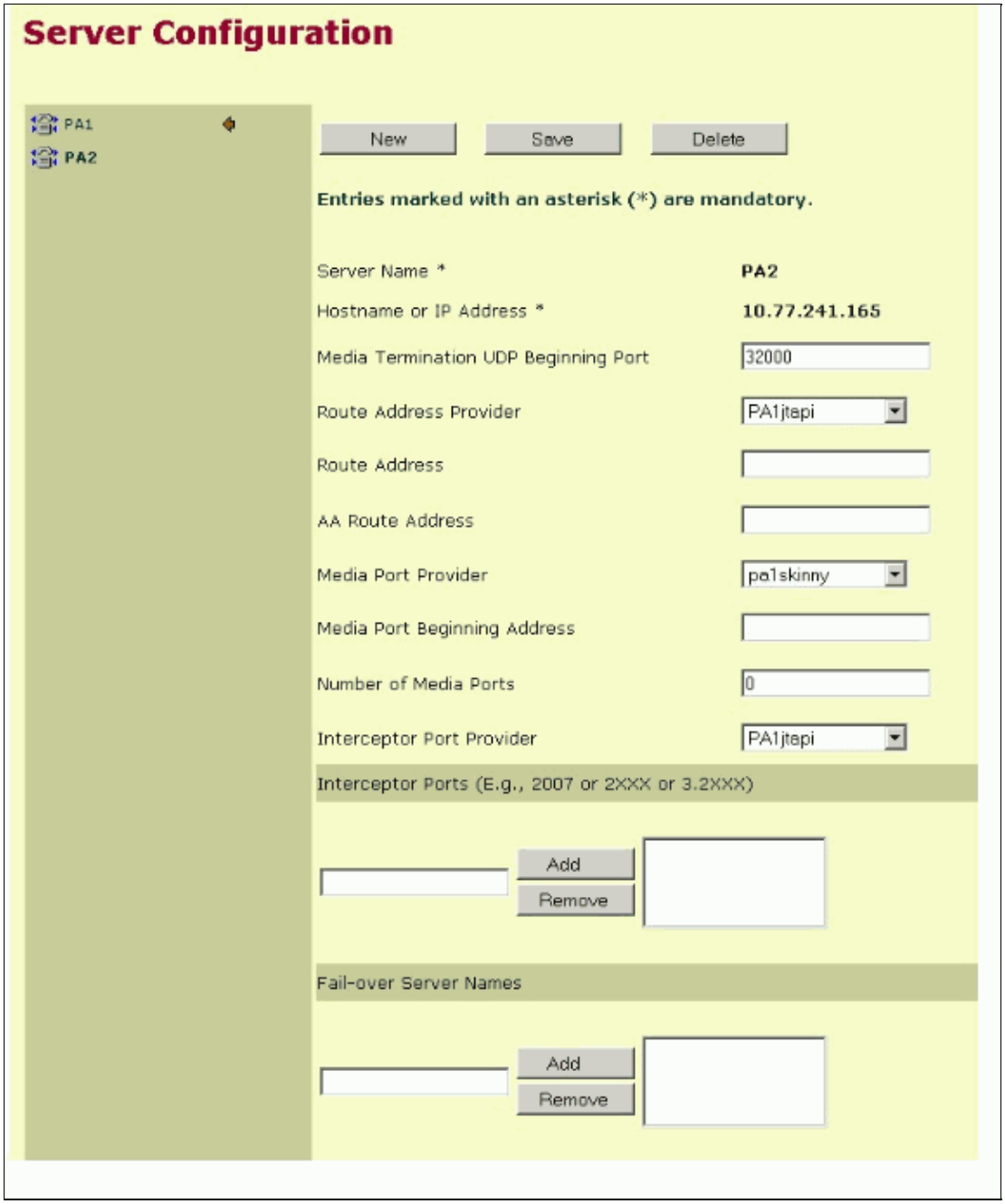
   These settings determine which user phone extensions are assigned to each server. The settings also determine how the server manages its resources. At the time of server configuration, you can configure the Cisco Personal Assistant servers either to balance the call load among themselves or to support failover.
5. The main configuration for failover is that in the active server you need to configure the failover server names. This is the list of Cisco Personal Assistant servers that can take over for a server if it fails.

In PA1, enter **PA2** (failover server name) in the edit box and click **Add**. You must use the name of the Cisco Personal Assistant for the server (the name that appears in the left column). Do not use the DNS name or IP address of the server.

