High Availability: Installation and Configuration

Trademarks

NOTES is a trademark of Lotus Development Corporation.

NORTON ANTIVIRUS and PCANYWHERE are trademarks of Symantec Corporation.

QUICKTIME is a trademark of Apple Computer, Inc.

RADISYS is a trademark of Radisys Corporation.

ROLM is a trademark of Siemens ROLM Communications Inc.

SLR4, SLR5, and TANDBERG are trademarks of Tandberg Data ASA.

SONY is a trademark of Sony Corporation.

SYBASE is a trademark of Sybase, Inc.

TEAC is a trademark of TEAC Corporation.

US ROBOTICS, the US ROBOTICS logo, and SPORTSTER are trademarks of US Robotics.

WINZIP is a trademark of Nico Mark Computing, Inc.

XEON is a trademark of Intel, Inc.

All other trademarks and registered trademarks are the property of their respective owners.

Publication History

April 2007
CallPilot 5.0, Standard 01.05 of the *CallPilot High Availability: Installation and Configuration* is issued for general release.

April 2007
CallPilot 5.0, Standard 01.04 of the *CallPilot High Availability: Installation and Configuration* is issued for general release.

April 2007
CallPilot 5.0, Standard 01.03 of the *CallPilot High Availability: Installation and Configuration* is issued for general release.

March 2007
CallPilot 5.0, Standard 01.02 of the *CallPilot High Availability: Installation and Configuration* is issued for general release.

March 2007
CallPilot 5.0, Standard 01.01 of the *CallPilot High Availability: Installation and Configuration* is issued for general release.

Contents

Chapter 1
How to get help

This chapter explains how to get help for Nortel products and services.

Getting help from the Nortel Web site

The best way to get technical support for Nortel products is from the Nortel Technical Support Web site:

www.nortel.com/support

This site provides quick access to software, documentation, bulletins, and tools to address issues with Nortel products. From this site, you can:

- download software, documentation, and product bulletins

- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues

- sign up for automatic notification of new software and documentation for Nortel equipment

- open and manage technical support cases

Getting help over the phone from a Nortel Solutions Center

If you don not find the information you require on the Nortel Technical Support Web site, and have a Nortel support contract, you can also get help over the phone from a Nortel Solutions Center.

In North America, call 1-800-4NORTEL (1-800-466-7835).

Outside North America, go to the following Web site to obtain the phone number for your region:

www.nortel.com/callus

Getting help from a specialist by using an Express Routing Code

To access some Nortel Technical Solutions Centers, you can use an Express Routing Code (ERC) to quickly route your call to a specialist in your Nortel product or service. To locate the ERC for your product or service, go to:

www.nortel.com/erc

Getting help through a Nortel distributor or reseller

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller.

Chapter 2
Introduction

In this chapter

Overview of High Availability

In a High Availability configuration, a pair of peer CallPilot servers are used in the place of a single server. Both servers are connected to the same switch (Meridian 1 or Communication Server 1000 [CS 1000]) and they are configured so that one CallPilot server is active (that is, processing calls) and the other server is in standby mode.

The standby server takes over if the active server fails (due to predefined failure conditions), or if the administrator decides to manually switch over to the standby server. This process is known as a failover. For more information, see "Failovers" (page 18).

To support a High Availability configuration for CallPilot, a combination of hardware and third-party software is required, as follows:

- There is an entry in the CallPilot 5.0 keycode for the High Availability feature.

- High Availability is supported only on the 1005r platform. For more information about the hardware, see "High Availability hardware" (page 14).

- System control and monitoring and disk mirroring of the High Availability system is provided by the EMC AutoStart software. For more information, see "AutoStart software" (page 16).

High Availability hardware

High Availability is supported only on the 1005r platform. Two 1005r servers are required for the High Availability configuration.

The 1005r server is equipped with two extra dual-Ethernet interface cards that provide the following three connections between the two High Availability servers:

- The **Heartbeat signal (HB1)** connection is used to monitor the state of the active server.

- The **Heartbeat backup signal (HB2)** connection is a backup of HB1 in case the IP interface for HB1 fails.

- The **Mirroring** connection is used for mirroring data between the two servers.

ATTENTION

These three connections are critical to High Availability operation. Nortel recommends that these three connections be made directly, using crossover cables instead of a hub or switch. Failure of any device such as a hub or switch in the signal path can create an unwanted results.

