



# **CallPilot Geographic Redundancy Application Guide**

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# Chapter 1: Customer service

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## Customer service

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### Navigation

- [Getting technical documentation](#) on page 5
- [Getting product training](#) on page 5
- [Getting help from a distributor or reseller](#) on page 5
- [Getting technical support from the Avaya Web site](#) on page 6

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# Chapter 2: Introduction

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## Overview of Geographic Redundancy

In a Geographic Redundant (GR) configuration, two CallPilot servers, acting as a GR pair, continuously replicate user and mailbox information using Voice Profile for Internet Messaging (VPIM). In the event that one CallPilot server experiences an outage, users are redirected to a second CallPilot server (GR partner) and are given access to a copy of their mailbox. Any new incoming calls directed at the server experiencing the outage are also redirected to the GR partner.

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## Supported platforms

Geographic Redundancy (GR) is supported on the following CallPilot servers:

1. 202i
2. 600r
3. 1005r
4. 1006r
5. 703t

 **Important:**

A GR pair can consist of a mixture of CallPilot servers. For example, you can have a 703t and a 600r working together as a GR pair. If a mixture is used, ensure that the GR partner has sufficient capacity (users, channels, features) to provide the expected level of service.

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## GR partner status indicator

You can determine the GR status of the GR partner on either CallPilot server in a Geographic Redundancy (GR) pair by referring to the GR partner status indicator. The GR partner status indicator appears at the top right-hand corner of the CallPilot Manager window and can indicate any one of three states: check mark, question mark, or an X. If the GR partner is running as

expected, the GR partner status indicator displays a check mark. If the status of the GR partner is unknown, the GR partner status indicator displays a question mark. If a message has not been received from the GR partner for a considerable period of time or the GR partner is in a courtesy down state, the GR partner status indicator displays an X.

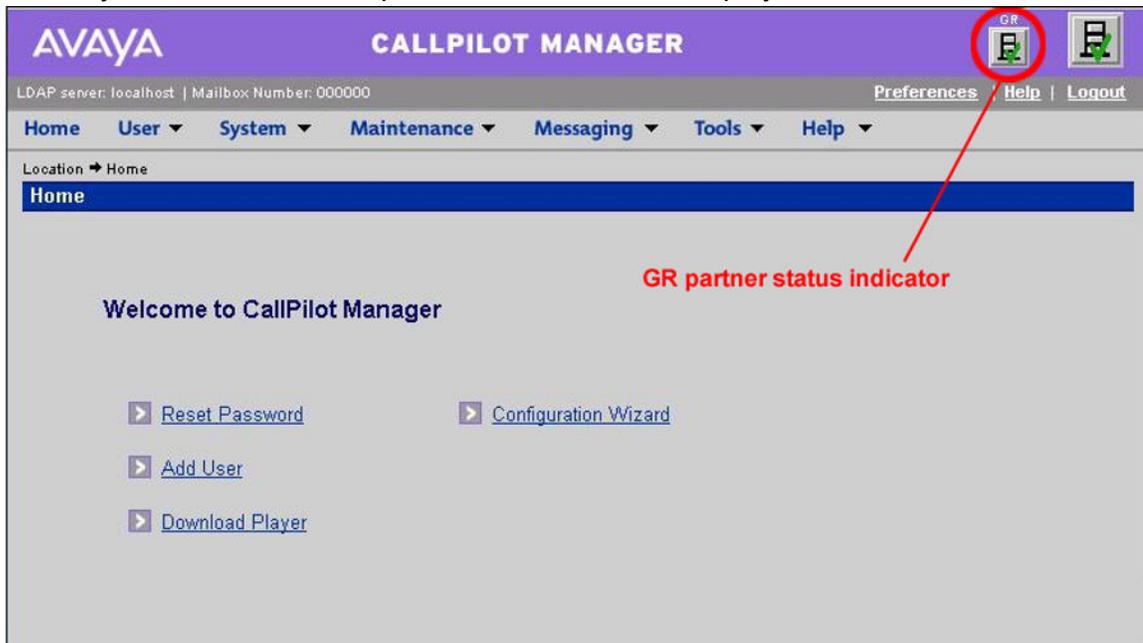


Figure 1: GR partner status indicator

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## GR server comparison tool

Administrators can use the Geographic Redundancy (GR) server comparison tool in CallPilot Manager to compare the local and remote GR server configurations. The tool identifies discrepancies between the two servers and classifies differences as minor, major, critical, or feature. It is highly recommended that critical discrepancies be attended to as soon as possible and major differences be given sufficient thought before being ignored since the GR feature is probably not functioning as desired.

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## Call and message handling

In a Geographic Redundant (GR) configuration, data is continuously replicated between GR partners to eliminate service loss during server outages. For example, if the local CallPilot server goes down, all incoming calls and messages to that server will get rerouted to its GR partner by the CS 1000. Users can continue to access their messages regardless of whether

the local server is running or not. However, all messages and call answering sessions that were being composed when the server went down are lost.

 **Note:**

Due to a limitation in the way a caller is forwarded to the second CallPilot server, when the first CallPilot server's CDN is in the default mode, the initial CallPilot prompt may not be accurate if the user's mailbox has the "Callers notified of busy line" checkbox enabled. In this scenario, the caller will always hear the prompt "The person at extension XXXX is on the phone" prior to the user's greeting, even though the user may not be on the phone at the time of the call.

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## Supported Geographic Redundancy configurations

There are three different configuration scenarios to choose from when setting up a Geographic Redundant (GR) system. As an administrator, you must determine which scenario is most compatible with your current network configuration.

**Related topics:**

[GR configuration on a campus redundant CS 1000 switch](#) on page 9

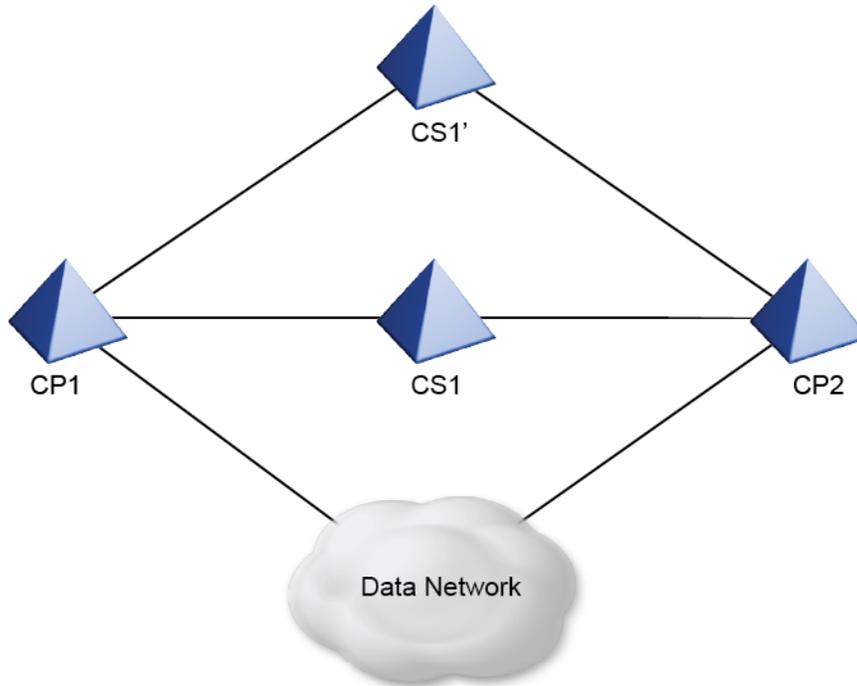
[GR configuration on two independent CS 1000 switches](#) on page 10

[GR configuration on two GR CS 1000 switches](#) on page 11

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### GR configuration on a campus redundant CS 1000 switch

In a campus redundancy configuration, the local and remote GR servers are connected to a primary CS 1000 (CS1) and a secondary CS 1000 (CS1') switch. If the primary CS 1000 switch goes down, the secondary CS 1000 steps in and becomes the active switch. If one of the CallPilot servers goes down, its partner CallPilot server will handle all incoming calls.