For PA2, there is no need to give the Route Address, Media Port Begin Address, and Number of Media Ports. This is because when PA1 becomes disabled, PA2 registers itself with Cisco CallManager as the CTI route point of PA1, and also is able to take over the media ports of PA1.

6. Click **Save** after you enter the necessary parameters.

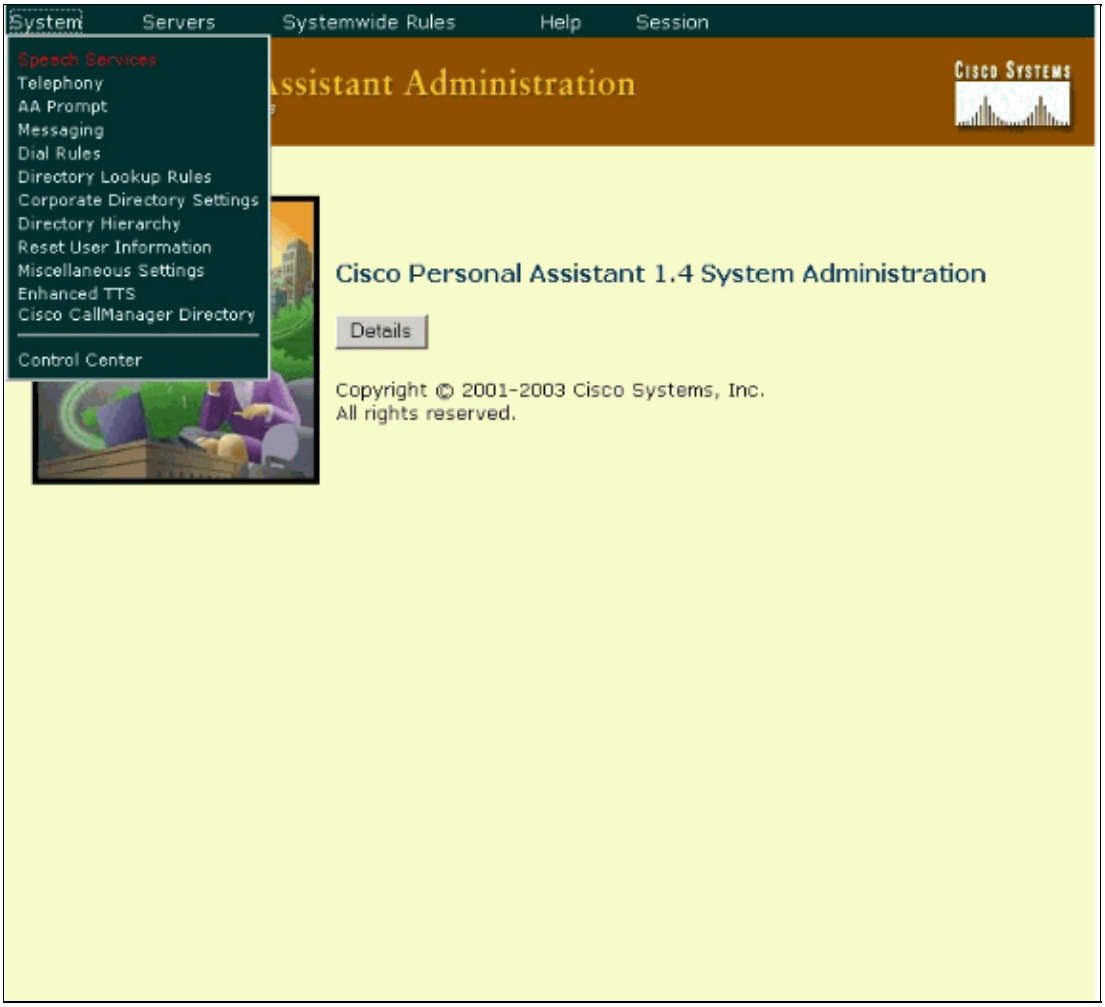




7. Cisco Personal Assistant servers and speech−recognition servers work together in server clusters.

   This makes it possible to share the load among servers. It is also possible to set up failover relationships so that if a server becomes disabled, another server can take over with minimal interruption for your users. You must identify at least one license manager for the speech software. The speech software requires an active, valid license be available at all times for it to work.