Heartbeat signals

The standby server needs a way to tell if the active server is running to know when to take control if the active serves ceases to run. This is accomplished through the use of a heartbeat signal that is communicated between the active and standby server.

Due to the importance of the heartbeat signal, a pair of physical links (Heartbeat 1 and Heartbeat 2) between the active and the standby servers are used to transport the signal. This way, if either of the links fail, the heartbeat signal still has a path between the two servers.

Mirroring

In order for the standby server to take over call processing, the server must have the same configuration as the failed active server and have access to all of the data (such as the users and the Application Builder applications) on the failed server. This task is accomplished by mirroring data between the two servers. This way, if an active server fails, the standby server of the pair has an up-to-date copy of all of the data from the active server so it can take over the role of the failed active server.

Managed TCP/IP settings

To the external IP network (including the end users, the switch, and the CallPilot Web applications) the pair of servers must look like one server. To accomplish this, Managed IP (also called virtual IP) addresses and host name settings are used. The Managed IP addresses and host name settings allow the pair of CallPilot High Availability servers to appear as one IP address to the outside IP network.

The following figure shows two CallPilot servers and the connections between them.

Figure 1
Example of a High Availability system
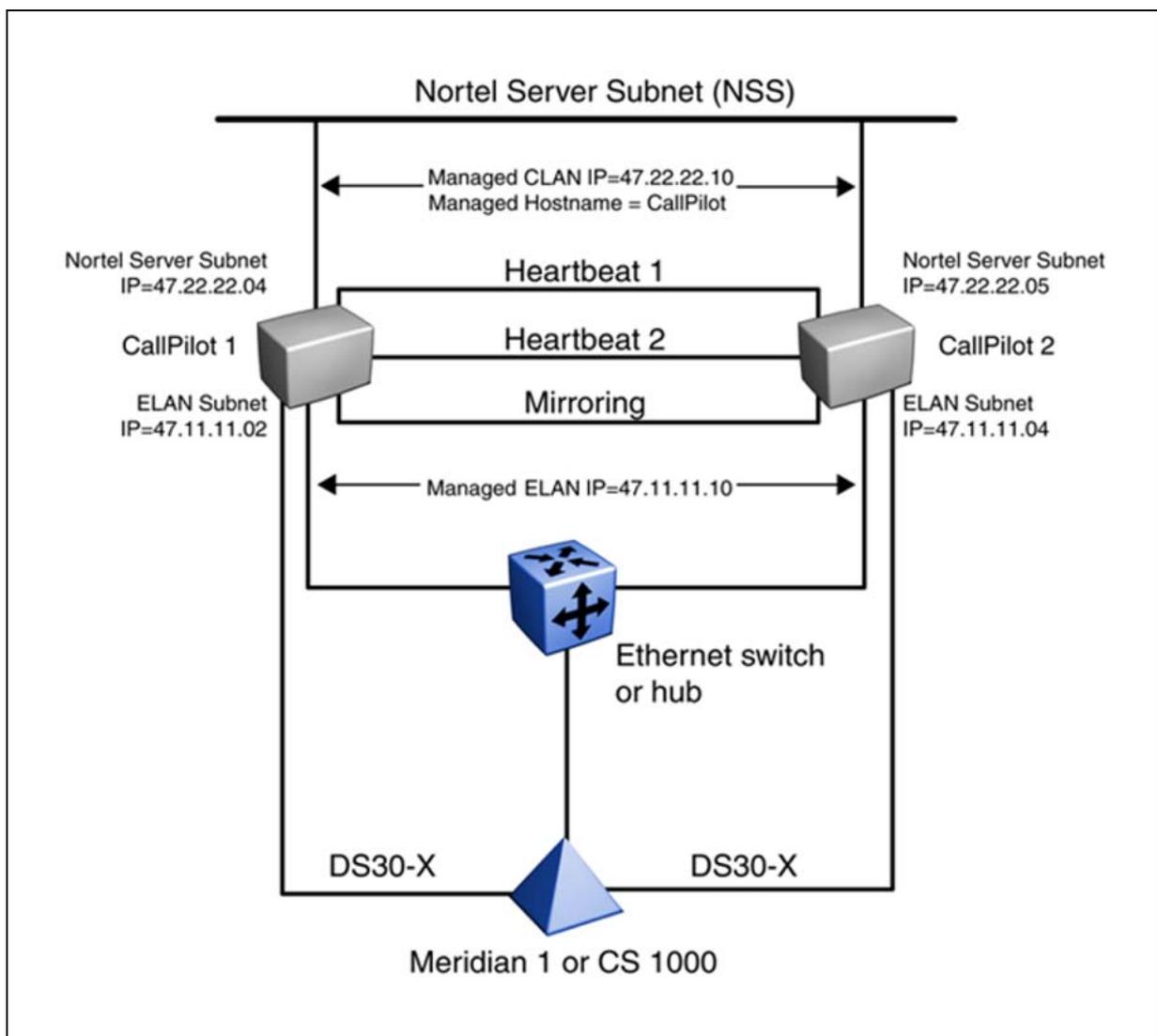
Switch connectivity