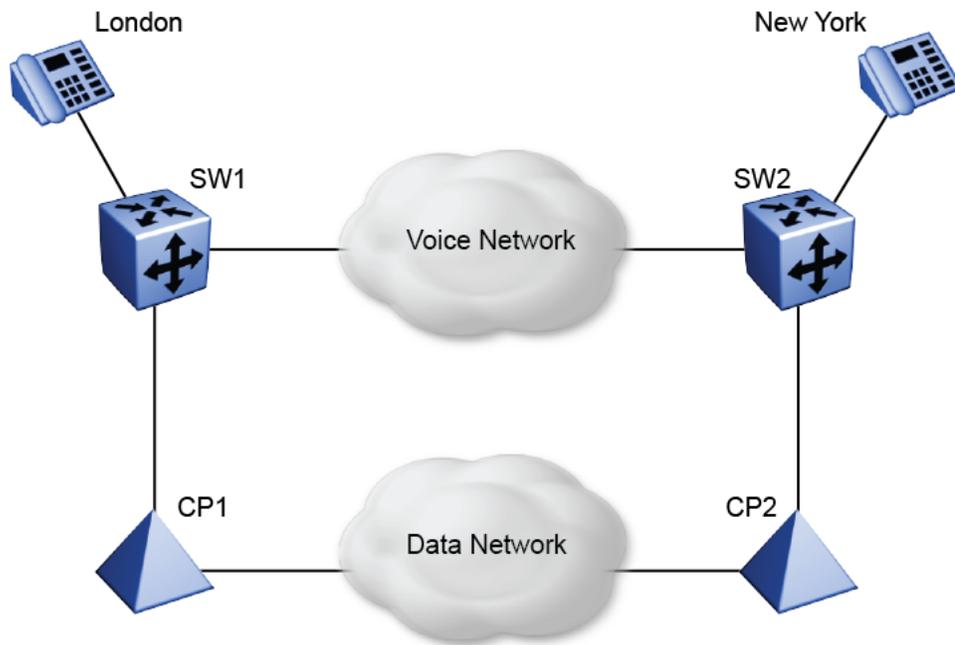


**Figure 2: Campus redundancy**

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## GR configuration on two independent CS 1000 switches

The following diagram illustrates a GR configuration with each CallPilot (CP) server connected to a different CS 1000 switch. Under normal working conditions, calls into switch 1 (SW1) are routed to CP1 and calls into switch 2 (SW2) are routed to CP2. If CP1 goes down, SW1 routes calls to CP2 via SW2. The reverse action occurs if CP2 goes down. If SW1 goes down, its users can log into CP2 via SW2 and messages continue to replicate between the two CallPilot servers. The same concept applies if SW2 goes down.



**Figure 3: GR configuration on two independent CS 1000 switches**

## GR configuration on two GR CS 1000 switches

In this configuration, two Geographic Redundant (GR) CallPilot servers acting as a GR pair are connected to their own CS 1000 switch. The two CS 1000 switches are mirror images of each other; they share the same database and coexist as a GR pair.

Under normal working conditions, calls into SW1 are routed to CP1 and calls into SW2 are routed to CP2. If CP1 goes down, SW1 routes calls to CP2 via the IP network. If CP2 goes down, the reverse action occurs. If SW1 goes down, its users will be routed to SW2 and can access their mailbox on CP2. The same concept applies if SW2 goes down.

In the diagram below, SW1 prime is active. In this configuration as opposed to the campus redundancy configuration, the GR CS 1000 switches are synchronized at a specific time interval rather than continuously. From the CP server perspective, the GR CS 1000 pair does not look like the same switch like it does in a campus redundancy configuration. The IP addresses are different.

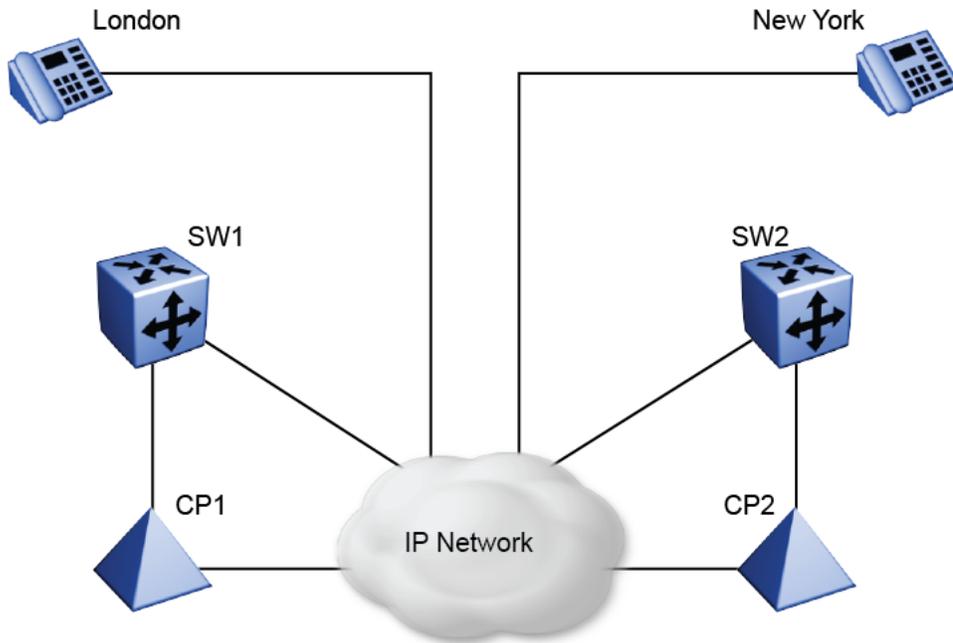


Figure 4: GR CS 1000 configuration

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## Limitations

As with any new feature of this significance, there are certain limitations to Geographic Redundancy (GR). Only the following items are replicated between GR partners: users, mailboxes, and some system settings (E-mail servers list, name dialing settings, local broadcast mailbox number).

Here is a list of features that have limited functionality:

- “CallSender” feature works from the GR mailbox only if the called number is reachable without any prefixes.
- “Replying to the sender” feature works from the GR mailbox only if the sender number is reachable without any prefixes.
- “Replying to the sender and all recipients” feature works from the GR mailbox only if the sender and recipient numbers are reachable without any prefixes.
- “Forwarding a message to telephone number” feature works from the GR mailbox only if the user entered a telephone number with corresponding prefixes (if required).
- “Thru-dial” feature works from the GR mailbox only if the user entered a telephone number with corresponding prefixes (if required).
- “Delivery to Telephone” feature works from the GR mailbox only if the user entered a telephone number with corresponding prefixes (if required).

**\* Note:**

The above list only applies to cases in which the sender is a phone or fax number without a corresponding mailbox on the CallPilot server. In all cases, the user does not know whether they are connected to the mailbox on the local server or its GR partner.

Here are some examples of features that are not supported in a GR configuration:

- Class of service (CoS) is not replicated between GR partners.
- AppBuilder applications are not replicated between GR partners
- GR and high availability (HA) can not co-exist on the same server. In other words, neither server in a GR pair can belong to an HA pair.
- Contact Center configuration and voice prompts are not replicated between GR partners. If you want to failover to the GR partner, manual configuration of CCMS is required.
- Voice forms are not replicated between GR partners.
- A user's mailboxes are not replicated if VPIM shortcuts contain an overlap and none of the VPIM shortcuts overlap with the first digit(s) of the user's mailbox numbers. For example, the local server has local user mailboxes 7200 and 7300 and a VPIM prefix of 1272 and overlap value of two (2) are specified in the **Location Properties** on the server. Following a resync, local user mailbox 7200 is replicated to its GR partner but local user mailbox 7300 is not replicated as it has no matching overlap digits with the VPIM prefix.
- A user's mailboxes are not replicated if a GR partner has the same mailboxes as a Temporary Remote User. For example, a GR partner server has Temporary Remote User mailbox 1000 and the local server has local mailboxes 1000 and 2000. Following a resync, local user mailbox 2000 is replicated to its GR partner but local user mailbox 1000 is not replicated as it has a Temporary Remote User on the GR partner.
- Notification Device classes do not replicate between GR partners, so the **Notification Device Class** shows **No Service** in the mailbox properties of GR users. However, the remote text notification feature works correctly.

Also, if a mixture of servers is used in a GR pair, ensure that the GR partner has sufficient capacity (users, channels, features) to provide the expected level of service.

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## Geographic Redundancy versus High Availability

CallPilot provides two features that increase server availability: Geographic Redundancy (GR) and High Availability (HA). Each feature has different characteristics due to underlying architecture. The following table provides a high level comparison between GR and HA.

	Geographic Redundancy	High Availability

Location of servers relative to one another	No restrictions	Co-located
Supported Platforms	202i, 600r, 1005r, 1006r, 703t	1005r and 1006r
Configuration	Active-active	Active-standby only
Replication	VPIM (only users, messages and some system settings are replicated)	Disk mirroring (only active server can access mirrored disks)
Dongle and keycode	Each server has its own dongle and keycode.	One shared between the HA pair.
CS 1000	Each server can be connected to either the same or a different CS 1000.	Each server must be connected to the same CS 1000.
 <b>Note:</b> GR and High Availability can not coexist on the same server.		

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## Reference documents

For a list of all CallPilot documents, see the following CallPilot Customer Documentation Map.