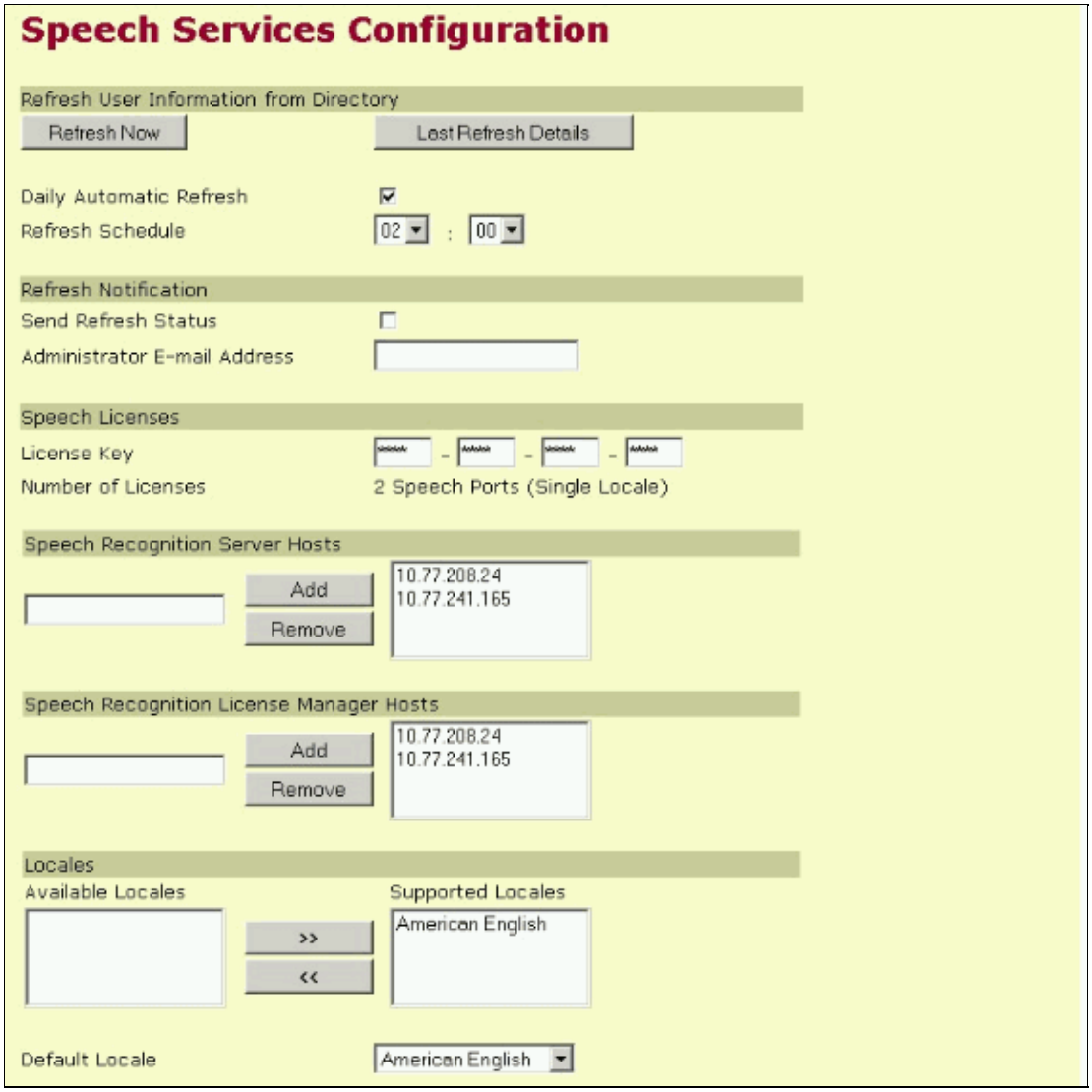
   Select **System** > **Speech Services**.



8. In the Speech Services Configuration page, enter the appropriate settings:

    a. Enter your speech recognition license key in the License Code field.
    b. In the Speech Recognition Server Hosts field, enter the server IP address or DNS name, and click **Add.** Note that the speech servers are not activated until the next refresh.
    c. In the Speech Recognition License Manager Hosts field, enter the IP address or DNS name of the Cisco Personal Assistant server you want to use, and click **Add**.

    Refer to Configuring Speech Recognition for more information on this subject.