Both CallPilot servers have a DS30 connection to the switch. As a result, the number of MGate cards required in the switch is double the number required for a single CallPilot server. For a pair of servers providing 192 channels, the switch must have a total of 12 MGate cards installed (six MGate cards per 192 channels times two servers). At any one time only one of the two CallPilot servers is up and running. Therefore, even though there are 384 channels configured on the switch, a maximum of 192 channels are available for call processing at any one time.

High Availability network

The following figure shows the network containing the two High Availability servers (CallPilot 1 and CallPilot 2).

Figure 2
High Availability network
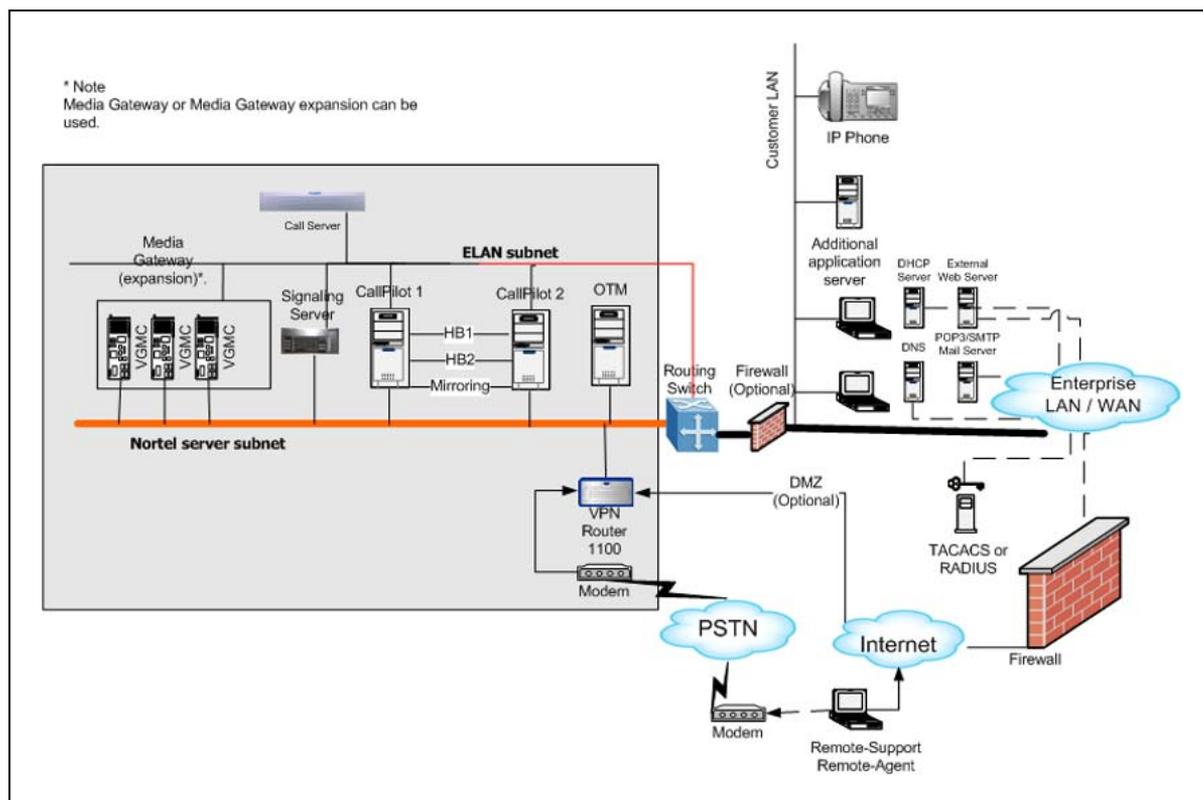
AutoStart software

The AutoStart software is installed on each server and performs the following functions:

• Monitors the status of both servers in the High Availability pair.