**Table 1: Call Pilot Customer Documentation Map**

<p>Fundamentals</p> <ul style="list-style-type: none"> <li>Fundamentals Guide (NN44200-100)</li> <li>Library Listing (NN44200-117)</li> </ul> <p>Planning and Engineering</p> <ul style="list-style-type: none"> <li>Planning and Engineering Guide (NN44200-200)</li> <li>Network Planning Guide (NN44200-201)</li> <li>Converging the Data Network with VoIP Guide (NN43001-260)</li> <li>Solution Integration Guide for Communication Server 1000/Call Pilot/Contact Center/Telephony Manager (NN49000-300)</li> </ul> <p>Installation and Configuration</p> <ul style="list-style-type: none"> <li>Upgrade and Platform Migration Guide (NN44200-400)</li> <li>High Availability: Installation and Configuration (NN44200-311)</li> </ul>
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Geographic Redundancy Application Guide (NN44200-322)

Installation and Configuration Task List Guide (NN44200-306)

Quickstart Guide (NN44200-313)

Installer Roadmap (NN44200-314)

#### Server Installation Guides

201i Server Hardware Installation Guide (NN44200-301)

202i Server Hardware Installation Guide (NN44200-317)

202i Installer Roadmap (NN44200-319)

703t Server Hardware Installation Guide (NN44200-304)

1002rp Server Hardware Installation Guide (NN44200-300)

1002rp System Evaluation (NN44200-318)

1005r Server Hardware Installation Guide (NN44200-308)

1005r System Evaluation (NN44200-316)

1006r Server Hardware Installation Guide (NN44200-320)

600r Server Hardware Installation Guide (NN44200-307)

600r System Evaluation (NN44200-315)

#### Configuration and Testing Guides

Meridian 1 and CallPilot Server Configuration Guide (NN44200-302)

T1/SMDI and CallPilot Server Configuration Guide (NN44200-303)

Communication Server 1000 System and CallPilot Server Configuration Guide (NN44200-312)

#### Unified Messaging Software Installation

Desktop Messaging and My CallPilot Installation and Administration Guide (NN44200-305)

#### Administration

Administrator Guide (NN44200-601)

Software Administration and Maintenance Guide (NN44200-600)

Meridian Mail to CallPilot Migration Utility Guide (NN44200-502)

Application Builder Guide (NN44200-102)

Reporter Guide (NN44200-603)

#### Maintenance

Troubleshooting Reference Guide (NN44200-700)

Preventative Maintenance Guide (NN44200-505)

Server Maintenance and Diagnostics

- 201i Server Maintenance and Diagnostics Guide (NN44200-705)
- 202i Server Maintenance and Diagnostics Guide (NN44200-708)
- 703t Server Maintenance and Diagnostics Guide (NN44200-702)
- 1002rp Server Maintenance and Diagnostics Guide (NN44200-701)
- 1005r Server Maintenance and Diagnostics Guide (NN44200-704)
- 1006r Server Maintenance and Diagnostics Guide (NN44200-709)
- 600r Server Maintenance and Diagnostics Guide (NN44200-703)
- Contact Center Manager Communication Server 1000/Meridian 1 & Voice Processing Guide (297-2183-931)

End User Information

End User Cards

- Unified Messaging Quick Reference Card (NN44200-111)
- Unified Messaging Wallet Card (NN44200-112)
- A-Style Command Comparison Card (NN44200-113)
- S-Style Command Comparison Card (NN44200-114)
- Menu Interface Quick Reference Card (NN44200-115)
- Alternate Command Interface Quick Reference Card (NN44200-116)
- Multimedia Messaging User Guide (NN44200-106)
- Speech Activated Messaging User Guide (NN44200-107)
- Desktop Messaging User Guide for Microsoft Outlook (NN44200-103)
- Desktop Messaging User Guide for Lotus Notes (NN44200-104)
- Desktop Messaging User Guide for Novell Groupwise (NN44200-105)
- Desktop Messaging User Guide for Internet Clients (NN44200-108)
- Desktop Messaging User Guide for My CallPilot (NN44200-109)
- Voice Forms Transcriber User Guide (NN44200-110)

# Chapter 3: Fundamentals of synchronization

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## Normal replication

During normal operation, all user changes and mailbox messages are replicated to the Geographic Redundant (GR) partner as they occur. Changes, regardless of where they are made (telephone set, desktop, My CallPilot, or CallPilot Manager), will generate VPIM messages relaying that information to the GR partner.

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## Types of resynchronization

Today's networks are very reliable, however it is possible that normal replication occasionally fails and the two CallPilot servers become out of sync. To handle this, there are additional ways in which user information and mailbox messages can be resynchronized between GR partners.

There are three types of user resynchronization (rebuild, resync, and nightly audit) and two types of mailbox resynchronization (resync on login and manual mailbox resync). It is best to understand each type before you proceed with any kind of resynchronization. This will help to ensure that both local and remote Geographic Redundant (GR) servers contain identical information with regards to users and their mailbox messages.

 **Note:**

Each server in a GR pair has a list of local users and a list of GR users. The GR users on each CallPilot server are the local users on its GR partner.

 **Warning:**

Manually replicating users is a time consuming task that should be performed during off-peak hours.

### Rebuild

Administrators may choose to completely rebuild a CallPilot server by erasing all users (local users and GR users) on the local CallPilot server and copying over the users from the GR partner. A rebuild is particularly useful when recovering from a hardware failure where the

CallPilot server had to be replaced. A rebuild can also be performed if your CallPilot server is demonstrating inconsistencies or has experienced a catastrophic loss of mailboxes. If you decide that you want to stop a rebuild after it has been initiated, you can abort the process.

 **Warning:**

When you abort a rebuild, the system is not returned to its original state. The resulting condition depends on where the rebuild was at prior to the process being aborted.

For information on how to perform a rebuild, see [Resynchronizing GR users manually](#) on page 23. For information on how to abort a rebuild, see [Aborting a manual user resynchronization](#) on page 30.

## Resync

Administrators can perform resynchronization on either the local or remote GR server to replicate users between the GR pair. During a resync, each server maintains its local users and gains the users that are local to its GR partner (known as GR users to the local server). In the case where a user is present on both servers, the servers negotiate which user data is most recent, and the most recent user data replaces the older user data. When resynchronization is in progress, you can abort the process on either the initiating server or the target server.

For information on how to perform a resync, see [Resynchronizing GR users manually](#) on page 23. For information on how to abort a resynchronization, see [Aborting a manual user resynchronization](#) on page 30.

## Nightly audit

Every night, an audit is performed in which each CallPilot server in a GR pair compares its list of users against its GR partner. If a user belonging to the local CallPilot server is found to be missing on its GR partner, that user will be recreated on the GR partner. If a user belonging to the GR partner exists on the local CallPilot but no longer exists on the GR partner, then that user will be deleted from the local CallPilot server.

## Resync on login

When a user logs in, the local CallPilot server compares the messages in its mailbox to the list of messages in the GR partner mailbox. Any missing messages are replicated from the GR partner to the local CallPilot server. Due to network traffic, this type of mailbox resynchronization may take some time to finish, however during this process, users continue to have access to existing messages and replicated messages as they arrive.

## Manual mailbox resync

Mailbox messages can be manually resynchronized between GR partners. As an administrator, you can select which mailboxes to resynchronize manually. This type of resynchronization can be used to avoid the delays inherent with the preceding type of mailbox resynchronization, resync on login.

For information on how to perform a manual mailbox resync, see [Resynchronizing mailbox information between GR partners](#) on page 24. For information on how to abort a mailbox resynchronization, see [Aborting a manual mailbox resynchronization](#) on page 31.

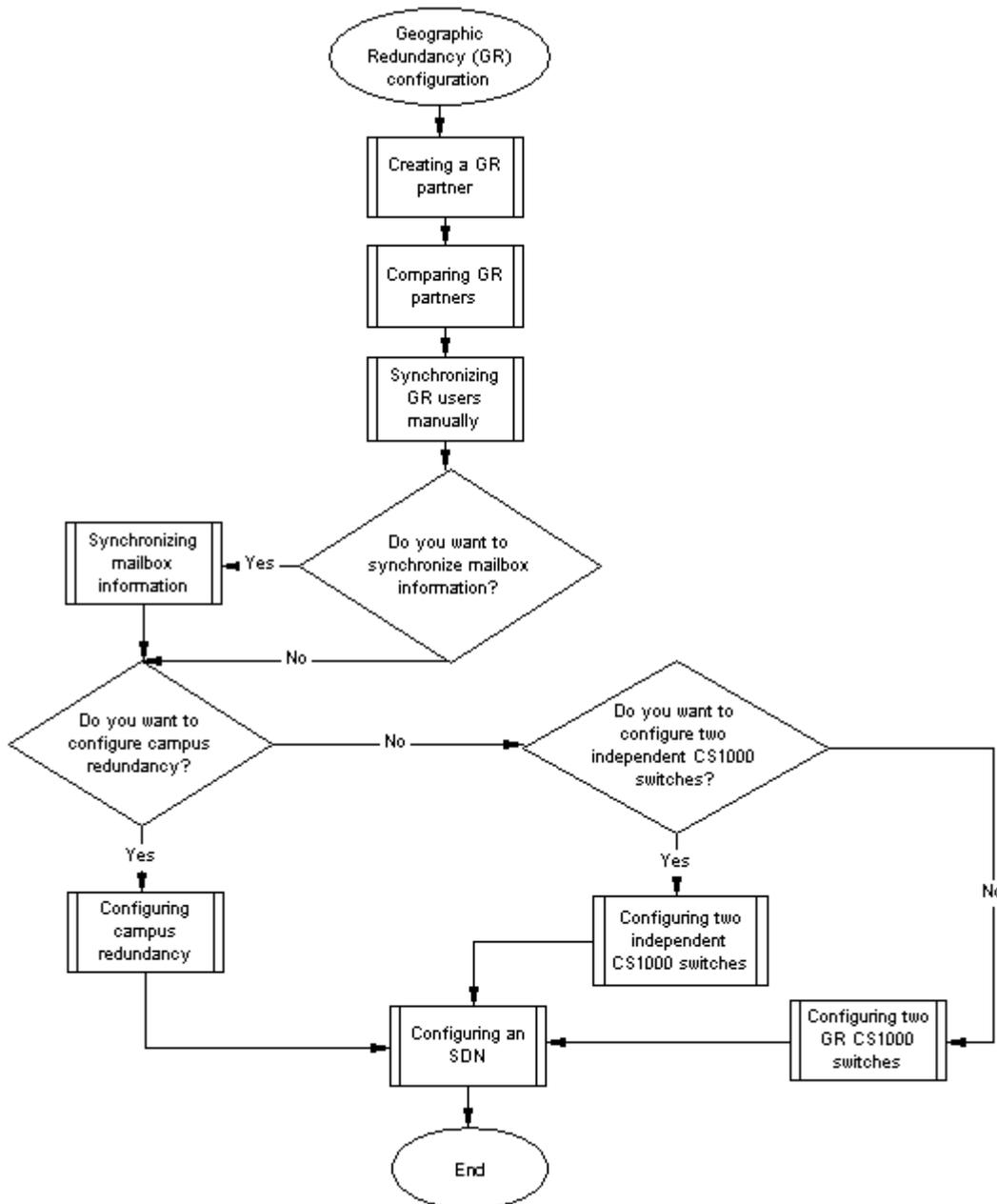
# Chapter 4: Geographic Redundancy configuration