9. Configure the Telephony interface between Cisco Personal Assistant and the Cisco CallManager clusters so that Cisco Personal Assistant can successfully receive and transfer telephone calls.
10. Configure the necessary providers for Java Telephony Application Programming Interface (JTAPI) and Skinny (Signaling Connection Control Part (SCCP)) protocols. From the Cisco Personal Assistant Administration tool, select **System** > **Telephony**.

    The Telephony Configuration page displays and you can see the list of providers on the left−hand side.

    Refer to Configuring Telephony Providers for more information on this.

Verify

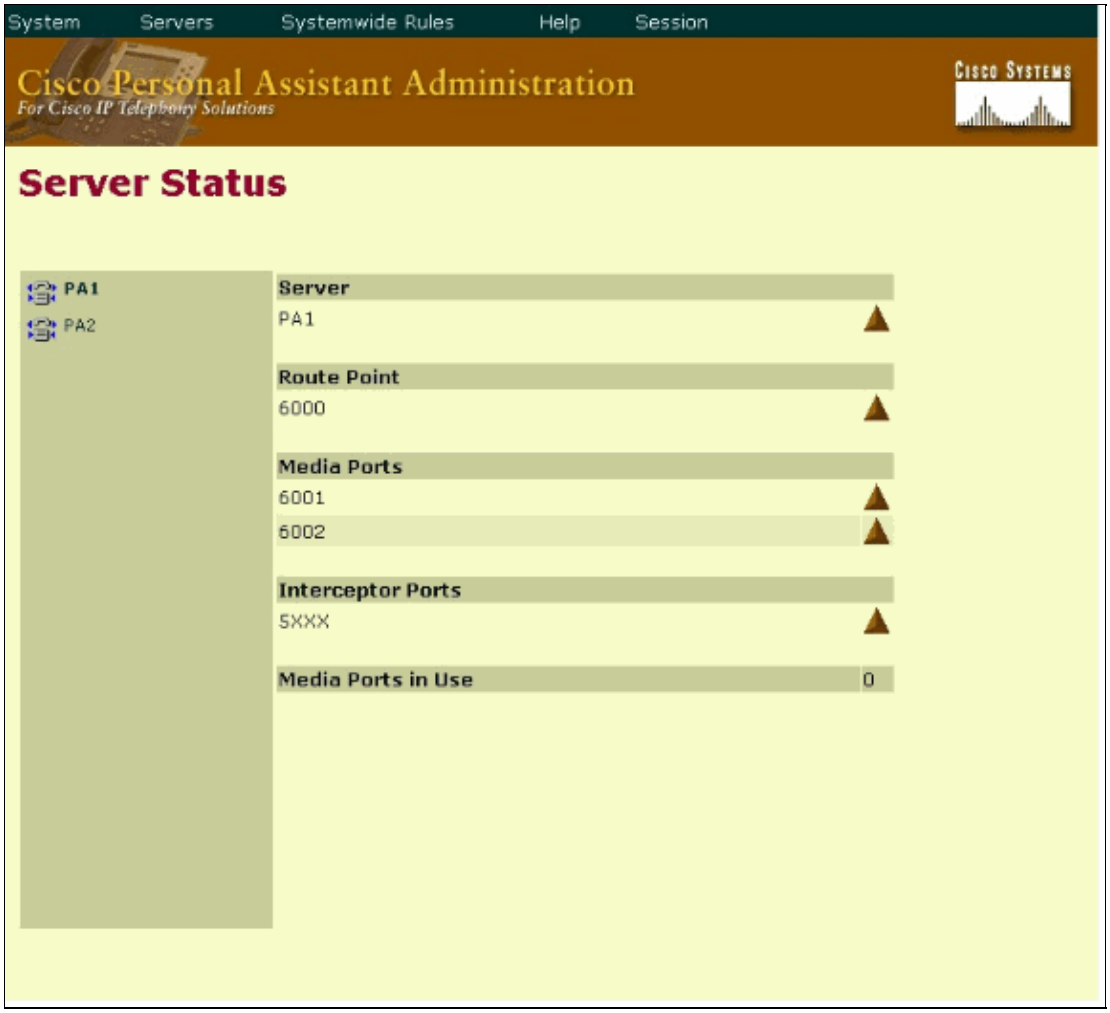
Verify the Cisco Personal Assistant Server

Select **Servers** > **Server Status** in order to verify the current status of a Cisco Personal Assistant server and its subsystems.