• Performs an automatic failover when a failure condition is detected.

- Keeps the hard drives on both servers synchronized through a mirroring process.

- Manages the IP addresses of the ELAN subnet and Nortel Server subnet, making the server pair appear as a single server to the network.

- Provides a mechanism for administrator-initiated (manual) failovers.

The CallPilot High Availability system uses the following components of the AutoStart software:

- AutoStart Agent—The Agent software resides on both CallPilot servers and provides the disk mirroring and managed IP services. The AutoStart Agent includes the set of processes that performs the AutoStart monitoring and management functionality.

- AutoStart Backbone—The AutoStart Backbone includes the processes running on the AutoStart Agent that provide messaging services.

- AutoStart Console—The Console software provides a visual interface to the High Availability server pair and is used to administer the Agent software installed on the CallPilot servers. By default, the Console software is installed on both CallPilot servers so administration of the pair can be done when the administrator is logged on to either server; however, the Console software can also be installed on a PC on the Nortel Server subnet for remote administration.

  The AutoStart Console provides the following:

  — A centralized monitoring and administration tool for taking managed resources and resource groups online and offline, which reduces administrative overhead.

  — A real-time reflection of object states. As soon as AutoStart detects a state change for an object, the graphical interface updates its display to reflect that change. See "Checking the status of the servers and failovers" (page 193).

  — An interface to define and configure all the managed resources from a single local or remote location.

The AutoStart software is manually installed when you configure the pair of CallPilot servers with the High Availability feature. The required AutoStart software is included on the CallPilot 5.0 Applications CD.

ATTENTION

This version of the software is tested and verified to work correctly with the CallPilot 5.0 High Availability feature. The AutoStart software on the CallPilot server must not be updated or patched unless the new software or patch is tested and validated by Nortel.

Failovers

In a High Availability system, one server is active while the other is in the standby mode. If a predefined failure occurs on the active server, the standby server comes into service, becoming the active server. The process of the standby server becoming the active server is called a failover.

For more information, see Chapter 4 "Failover overview" (page 33).

Limitations

The limitations of the High Availability system include the following:

- The two High Availability servers must be colocated. The locations of the servers are limited by the length of the DS30X cables that connect the High Availability servers to the Meridian 1 or CS 1000 switch. The maximum length of the DS30X cables is 32.8 feet or 10 meters long.

- Failover limitations include the following:

  — Any connections (that is, calls in progress) to the active CallPilot server are lost after a automatic or manual failover occurs.

  — There is a window during the failover when neither the active nor standby server is available; therefore, the CallPilot system is inaccessible. In the default configuration, voice processing is not available for approximately 10 minutes after the failover is started. This time can be decreased by disabling the DSP diagnostics. Other services, such as Internet Message Access Protocol (IMAP) connections, may be available in a shorter window.

  — Only a limited number of automatic failover cases are supported, as follows:

    – A reboot or shut down of the active server.

    – Loss of connection on the ELAN at the TCP/IP level (for example, failure of the server to respond to the ping command for a specified period of time).

    – Failure of one or more of the critical CallPilot services. The system attempts to restart a failed critical CallPilot service three times before resorting to a failover.

- Mirroring limitations include the following:

  — Due to the way the AutoStart software does disk mirroring, the mirrored drives cannot be accessed on the standby server while in use on the active server. This means that the multimedia file system (MMFS), database, and Application Builder applications cannot be accessed on the standby server while the active server is up and running.

— There is no way to break the mirroring between the active and standby servers (to make the mirrored drives visible on the standby server while the active server is running) without also temporarily taking down the active server.

- Performance Enhancement Packages (PEPs) must be applied individually to each server in the High Availability pair.

- The CallPilot 5.0 High Availability feature does not support geographic redundancy.