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## Introduction

The following diagram outlines the sequence of tasks that need to be performed to complete a Geographic Redundant (GR) configuration. Each task is outlined below the diagram in the order indicated.

- Limit GR configuration to non-peak hours.
- Do not configure GR during the nightly audit. For more information about the audit that is automatically performed every night, see [Types of resynchronization](#) on page 17.
- DNS must be configured for the CLAN on each CallPilot server making up the GR pair before you implement Geographic Redundancy. For more information, refer to the *CallPilot Network Planning Guide*, (NN44200-201).
- Ensure the soon-to-be GR partners are setup and communicating successfully and can send VPIM messages to each other. For more information about VPIM, refer to VPIM Networking chapter of the *CallPilot Network Planning Guide*, (NN44200-201).
- Verify that each CallPilot server making up the GR pair can take calls from its respective CS1000 switch.



Complete the following procedures in the sequence outlined below:

- [Creating a GR partner](#) on page 21
- [Comparing GR partners](#) on page 22
- [Resynchronizing GR users manually](#) on page 23
- [Resynchronizing mailbox information between GR partners](#) on page 24
- [Modifying the default ACD DN](#) on page 48
- [Configuring an SDN](#) on page 25

- [Dividing phone sets between the two GR CallPilot servers](#) on page 49
- [Modifying the default ACD DN](#) on page 51
- [Modifying the default ACD DN](#) on page 54
- [Defining the zone prefixes for the GR CallPilot pair](#) on page 55

---

## Creating a GR partner

### Before you begin

- Ensure that the two CallPilot servers flagged for Geographic Redundancy (GR) configuration have VPIM networking configured between them. For more information, refer to the VPIM chapter in the *CallPilot Networking Planning Guide*, (NN44200-201).

### About this task

If you want to initiate user and mailbox replication between two CallPilot servers, you must configure two CallPilot servers for GR. Creating a GR partner is the first step in this configuration and must be performed on both servers in the GR pair.

### Procedure

1. Log on to CallPilot Manager.
2. On the Messaging menu, choose **Message Network Configuration**. Local and all configured remote servers are displayed.
3. Select the remote server you want to become the GR partner and click **Show Details**.
4. Change the server type from CallPilot to GR CallPilot.
5. In the **GR Security** area, set the GR password. This password is used to encrypt GR messages between the GR pair. The password must be the same on both servers in the pair.

The GR partner status indicator initially displays as “Information about the status of the CallPilot GR Partner is currently unavailable” (question mark) until the first message is received from the GR partner. At that point, the GR partner status indicator changes to “Running” (check mark).

---

### Next steps

After you have completed steps 1 through 5 above, ensure the GR partner status indicator on both servers has a check mark. This indicates that GR has been successfully configured on the GR pair.

---

## Comparing GR partners

### About this task

Both servers in a GR pair must have matching settings to ensure that the GR feature works properly. Compare the information on the local server to the information on the remote server in order to ensure consistency between GR partners. This procedure can be performed on either of the GR partners. For more information about the GR comparison tool, refer to [GR server comparison tool](#) on page 8.

#### Important:

It is highly recommended that you address critical and major discrepancies in order for the GR feature to function properly.

#### Note:

The list of settings that need to match:

- Mailbox classes
- Message Delivery Configuration
- Message Network Configuration
- Security Administration
- Keycode capabilities
- Config Wizard settings

Since there is no way to replicate the settings automatically, CallPilot Administrator must ensure they are the same on both servers.

#### Note:

The GR Comparison tool can also be used to troubleshoot errors or discrepancies between the two servers in a GR pair.

### Procedure

1. Log on to CallPilot Manager.
2. On the Messaging menu, choose **Network Diagnostics**.
3. Click **Show Geo-Redundant Servers**.
4. Select the desired server in the displayed list.
5. Click **Compare with Selected** to compare the local server to the selected GR server.
6. Various settings will display for both the local and remote servers.
7. Take the appropriate actions to address all unacceptable discrepancies.

8. Repeat this procedure until all discrepancies have been addressed.

---

## Resynchronizing GR users manually

### About this task

You can manually resynchronize users in a GR pair in one of two ways: you can either resync or rebuild users in a GR pair. Performing a resync causes the GR pair to determine which server has the most up-to-date user information for each user and replicates that data from one server to another. The other type of manual resynchronization is a rebuild. A rebuild erases all user information on the local server and recreates all of its user information from its GR partner.

During a resync, each CallPilot server sends its GR user information to its partner where, if the data is more up-to-date than that for the local user, replaces the local user's data. If the data is older than that for the local user or the local user does not exist, then that data is discarded. Each CallPilot then sends its local user information to its GR partner. This information, however, will not only be used to update GR user data at the GR partner, but will also be used to create any missing GR users. Finally, any GR users at the GR partner that did not receive data will be deleted. Note that in this process, no local users are added or deleted; Only GR users may be added or deleted. For example, if the local server has 100 local users and 200 GR users and its GR partner has 50 local users and 75 GR users, following a resync, the local server will have 100 local users and 50 GR users while its GR partner will have 50 local users and 100 GR users. All associated user information will also be brought up-to-date.

A rebuild, on the other hand, deletes all users from the local CallPilot server. Local users are recreated from the GR users of the GR partner and GR users are recreated from the local users on the GR partner. For example, if the local server has 100 local users and 200 GR users and its GR partner has 50 local users and 75 GR users, following a rebuild, the local server will have 75 local users and 50 GR users, while the GR partner will continue to have 50 local users and 75 GR users.

For information about local users and GR users and when to perform a resync versus a rebuild, refer to [Types of resynchronization](#) on page 17.

#### **Note:**

This may be a time consuming task, depending on the speed of the connection between the two servers, the number of users, and how busy each server is.

#### **Important:**

A reduced form of user resync (no data update) also occurs every during the nightly audit.

### Procedure

1. Log on to CallPilot Manager.
2. On the Messaging menu, choose **Message Network Configuration**.

3. Select the GR partner and click **Sync GR users**.  
The **Sync GR Users** window opens in which you can choose the type of synchronization
  4. Click **Resync** or **Rebuild**.  
A warning displays asking for confirmation.
  5. Click **OK**.
  6. You can monitor the status of the resynchronization.
- 

---

## Resynchronizing mailbox information between GR partners

### About this task

Optionally, the administrator can resynchronize the contents of one or more mailboxes using the GR manual mailbox resync. This can be done after GR users are resynchronized between the two servers. Note that the contents of the mailboxes are also resynchronized automatically when the user logs into their mailbox.

 **Warning:**

This may be a time consuming task, depending on the speed of the connection between the two servers, the size of the mailbox, and how busy each server is.

 **Important:**

Mailbox resynchronization does not occur during the nightly audit.

### Procedure

1. Log on to CallPilot Manager.
  2. On the Maintenance menu, choose **GR Manual Mailbox Resync**.
  3. Change search parameters as required and can click **Search**.
  4. Select desired users and click **Add** to move those users over to the **Selected Users List** field.
  5. Click **Start Resync**.  
This replicates the mailbox information for the selected users.  
  