The status can help you in order to identify problems that need to be addressed. An up arrow indicates that the server, port, or other item runs correctly. A down arrow indicates that it is not.

- The **Server List** in the left column gives a list of the Cisco Personal Assistant servers that you have inserted into the Cisco Personal Assistant server cluster. Click a server name in order to view its status.
- The **Server** indicates whether the Cisco Personal Assistant server is available (up) or unavailable (down). If the server is unavailable, use the Control Center in order to restart it. If the Control Center restart does not solve the problem, check the server itself in order to determine the problem. The problem can be related to the network connection to the server or the subnet where the server resides.
- The **Route Point** shows the status of the Cisco Personal Assistant route point. If the route point is unavailable, check it in Cisco CallManager in order to determine the problem.
- **Media Ports** and **Interceptor Ports** display the status of each media port and interceptor port you define.
- **Media Ports in Use** displays the number of media ports currently in use.

Click on the server **PA1** in order to see its status. In this graphic you can see that the server and all the associated subsystems are up.

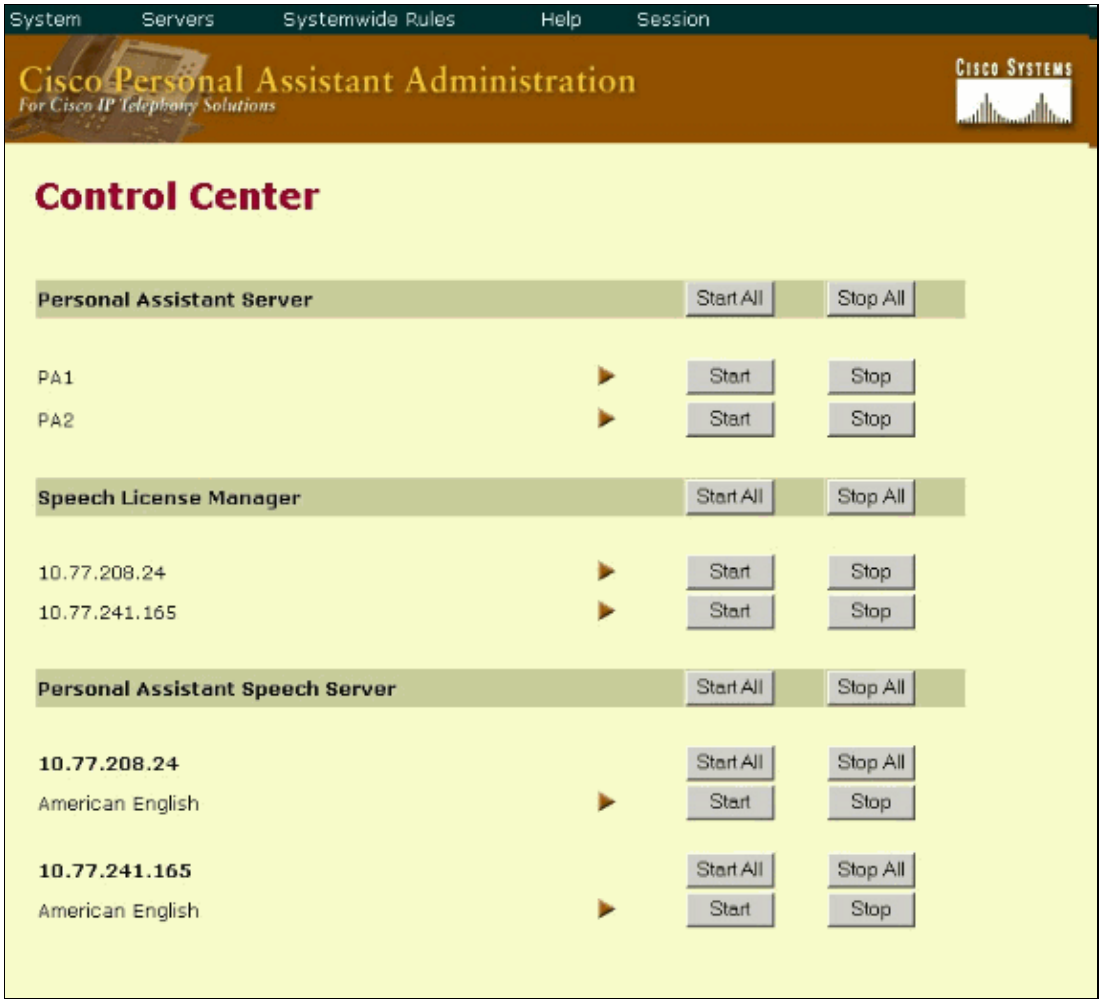


Verify the Failover Configuration

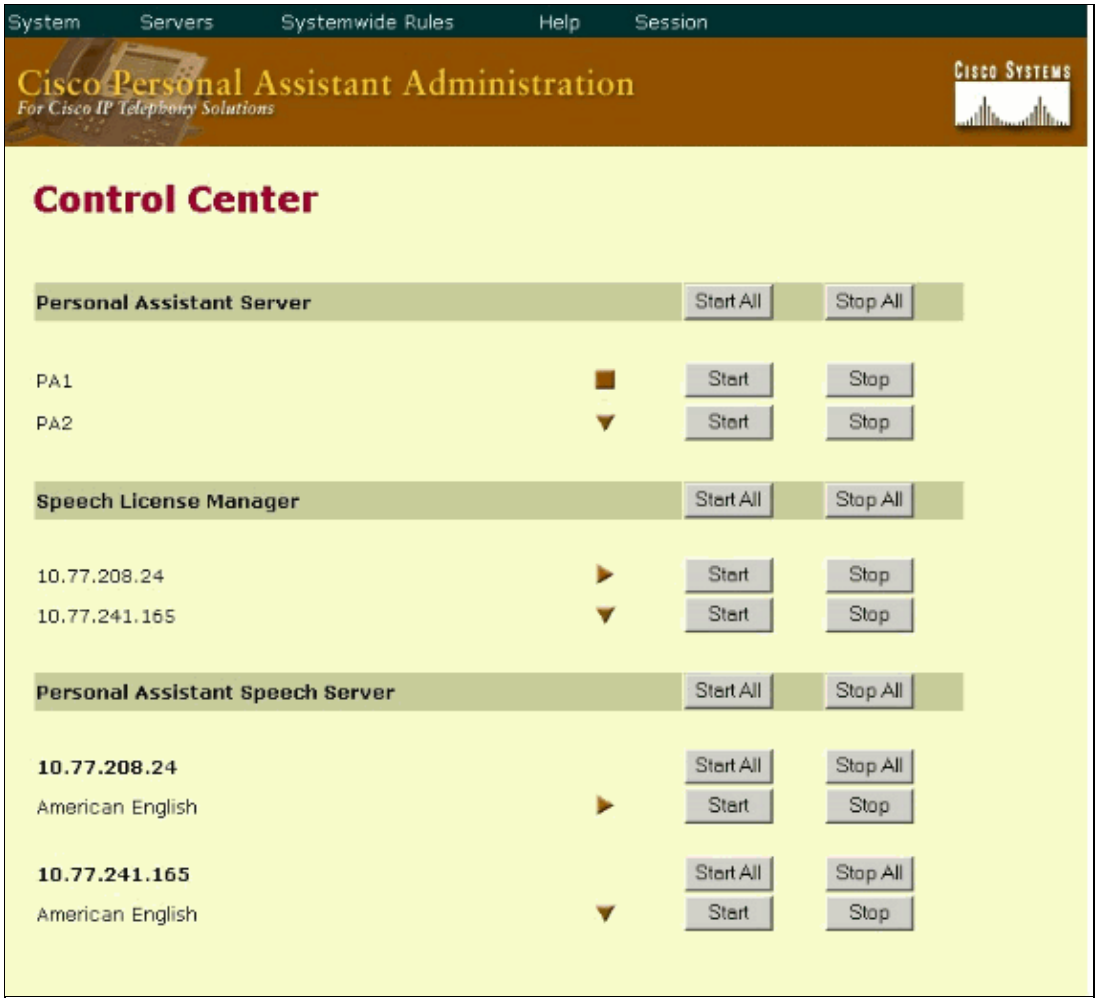
Complete these steps:

1. Select **System** > **Control Center**.

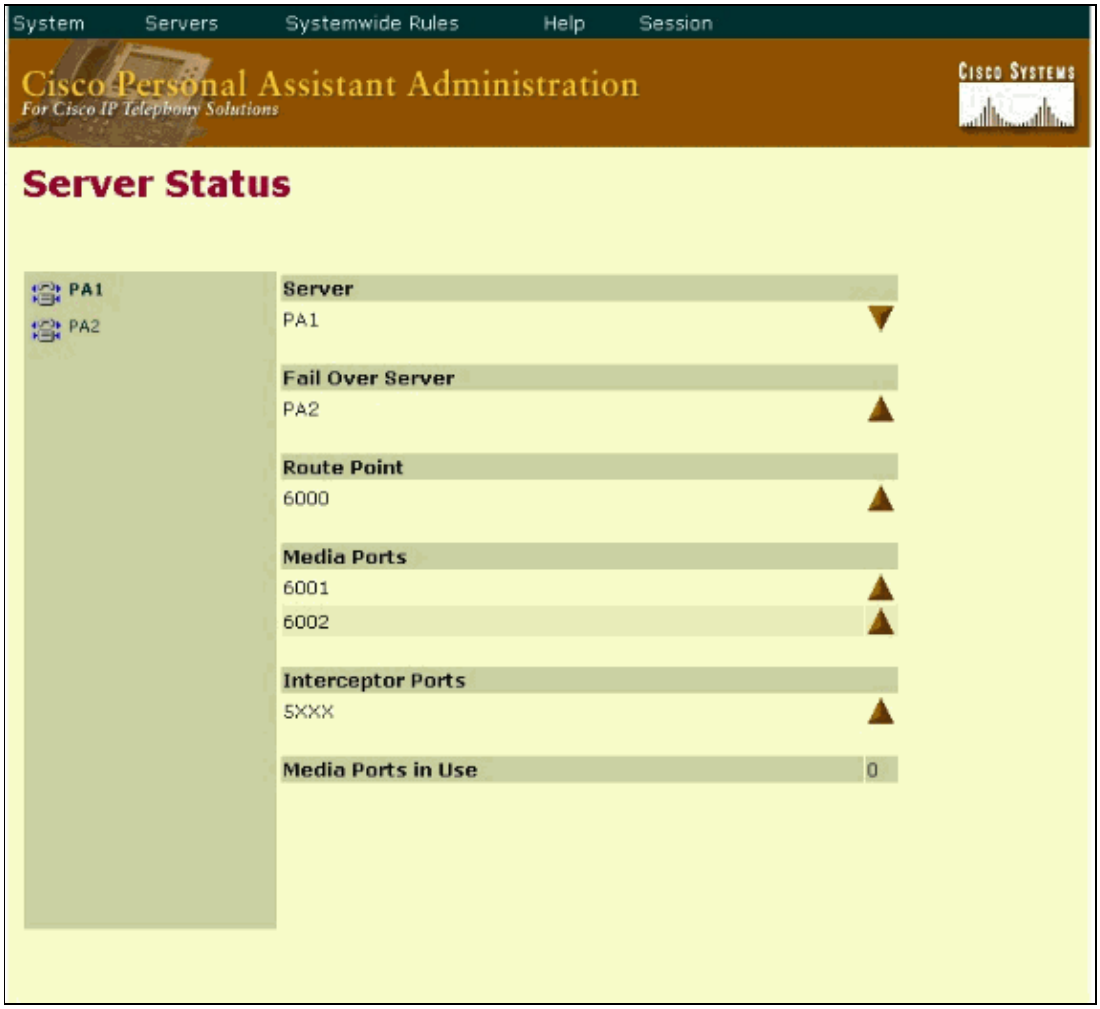
   Here, you can see that PA1 and PA2 are started and that PA2 is the active server. A server is started if there is an arrow icon beside it. It is stopped if there is a square icon beside it.



2. Click the **Stop** button in the PA1 row in order to disable the active server.



3. Select **Servers** > **Server Status** in order to verify that the failover server (PA2) becomes active when the active server becomes disabled.
4. Click on the **PA1** server from the list of servers. Under Failover Server, you can see that PA2 comes up when active (PA1) is disabled.



Troubleshoot

There is currently no specific troubleshooting information available for this configuration.

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Voice & Video: General

Related Information

- **Planning for Personal Assistant**
- **Configuring Personal Assistant**
- **Configuring Cisco CallManager for Personal Assistant**
- **Cisco Personal Assistant Software Support**
- **Voice Technology Support**
- **Voice and IP Communications Product Support**
- **Recommended Reading: Troubleshooting Cisco IP Telephony**
- **Technical Support − Cisco Systems**

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