- The Voice Profile for Internet Mail (VPIM) prefix on both servers in a High Availability server must be the same.

- If the High Availability system is part of a Windows Domain, both servers (CP1 and CP2) must belong to the same Windows domain.

- The CallPilot system monitor cannot run on the standby server as there are no database, MMFS access, or CallPilot services running.

- If scheduled backups are performed to a local tape drive on the active server, the backup fails after a switchover unless the tape drive is physically moved and connected to the standby server or a second tape drive is connected to the standby server.

- If scheduled backups are preformed to a remote backup device (that is, a network share), the same backup device must be configured through CallPilot Manager on both servers in the pair. If the device is only defined on the active server, any scheduled backups to that device fail on the standby server.

- The computer names of the High Availability servers must contain only alphanumeric characters. Nonalphanumeric characters (such as a hyphen [-]) are not allowed.

- In CallPilot 5.0, the High Availability feature cannot be used with CallPilot and Contact Center integration.

Reference documents

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

NORTEL

CallPilot Customer Documentation Map

Fundamentals
- CallPilot Fundamentals Guide (NN44200-100)

Planning and Engineering
- Planning and Engineering Guide (NN44200-200)
- Network Planning Guide (NN44200-201)
- Converging the Data Network with VoIP Guide (NN43001-260)
- Solution Integration Guide for Communication Server 1000/CallPilot/Contact Center/Telephony Manager (NN49000-300)*

Installation and Configuration
- Upgrade and Platform Migration Guide (NN44200-400)
- High Availability: Installation and Configuration (NN44200-311)
- Installation and Configuration Task List Guide (NN44200-306)
- **Server Installation Guides**
  - 201i Server Hardware Installation Guide (NN44200-301)
  - 703t Server Hardware Installation Guide (NN44200-304)
  - 1002rp Server Hardware Installation Guide (NN44200-300)
  - 1005r Server Hardware Installation Guide (NN44200-308)
  - 600r Server Hardware Installation Guide (NN44200-307)
- **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
- CallPilot Troubleshooting Reference Guide (NN44200-700)
- Preventative Maintenance Guide (NN44200-505)
- **Server Maintenance and Diagnostics**
  - 201i Server Maintenance and Diagnostics Guide (NN44200-705)
  - 703t Server Maintenance and Diagnostics Guide (NN44200-702)
  - 1002rp Server Maintenance and Diagnostics Guide (NN44200-701)
  - 1005r Server Maintenance and Diagnostics Guide (NN44200-704)
  - 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	**End User Guides**
Unified Messaging Quick Reference Card	Multimedia Messaging User Guide
Unified Messaging Wallet Card	Speech Activated Messaging User Guide
A-Style Command Comparison Card	Desktop Messaging User Guide for Microsoft Outlook
S-Style Command Comparison Card	Desktop Messaging User Guide for Lotus Notes
Menu Interface Quick Reference Card	Desktop Messaging User Guide for Novell Groupwise
Alternate Command Interface Quick Reference Card	Desktop Messaging User Guide for Internet Clients
	Desktop Messaging User Guide for My CallPilot
	Voice Forms Transcriber User Guide

available in summer 2007

Chapter 3
Planning and engineering

In this chapter

Introduction

For detailed CallPilot 5.0 and 1005r server information, see the *Planning and Engineering Guide* (NN44200-200).

Planning and engineering information specific to High Availability is covered in this chapter.

Management of the TCP/IP network

Each 1005r server in the pair of High Availability servers requires its own unique host name, ELAN IP address, and CLAN IP address. In addition, the pair of servers are assigned a Managed (or virtual) host name, Managed ELAN IP address, and Managed CLAN IP address to make the pair of servers look like a single CallPilot server to the end clients. The end clients include the following:

- CallPilot Reporter

- My CallPilot

- Desktop Client

- Application Builder

- CallPilot Manager

- the switch

The managed network settings must be used by all clients. The clients do not need to access either server directly. All access must be done using the managed networking parameters. The EMC AutoStart software ensures that the currently active server responds to any requests made to either the Managed host name or IP addresses.

The CallPilot High Availability system uses managed networking settings so that common settings are used by the CallPilot clients, as follows:

- CallPilot Reporter, My CallPilot, Desktop Client, Application Builder, and CallPilot Manager (accessed using the Web) use the Managed CLAN IP address and host name.