The GR Status Resync window appears. Status will be updated as users are replicated.
  6. You can monitor the status of the resynchronization.
-

---

## Configuring an SDN

### About this task

A new service dialing number (SDN) is necessary to process calls that are redirected from the GR partner. As an administrator, you must configure an SDN on both CallPilot servers in a GR pair. For example, on CallPilot server A, you must specify the SDN of CallPilot server B and vice versa.

### Procedure

1. On the System menu, choose **Service Directory Number**.
  2. Click **New** to create a new service DN.
  3. In the **Service DN** field, select the CDN of the GR partner.
  4. In the **Application Name** field, enter the same application name used by the GR partner.
  5. Click **Save**.
-



# Chapter 5: Administration

---

## Determining GR status

### About this task

You can easily determine whether Geographic Redundancy (GR) is running at any time. GR operates in three modes: check mark, question mark, or an X. A check mark indicates that the current status of the GR partner can not be determined. A question mark indicates that the current state of the GR partner can not be determined. An X means that a message has not been received from the GR partner for a considerable period of time and the connection is considered to be lost. An X is also displayed if the GR partner is in a courtesy down state. When the GR partner status indicator displays either a question mark or an X, synchronization is suspended until the connection is reestablished.

### Procedure

1. Log on to CallPilot Manager.
  2. At the top right corner of the CallPilot Manager window, determine the status of GR from the GR partner status indicator.
- 

## Monitoring the status of the system synchronization

### About this task

Monitoring the status of the system provides you with a means of determining the state of synchronization between the two GR partners. You can monitor the degree of synchronization at any time. Results are fluid and are continuously updated with the addition of new users and the acceptance of new messages.

### Procedure

1. Log on to CallPilot Manager.
  2. On the Maintenance menu, choose **GR Sync Status Monitor**.  
The GR Status Monitor window displays.
-

---

## Turning off Geographic Redundancy

### About this task

If you no longer want to have Geographic Redundancy (GR) running between two CallPilot servers, you must change the configuration of both servers back to normal CallPilot mode.

### Procedure

1. Log on to CallPilot Manager.
  2. On the Messaging menu, choose **Message Network Configuration**.  
Local and all configured remote servers are displayed.
  3. Select the remote GR server you want to change back to normal CallPilot mode and click **Show Details**.
  4. Change the server type from GR CallPilot to CallPilot.  
The CallPilot server is no longer configured for GR. As a result, the GR partner status indicator at the top right corner of the window should no longer be present.
- 

---

## Resynchronizing GR users manually

### About this task

You can manually resynchronize users in a GR pair in one of two ways: you can either resync or rebuild users in a GR pair. Performing a resync causes the GR pair to determine which server has the most up-to-date user information for each user and replicates that data from one server to another. The other type of manual resynchronization is a rebuild. A rebuild erases all user information on the local server and recreates all of its user information from its GR partner.

During a resync, each CallPilot server sends its GR user information to its partner where, if the data is more up-to-date than that for the local user, replaces the local user's data. If the data is older than that for the local user or the local user does not exist, then that data is discarded. Each CallPilot then sends its local user information to its GR partner. This information, however, will not only be used to update GR user data at the GR partner, but will also be used to create any missing GR users. Finally, any GR users at the GR partner that did not receive data will be deleted. Note that in this process, no local users are added or deleted; Only GR users may be added or deleted. For example, if the local server has 100 local users and 200 GR users and its GR partner has 50 local users and 75 GR users, following a resync, the local server will have 100 local users and 50 GR users while its GR partner will have 50 local users and 100 GR users. All associated user information will also be brought up-to-date.

A rebuild, on the other hand, deletes all users from the local CallPilot server. Local users are recreated from the GR users of the GR partner and GR users are recreated from the local

users on the GR partner. For example, if the local server has 100 local users and 200 GR users and its GR partner has 50 local users and 75 GR users, following a rebuild, the local server will have 75 local users and 50 GR users, while the GR partner will continue to have 50 local users and 75 GR users.

For information about local users and GR users and when to perform a resync versus a rebuild, refer to [Types of resynchronization](#) on page 17.

 **Note:**

This may be a time consuming task, depending on the speed of the connection between the two servers, the number of users, and how busy each server is.

 **Important:**

A reduced form of user resync (no data update) also occurs every during the nightly audit.

### Procedure

1. Log on to CallPilot Manager.
  2. On the Messaging menu, choose **Message Network Configuration**.
  3. Select the GR partner and click **Sync GR users**.  
The **Sync GR Users** window opens in which you can choose the type of synchronization
  4. Click **Resync** or **Rebuild**.  
A warning displays asking for confirmation.
  5. Click **OK**.
  6. You can monitor the status of the resynchronization.
- 

---

## Resynchronizing mailbox information between GR partners

### About this task

Optionally, the administrator can resynchronize the contents of one or more mailboxes using the GR manual mailbox resync. This can be done after GR users are resynchronized between the two servers. Note that the contents of the mailboxes are also resynchronized automatically when the user logs into their mailbox.

 **Warning:**

This may be a time consuming task, depending on the speed of the connection between the two servers, the size of the mailbox, and how busy each server is.

 **Important:**

Mailbox resynchronization does not occur during the nightly audit.

**Procedure**

1. Log on to CallPilot Manager.
  2. On the Maintenance menu, choose **GR Manual Mailbox Resync**.
  3. Change search parameters as required and can click **Search**.
  4. Select desired users and click **Add** to move those users over to the **Selected Users List** field.
  5. Click **Start Resync**.  
This replicates the mailbox information for the selected users.  
  
The GR Status Resync window appears. Status will be updated as users are replicated.
  6. You can monitor the status of the resynchronization.
- 

---

## Aborting a manual user resynchronization

**About this task**

If a user resync or rebuild has just been initiated or is currently in progress, you can stop the process. You may realize that this time consuming process should take place at a later time or be completed during the nightly audit. Regardless of the reason, you can abort the manual user resynchronization at any time.

 **Note:**

If you are already in the Resync Progress window, simply click **Abort**. You do not need to perform the first three steps below.

**Procedure**

1. Log on to CallPilot Manager.
  2. On the Messaging menu, choose **Message Network Configuration**.
  3. Select the GR partner and click **Sync GR users**.  
The Sync GR Users window opens.
  4. When the resynchronization process begins, click **Abort**.  
The resynchronization process will stop.
-

---

## Aborting a manual mailbox resynchronization

### About this task

If a manual mailbox resynchronization has just been initiated or is currently in progress, you can stop the process. You may realize that this time consuming process should take place at a later time. Regardless of the reason, you can abort the manual mailbox resynchronization at any time.

 **Note:**

If you are already in the Resync Progress window, simply click **Stop Resync**. You do not need to perform the first two steps below.

### Procedure

1. Log on to CallPilot Manager.
  2. On the Maintenance menu, choose **GR Manual Mailbox Resync**.
  3. In the Resync Progress window appears, click **Stop Resync**.
  4. Click **OK**.  
The synchronization process will stop.
- 

---

## Changing replication alarm thresholds

### About this task

Replication alarm thresholds are available to monitor user and mailbox resynchronization between the Geographic Redundancy (GR) pair. As an administrator, you can view these threshold values and adjust them if necessary.

If the thresholds are exceeded (100 for users and 200 for mailbox messages), an alarm is raised indicating that the two GR servers have become out of sync to some degree. In this case, the likelihood that users will be accessing out-of-date information if the local server goes down increases. If these alarms occur frequently, this may indicate that you have more messaging traffic than the CallPilot server is capable of handling.

### Procedure

1. Log on to CallPilot Manager.
2. On the Maintenance menu, choose **GR Sync Status Monitor**.
3. In the Replication thresholds area, enter a new value for either **User admin alarm threshold** or **Mailbox message alarm threshold**.

4. Click **Save**.
- 

---

## Placing a CP server in courtesy down state

### About this task

As an administrator, you can safely place a Geographic Redundant (GR) server in a “courtesy down” state in order to perform maintenance tasks on that server. In this state, all messaging activity is disabled (for example, replication between GR partners) but the CallPilot server continues to run. In this state, CallPilot will not accept any calls and therefore is out of service from the perspective of the end user.

Placing a server in a courtesy down state can be a time consuming process. Replication of all messages in the message backlog queue prior to this change in status must be completed before the system can be taken offline.

 **Warning:**

Do not attempt a courtesy down when user or mailbox resync is in progress.

### Procedure

1. Log on to CallPilot Manager.
  2. On the Maintenance menu, choose **Courtesy Down GR System**.  
The Courtesy Down GR System window displays.
  3. Click **Courtesy Down**.  
A confirmation window appears.
  4. Click **OK**.
- 

---

## Returning a CP server back to full service

### About this task

As an administrator, after you have placed a CallPilot (CP) server in a “courtesy down” state and completed any maintenance tasks you had set out to perform, you can bring the CP server back online. The CP server can then begin accepting calls and continue the replication of messages.

### Procedure

1. Log on to CallPilot Manager.

2. On the Maintenance menu, choose **Courtesy Down GR System**.  
The Courtesy Down GR System window displays.
  3. Click **Courtesy Up**.  
A confirmation window appears.
  4. Click **OK**.
-



# Chapter 6: Desktop Messaging and Geographic Redundancy

---

## Introduction

CallPilot Desktop Client is a plug-in for Microsoft Outlook. In addition to having access to their CallPilot messages through Outlook, users can also determine whether Geographic Redundancy (GR) has been configured and which CallPilot server they are connected to (local or GR partner).

The CallPilot Desktop Client always chooses the primary server (local server) over its remote GR partner, unless the primary server is down. You do not need to configure the CallPilot Desktop Client to use the GR feature. GR server information is retrieved automatically upon login to the primary server.

CallPilot Desktop Messaging client is compatible with three different groupware environments: Microsoft Outlook, IBM/Lotus Notes, and Novell/GroupWise.

For more information, see the following procedures:

- [Determining if Geographic Redundancy is configured using Microsoft Exchange](#) on page 36
- [Determining if GR is configured using Lotus Notes](#) on page 36
- [Determining if GR is configured using Novell GroupWise](#) on page 37
- [Determining which CallPilot server you are connected to using Microsoft Exchange](#) on page 37
- [Determining which CP server you are connected to using Lotus Notes](#) on page 38
- [Determining which CP server you are connected to using Novell GroupWise](#) on page 39

---

## Determining if Geographic Redundancy is configured using Microsoft Exchange

### Before you begin

Determine which flavor of Desktop Messaging you use: Microsoft Exchange, Lotus Notes, Novell GroupWise. For more information, see the corresponding document: *CallPilot Desktop Messaging User Guide for Microsoft Outlook (NN44200-103)*, *CallPilot Desktop Messaging User Guide for Lotus Notes (NN44200-104)*, or *CallPilot Desktop Messaging User Guide for Novell GroupWise (NN44200-105)*.

### About this task

You can determine whether Geographic Redundancy (GR) has been configured on the local and remote CallPilot (CP) servers through the Desktop plug-in in Outlook.

### Procedure

1. Launch Microsoft Outlook.
  2. On the Tools menu, choose **CP Desktop Messaging Configuration**.
  3. In the CallPilot Desktop Messaging Configuration dialog box, select the General tab.
  4. Check the GR Partner field to determine whether GR has been configured. If GR has been configured, there is an FQDN and a green check mark or a red circle with a line through it in the GR Partner field. If GR has not been configured, the GR Partner field contains the message "Not available" and an X appears to the right of the field.
- 

---

## Determining if GR is configured using Lotus Notes

### About this task

You can determine whether Geographic Redundancy (GR) has been configured on the local and remote CallPilot (CP) servers through the Desktop Messaging plug-in Lotus Notes.

### Procedure

1. Launch Lotus Notes.
2. Click the **Mail** tab.
3. On the CallPilot Desktop Messaging menu, choose **Configuration**.

4. In the **CallPilot Desktop Messaging Configuration** dialog box, select the **General** tab.
  5. In the **GR Partner** field, determine whether GR is configured.  
If there is an IP address and a check mark to the right, GR has been configured.
- 

---

## Determining if GR is configured using Novell GroupWise

### About this task

You can determine whether Geographic Redundancy (GR) has been configured on the local and remote CallPilot servers through the Desktop Messaging plug-in Novell GroupWise.

### Procedure

1. Launch Novell GroupWise.
  2. On the menu bar, choose **Tools, Callpilot Desktop Messaging,** and then **Configuration.**
  3. In the **CallPilot Desktop Messaging Configuration** dialog box, click the **General** tab.
  4. If there is an FQDN in the **GR Partner** field, GR has been configured.
- 

---

## Determining which CallPilot server you are connected to using Microsoft Exchange

### Before you begin

Desktop must be installed as a plug-in for Microsoft Outlook.

### About this task

You can find out which CallPilot (CP) server you are connected to through Microsoft Outlook using the Desktop plug-in. You can determine whether you are currently connected to the primary server (local) or the remote server (GR partner).

### Procedure

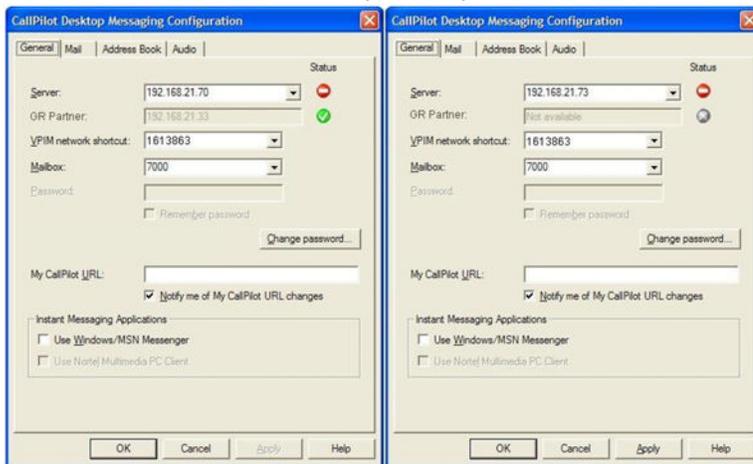
1. Launch Microsoft Outlook.
2. On the Tools menu, choose **CallPilot Desktop Messaging Configuration.**

3. In the **CallPilot Desktop Messaging Configuration** dialog box, click the **General** tab.
4. You are connected to the server that has a check mark in the Status column. This can be either the main server or the GR partner.  
A red circle with a line through it means that you are not currently connected to that server.

---

## Example

Here is an example of what you may see.



---

## Determining which CP server you are connected to using Lotus Notes

### About this task

You can find out which CallPilot server you are connected to through Lotus Notes. You can determine whether you are currently connected to the local server or the remote server (GR partner).

### Procedure

1. Launch Lotus Notes.
2. Click the **Mail** tab.
3. Select **CallPilot Desktop Messaging View**.
4. On the CallPilot Desktop Messaging menu, choose **Configuration**.
5. In the **CallPilot Desktop Messaging Configuration** dialog box, click the **General** tab.

6. You are connected to the server that has a check mark in the Status column.
- 

---

## Determining which CP server you are connected to using Novell GroupWise

### About this task

In Novell GroupWise, you can determine whether you are connected to the local CallPilot server or the remote GR partner.

### Procedure

1. Launch Novell GroupWise.
  2. On the menu bar, choose **Tools, CallPilot Desktop Messaging**, and then **Configuration**.
  3. In the **CallPilot Desktop Messaging Configuration** dialog box, click the **General** tab.
  4. You are connected to the server that has a check mark in the **Status** column.
-



# Chapter 7: My CallPilot and Geographic Redundancy

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## Introduction

My CallPilot is a web application that provides a web-based interface for users to log into and manage their mailbox. It is recommended that My CallPilot is installed on a standalone web server, as opposed to a CallPilot sever, in order to take advantage of the Geographic Redundancy (GR) feature. In this recommended installation, My CallPilot is able to redirect requests to the GR partner when the local CallPilot server is not available.

My CallPilot requires the administrator to manually configure GR partner information either during installation or post-installation.

For more information, see the following procedures:

- [Manually entering GR partner information during My CallPilot installation](#) on page 41
- [Manually entering GR partner information post-installation](#) on page 42
- [Determining whether GR has been configured](#) on page 43

---

## Manually entering GR partner information during My CallPilot installation

### About this task

As an administrator, you can specify the fully-qualified domain name (FQDN) of the Geographic Redundant (GR) partner during the installation of My CallPilot in order to enable My CallPilot to point to the GR partner if the primary server goes down.

 **Note:**

If you already have My CallPilot installed and want to either configure GR or change GR settings, refer to [Manually entering GR partner information post-installation](#) on page 42.

### Procedure

1. Run setup.exe to install MyCallPilot.

2. Go to the **CallPilot GR Partner Settings** dialog box, select **GR Partner configured**.
  3. In the **Server Address** field, enter the TCP/IP address or host name of the GR partner.
  4. In the **Address Book Search Base** field, enter the search base that matches the value on the GR partner.
  5. In the **Fully-Qualified Domain Name (FQDN) of GR Partner** field, enter the FQDN of the GR partner.
  6. Click **Next**.
- 

---

## Manually entering GR partner information post-installation

### About this task

As an administrator, you can specify the fully-qualified domain name (FQDN) of the GR partner any time after installing My CallPilot in order to enable My CallPilot to point to the GR partner if the primary server goes down. Whether My CallPilot is installed on the CallPilot server or on a standalone web server, the procedure remains the same.

### Procedure

1. Log on to Windows on the server where My CallPilot is installed.
  2. Click the Windows button, choose **Programs, Avaya, My CallPilot**, and then **My CallPilot Setup**.  
The **My CallPilot Administration Utility** opens.
  3. Click the **Default CallPilot Server** tab.
  4. In the **CallPilot GR Partner** field, enter the IP address or hostname of the GR partner.
  5. In the **GR Partner FQDN field**, enter the fully-qualified domain name of the GR partner.
  6. In the **GR Search Base** field, enter the search base that matches the value on the GR partner.
  7. Click **OK**.
-

---

## Determining whether GR has been configured

### About this task

End users can easily determine whether Geographic Redundancy (GR) has been configured on My CallPilot and view the address of the GR partner if GR has been configured.