- The switch uses the Managed ELAN IP address.

When a switchover occurs from Node 1 (CP1) to Node 2 (CP2), the CallPilot applications and the switch do not change IP settings and the clients do not notice any changes. The Managed CLAN requires IP name resolution. This means that the manage CLAN must be manually added by a Domain Name Service (DNS) administrator if you are using a DNS server as the solution or the host file must be updated on both the CP1 and CP2 servers.

For servers that are receiving the High Availability feature expansion, it is important that the current host name, CLAN IP address, and ELAN IP address are reused as the Managed host name, Managed CLAN IP address, and Managed ELAN IP address for the new High Availability pair. Reusing the network settings as the managed network settings ensures that any existing clients (for example, desktop client installations) do not have to change their configuration to access the new High Availability pair. The clients are unaware that there is now a pair of High Availability servers where there used to be a single CallPilot server.

> ⚠ **WARNING**
>
> If you do not reuse the existing host name, ELAN IP address, and CLAN IP address during an upgrade and you have an existing CallPilot Reporter installation with historical data, after the upgrade, all new data is recorded against the new Managed host name. Any older data collected in CallPilot Reporter does not appear.
>
> If you do not reuse the existing host name, ELAN IP address, and CLAN IP address during an upgrade and you have existing Application Builder applications, then after the upgrade the applications must be recreated.

Network planning

In addition to the CLAN and ELAN connections, a pair of High Availability servers has three additional dedicated network interface ports for the following:

- HB1 (Heartbeat 1)

- HB2 (Heartbeat 2 backup)

- Mirror (Data mirroring between the two servers)

The NICs must be physically connected between the two servers using crossover LAN cables and must not be run through any type of switch or hub, as such a configuration is not supported.

> ⚠ **WARNING**
>
> Crossover cables must be used to connect the NICs between the two High Availability servers.
>
> Networking equipment (switch, hub, or router) is not supported in this configuration. The only supported configuration is the use of dedicated crossover LAN cables between the HB1, HB2, and Mirror NICs between the two High Availability servers.

The networking parameters (that is, IP address and subnet mask) for both nodes in the High Availability pair must be set before the EMC AutoStart software is installed or the High Availability pair does not work correctly

(see "Install the AutoStart Agent and Console software " (page 79)). Each network connection must be on a different subnet. Nortel recommends the following values be used for the dedicated network connections:

Table 1
Node 1

Network Interface Card (NIC)	IP address	Subnet mask
Heartbeat 1 (HB1)	192.0.0.10	255.255.255.0
Heartbeat 2 (HB2)	194.0.0.10	255.255.255.0
MIRROR	193.0.0.10	255.255.255.0

Table 2
Node 2

Network Interface Card (NIC)	IP address	Subnet mask
Heartbeat 1 (HB1)	192.0.0.11	255.255.255.0
Heartbeat 2 (HB2)	194.0.0.11	255.255.255.0
MIRROR	193.0.0.11	255.255.255.0

During the configuration of the High Availability servers, a CLAN Test IP address is required. The CLAN Test IP address can be any reliable working IP address on the CLAN subnet (Nortel server subnet). As a result, the High Availability system can ping this IP address at any time. If the CLAN subnet (Nortel server subnet) is configured, Nortel recommends that the CLAN Gateway IP address be used as the CLAN Test IP address. If the gateway is configured such that it does not reply to the ping command, another CLAN address that responds to the ping command must be used. If there is no CLAN subnet (Nortel server subnet) at the your site, enter 127.0.0.1 as the CLAN Test IP address.

Planning the High Availability configuration

During the configuration of the High Availability servers, the following information is needed by the High Availability Configuration Wizard (see Figure 31 "High Availability Configuration Wizard" (page 76)):

- User Name—This is the Windows administrator user name. Nortel recommends the use of the Windows default administrator user name (that is, administrator).

  If you use any other Windows user name, that user must have the full Windows administrative rights. Enter the name of a Windows account that is a member of the administrators group and that exists on both servers in the pair.

Nortel recommends using the account called administrator. However, if the administrator account is renamed or another administrator account with a different name is created, use that renamed or new account.