### Procedure

1. In a supported web browser, enter the following address: `http://<MyCallPilotServer>/MyCallPilot`
  2. Click **Configure**.
  3. In the **Configure** window, the **CallPilot GR Partner** field displays the address of the GR partner. If this field is blank, GR has not been configured on My CallPilot.
-



# Chapter 8: Reporter and Geographic Redundancy

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## Introduction

Reporter is a web-based application that helps you analyze and manage your CallPilot system. Reporter converts raw statistics from your server into easy-to-read reports without having significant impact on the CallPilot server memory or processor load. For more information about Reporter, refer to the *CallPilot Reporter Guide*, (NN44200-603).

---

## Running a GR message backlog report

### Before you begin

CallPilot Reporter must be installed and configured.

### About this task

There is a new networking report for Geographic Redundancy (GR) that is available in CallPilot Reporter. The Geographic Redundancy (GR) messages backlog report provides historical information pertaining to system status. As an administrator, you can view the backlog of user changes and mailbox messages. This report is an indicator of how well your GR system is running, not just today but over a period of time.

### Procedure

1. Launch CallPilot Reporter.
2. In the **Reports Category** on the left, select **Networking Reports**.
3. In the **Networking Reports** on the right, click **Add New**.
4. In the **Networking Reports** window, select **GR Messages Backlog Report** and click **Add**.  
The GR Messages Backlog Report window displays.

5. Select the new GR Messages Backlog Report.  
The GR Messages Backlog Report window displays.
6. In the **Report Name** field, enter a name for the GR report.
7. In the **Comments** field, enter any comments you want associated with the report.
8. In the **Print Report Schedule** area, fill in the desired report parameters.
9. In the **Output Options** area, specify the output parameters you require.

# Chapter 9: Configuring a campus redundant CS 1000 switch for CallPilot Geographic Redundancy

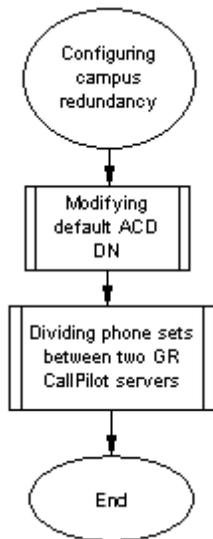
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## Introduction

As an administrator, you can configure a pair of Geographic Redundant (GR) CallPilot servers on a primary and secondary CS 1000 switch. From the CP perspective, there is a single CS 1000 switch. In this configuration, the two CS 1000 switches exist as active-standby. When one CS 1000 is active, the other CS 1000 is in standby mode and only becomes active if the primary server goes down.

You are expected to have a working knowledge of the CS 1000 and its various call routing components, such as automatic call distribution (ACD) and control directory numbers (CDN). For more information, see *Communication Server 1000 System and CallPilot Server Configuration, NN44200-312*.

**Figure 5: Configuring campus redundancy task flow**



## Modifying the default ACD DN

### Before you begin

- Campus redundant CS 1000 switch must be installed and configured. For more information, see *Communication Server 1000 System Redundancy Fundamentals, NN43001-507*.
- CallPilot (CP) server must be installed and receiving calls from the CS 1000 switch.
- The Geographic Redundancy (GR) feature must be configured on a GR pair connected to the campus redundant CS 1000.

### About this task

During normal operation, the CDN is in control mode and callers are queued to be routed and then answered by CallPilot services. Under error conditions, if the AML link is down for example, or when CallPilot is in a Courtesy Down state, the CDN operates in default mode. In this mode, calls are routed to the default ACD DN defined for the CDN (DFDN).

Follow this procedure to change the default ACD DN in order to have the remote GR CallPilot server handle calls. This ACD DN must have its night call forward DN set to the Control Directory Number (CDN) of the GR partner.

### Procedure

1. Load overlay 23.
2. For each of the prompts listed below, enter the corresponding response. For those prompts not listed, accept the default by pressing <Enter>.

Prompt	Response
REQ	CHG
TYPE	ACD
CUST	xx
ACDN	yyyy
MWC	NO
MAXP	1
NCFW	zzzz (CDN of GR partner)
	<Enter>
REQ	****

---

## Dividing phone sets between the two GR CallPilot servers

### About this task

When a Geographic Redundant (GR) pair is connected to a campus redundant CS 1000 switch, the extension and callback dialing numbers (DNs) for both local and remote GR mailboxes must be the same in order for call processing features such as auto login, MWI, and call sender to function properly.

All phone sets registered on the CS 1000 switch should be divided between the two GR CallPilot servers. In order for the split to happen in a campus redundant configuration, the steering code is used but not in a conventional sense. As an administrator, you must specify an overlap for the DN of all phones. This is done in the steering code and overlap fields for both the local and remote GR servers, therefore the procedure below must be done on both CallPilot servers in the GR pair.

### Procedure

1. Log on to CallPilot Manager.
2. On the Messaging menu, choose **Message Network Configuration**.
3. Expand the CP server you are currently configuring.
4. Select the associated CS 1000 switch.
5. Click **Show Details**.  
The location properties for that CS 1000 switch display.
6. In the **Dialing and Addressing** area, enable both **CDP Dialing Plan for this Location** and **Mailbox Addressing Follows Dialing Plan**.
7. In the **CDP** area, select the steering code.  
CDP Code Details for that steering code display.
8. In the **Steering Code** field, enter the leading digits that you want to use to indicate the DN that belong to the current CallPilot.
9. In the **Overlap** field, enter the number of leading digits indicated in the **Steering Code** field in the previous step.
10. Click **OK**.

---

### Example

CallPilot server A and CallPilot server B must split incoming calls from the CS 1000 switch. In order for this call division to take place, specific DN is assigned to each CallPilot server. For example, a steering code of 346 is specified on server A and a steering code of 347 is specified on server B. In this case, an overlap value of three (3) is used because the steering codes have three digits.

## Configuring a campus redundant CS 1000 switch for CallPilot Geographic Redundancy

In this example, calls coming into the CS 1000 that start with 346 are directed to CallPilot server A and calls that start with 347 are directed to CallPilot server B.

# Chapter 10: Configuring two independent CS 1000 switches for CallPilot Geographic Redundancy

---

## Introduction

As an administrator, you can configure two Geographic Redundant (GR) CallPilot servers with two independent CS 1000 switches. It is assumed that the two CallPilot servers have been configured as a GR pair and that the two independent CS 1000 switches are connected to one another via trunks.

In order to support full operation of CP call processing when one of the CS 1000 switches goes down, configuration of the CS 1000 pair using centralized deployment model (CDM) is strongly recommended. For information on how to configure CDM with zone-based dialing, refer to the Communication Server 1000 Features and Services Fundamentals and Communication Server 1000 Dialing Plans Reference documents.

---

## Modifying the default ACD DN

### Before you begin

- CS 1000 switches must be installed and configured.
- CallPilot servers must be installed and receiving calls from the CS 1000 switch.
- Geographic Redundancy (GR) must be configured on two CallPilot servers (local and remote).

### About this task

During normal operation, the CDN is in control mode and callers are queued to be routed and then answered by CallPilot services. Under error conditions, if the AML link is down for example, or when CallPilot is in a Courtesy Down state, the CDN operates in default mode. In this mode, calls are routed to the default ACD DN defined for the CDN (DFDN).

Follow this procedure to change the default ACD DN in order to have the remote GR CallPilot server handle calls. This ACD DN must have its night call forward DN set to the network prefix and Control Directory Number (CDN) of the GR partner CallPilot.

## Procedure

1. Load overlay 23.
2. For each of the prompts listed below, enter the corresponding response. For those prompts not listed, accept the default by pressing <Enter>.

Prompt	Response
REQ	CHG
TYPE	ACD
CUST	xx
ACDN	yyyy
MWC	NO
MAXP	1
NCFW	zzzz (network prefix and CDN of GR partner)
	<Enter>
REQ	****

---

# Chapter 11: Configuring two Geographic Redundant CS 1000 switches for CallPilot Geographic Redundancy

---

## Introduction

As an administrator, you can configure two Geographic Redundant (GR) CallPilot servers with two GR CS 1000 switches. It is assumed that the two CallPilot servers have been configured as a GR pair and that the two CS 1000 switches are configured for GR and are connected to one another via trunks.

In this configuration, the two CS 1000 switches (CS 1000E and CS 1000M) are active, as are the two CallPilot servers. If one switch goes down, the remaining active switch assumes control and provides uninterrupted service. This configuration is called controlled load sharing and provides redundancy for IP phones only; redundancy for analog and digital telephones is not supported.

In order to support full operation of CallPilot call processing when one of the CS 1000 switches goes down, configuration of the CS 1000 GR pair using centralized deployment model (CDM) is strongly recommended. For information on how to configure CDM with zone-based dialing, refer to the *Communication Server 1000 Features and Services Fundamentals* and *Communication Server 1000 Dialing Plans Reference* documents.

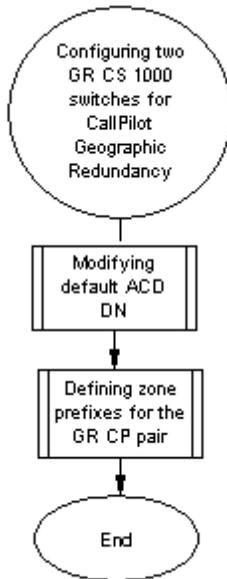


Figure 6: Configuring GR CS 1000 switches task flow

---

## Modifying the default ACD DN

### Before you begin

- Geographic Redundant (GR) CS 1000 switches must be installed and configured with deployment model and zone based dialing. For more information, refer to the *Communication Server 1000 System Redundancy Fundamentals*, (NN43001-507).
- CallPilot server must be installed and receiving calls from the CS 1000 switch.
- GR must be configured on two CallPilot servers (local and remote).

### About this task

During normal operation, the CDN is in control mode and callers are queued to be routed and then answered by CallPilot services. Under error conditions, if the AML link is down for example, or when CallPilot is in a Courtesy Down state, the CDN operates in default mode. In this mode, calls are routed to the default ACD DN defined for the CDN (DFDN).

Follow this procedure to change the default ACD DN in order to have the remote GR CP server handle calls. This ACD DN must have its night call forward DN set to the zone prefix and CDN of the GR partner CallPilot (CP). In a GR CS 1000 configuration, there are two separate CS 1000 switches virtually acting as one. Phone sets are divided among zones. The zone prefix indicates which zone phone sets belong to. When a user dials the zone prefix and CDN, the call is automatically routed to the corresponding zone.

### Procedure

1. Load overlay 23.

2. For each of the prompts listed below, enter the corresponding response. For those prompts not listed, accept the default by pressing <Enter>.

Prompt	Response
REQ	CHG
TYPE	ACD
CUST	xx
ACDN	yyyy
MWC	NO
MAXP	1
NCFW	zzzz (zone prefix and CDN of GR partner)
	<Enter>
REQ	****

---

## Defining the zone prefixes for the GR CallPilot pair

### About this task

When a Geographic Redundant (GR) pair is connected to GR CS 1000 switches, the extension and callback dialing numbers (DNs) for both local and remote GR mailboxes must be the same in order for call processing features such as auto login, MWI, and call sender to function properly.

In this configuration, it is necessary to use zone based dialing. Because the two GR CS 1000 switches are mirror images of each other, phone sets must be partitioned into specific zones. The steering code field mentioned below is where the zone code is specified. This procedure must be performed on both CallPilot servers in the GR pair.

### Procedure

1. Log on to CallPilot Manager.
2. On the Messaging menu, choose **Message Network Configuration**.
3. Expand the server you are currently configuring.
4. Select the associated CS 1000 switch.
5. Click **Show Details**.  
The location properties for that CS 1000 switch display.

6. In the **Dialing and Addressing** area, enable both **CDP Dialing Plan for this Location** and **Mailbox Addressing Follows Dialing Plan**.
7. In the **CDP** area, select the steering code.  
CDP Code Details for that steering code display.
8. In the **Steering Code** field, enter the zone code for the server you are currently configuring.
9. In the **Overlap** field, indicate the number of digits used in the Steering Code field in the preceding step.
10. Click **OK**.

---

### Example

CallPilot server A and CallPilot server B must split incoming calls from the active CS 1000 switch. In order for this call division to take place, calls are assigned to CallPilot servers identified with specific zones. For example, a zone code of 346 is specified on server A and a zone code of 347 is specified on server B. In this case, an overlap value of three (3) is used because the steering codes have three digits.

In this example, calls coming into the active CS 1000 that start with 346 are directed to CallPilot server A and calls that start with 347 are directed to CallPilot server B.

# Chapter 12: Troubleshooting Geographic Redundancy

---

## Introduction

After you have configured Geographic Redundancy, you may encounter the occasional problem. This chapter lists a number of specific issues and suggested solutions.

- [The GR partner status indicator is not displaying a “Running” state](#) on page 57
- [The GR partner status indicator shows a check mark but users are not being replicated](#) on page 58
- [After a failover users can not access the GR partner](#) on page 59
- [After a failover user can not login](#) on page 59
- [After a failover user is missing messages](#) on page 60

---

## The GR partner status indicator is not displaying a “Running” state

### About this task

Follow the steps in this procedure to establish a successful connection between the GR pair. You may only need to perform a single step or multiple steps to get your GR configuration running successfully. If, however, you complete all steps and still have not resolved the problem, contact Avaya Support: [www.avaya.com/support](http://www.avaya.com/support).

### Procedure

1. Verify that regular VPIM messages can be sent between the two CallPilot servers.
  - a. Change the GR partner back to regular CallPilot mode.
  - b. Compose and send a VPIM message between servers in both directions.
  - c. Log on to each server to verify that the VPIM messages have been received. If the messages have not been received, refer to the VPIM networking chapter in *CallPilot Network Planning Guide*, (NN44200-201).

- d. Return the servers back to GR mode. For more information, see [Creating a GR partner](#) on page 21
  2. Verify that the information entered when configuring GR is correct for both the local server and its GR partner.
  3. Check the event log for any event that may provide a clue into what is causing the problem.
- 

---

## The GR partner status indicator shows a check mark but users are not being replicated

### About this task

Follow the steps in this procedure to resume user replication between the GR pair. You may only need to perform a single step or multiple steps. If, however, you complete all steps and still have not resolved the problem, contact Avaya Support: [www.avaya.com/support](http://www.avaya.com/support).

 **Note:**

Users are not automatically replicated after a GR partner is created. Users have to be manually resynchronized. For more information, see [Resynchronizing GR users manually](#) on page 23.

### Procedure

1. Re-enter the GR password on both CallPilot servers to ensure the source of the problem is not an encryption issue. For more information, see [Resynchronizing GR users manually](#) on page 23.
  2. Run the GR comparison tool to check for problematic discrepancies between the servers (for example, missing mailbox classes). For more information, see [Comparing GR partners](#) on page 22
  3. Check the GR sync status monitor to ensure the servers are not overloaded with queued messages. For more information, see [Monitoring the status of the system synchronization](#) on page 27.
  4. Check the event log for any event that may provide a clue into what is causing the problem.
-

---

## After a failover users can not access the GR partner

### About this task

Follow the steps in this procedure to enable users to connect to the GR partner. You may only need to perform a single step or multiple steps to get your GR configuration running successfully. If, however, you complete all steps and still have not resolved the problem, contact Avaya Support: [www.avaya.com/support](http://www.avaya.com/support).

### Procedure

1. Ensure that the GR partner is running.
  2. Ensure the CS 1000 switch settings are correct. Refer to the procedure for Modifying the default ACD DN in this document but make sure it is the procedure that relates specifically to your CS 1000 configuration.
  3. Ensure matching SDNs are created on the GR partner. For more information, refer to [Configuring an SDN](#) on page 25.
  4. On the Maintenance menu of the GR partner, choose **Channel Monitor** to ensure that when a call is placed, a channel switches from idle to active.
  5. On the GR partner, check the event log for any events that may provide a clue into what is causing the problem.
- 

---

## After a failover user can not login

### About this task

Follow the steps in this procedure to enable users to connect to the GR partner. You may only need to perform a single step or multiple steps to get your GR configuration running successfully. If, however, you complete all steps and still have not resolved the problem, contact Avaya Support: [www.avaya.com/support](http://www.avaya.com/support).

### Procedure

1. Ensure that the user has been replicated from the local server. If the user has not been copied over, perform the following procedure on the local server when it comes back online: [Resynchronizing GR users manually](#) on page 23.
2. Ensure that the user data is up-to-date, particularly the time at which the user password was last modified. If data is old, attempt to reset the password and when the local server comes back online, ensure that the time and time zone settings are correct.

3. On the GR partner, check the event log for any events that may provide a clue into what is causing the problem.
  4. When the local server returns to service, look at the GR sync status monitor to ensure that the servers are not overloaded.
- 

---

## After a failover user is missing messages

### About this task

Follow the steps in this procedure to access missing messages following a failover. You may only need to perform a single step or multiple steps to get your GR configuration running successfully. If, however, you complete all steps and still have not resolved the problem, contact Avaya Support: [www.avaya.com/support](http://www.avaya.com/support).

### Procedure

1. On the GR partner, check the event log for any events that may provide a clue into what is causing the problem.
  2. When the local server returns to service, access User Details to confirm that the user's message count between the local server and the GR partner is different.
  3. Run a manual mailbox resync for that user on the local server. For information, see [Resynchronizing mailbox information between GR partners](#) on page 24.
  4. Look at the GR sync status monitor to ensure that servers are not overloaded
-

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