- Server Workgroup / Domain Name—This is the Windows Workgroup / Domain name. Enter workgroup for the default Windows Workgroup or enter the real Windows Domain name if both servers in the High Availability pair have already joined the customer domain.

  However, Nortel recommends using the Windows default workgroup to first configure the High Availability system, and then join the customer domain after the High Availability system is working (if the system has to join the domain).

- EMC AutoStart Domain Name—This is the unique name for the EMC AutoStart domain. The EMC AutoStart domain name must be the same for the pair of High Availability servers. This name must contain only alphanumeric characters and must have a maximum length of eight characters.

High Availability system checklist

Use the following table to plan and track the system settings for your High Availability servers. These settings are configured using the CallPilot Configuration Wizard and the High Availability Configuration Wizard.

Table 3
High Availability system checklist

	CP Node 1 (CP1)	CP Node 2 (CP2)
Configuration Wizard: Serial Number and Keycode page		
Serial Number		
Keycode		
Configuration Wizard: Server Information page		
Computer Name *Note:* Must only include alphanumeric characters.		
Time Zone		
Area Code		
Country Code		
LDAP Search Base		
Configuration Wizard: Password Information page		
Administrator password *Note:* Both nodes must have the same password.		

	CP Node 1 (CP1)	CP Node 2 (CP2)
Configuration Wizard: Switch Information page		
Switch Type		
Switch Customer Number		
Switch IP Address		
Link1 TN		
Link1 Key0		
Link1 Key1		
Link2 TN		
Link2 Key0		
Link2 Key1		
Link3 TN		
Link3 Key0		
Link3 Key1		
CDN		
Configuration Wizard: Language Source Directory page		
Primary language		
Secondary language		
Configuration Wizard: CallPilot Local Area Network Interface page		
ELAN subnet IP address		
ELAN subnet mask		
Nortel server subnet (CLAN) IP address		
Nortel server subnet (CLAN) subnet mask		
Nortel server subnet (CLAN) gateway IP address		
Heartbeat 1 (HB1) IP address		
Heartbeat 1 (HB1) subnet mask		
Heartbeat 2 (HB2) IP address		
Heartbeat 2 (HB2) subnet mask		
Mirror IP address		
Mirror subnet mask		

	CP Node 1 (CP1)	CP Node 2 (CP2)
High Availability Configuration Wizard		
Managed CLAN Host Name *Note:* The CLAN is the Nortel server subnet.		
Managed CLAN IP address		
Managed ELAN IP address *Note:* The ELAN is the ELAN subnet.		
Node 1 Host Name		
Node 2 Host Name		
Number of MPB96 Boards		
User Name *Note:* This is the Administrator's user name.		
Server Workgroup/Domain Name		
EMC AutoStart Domain Name		
CLAN Test IP		

Facility planning

The location of the servers in a CallPilot 5.0 High Availability system is limited by the length of the DS30X cables, which connect the High Availability servers to the Meridian 1 or CS 1000 switch. The DS30X cables must be a maximum of 32.8 feet or 10 meters long.

The two servers in the High Availability pair must be colocated, as they must be connected to the same switch. Having the servers colocated lets the servers take advantage of a common (customer-supplied) UPS if there is one available.

The physical distance that can separate the two servers is limited by the following:

- The length of the DS30X cables connecting the servers to the MGate cards in the switch (maximum of 32.8 feet or 10 meters long).

- The requirement that the HB1, HB2, and Mirror network connections between the two servers are connected using dedicated crossover LAN cables with no networking hardware (that is, switches, routers, or hubs) between the servers.

- The common grounding requirements for all hardware that is connected to the switch. For grounding requirements, see the *Planning and Engineering Guide* (NN44200-200).

Nortel recommends that the two servers be colocated to ensure that all of these requirements are met.

Switch planning

AML over Ethernet is the only switch integration that is supported.

> *Note:* T1 connectivity is not supported.

For detailed switch information, see the following:

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

- *Communication Server 1000 and CallPilot Server Configuration* (NN44200-312)

Both servers must be connected to the same switch (using MGate cards and DS30X cables). Because both servers are connected to the same switch with their own dedicated DS30X cables, the switch must have twice as many MGate cards installed than it would for a single CallPilot server. For example, if a switch has a single 192-channel CallPilot server connected to it, the switch must have six MGate cards installed. For a 192-channel High Availability configuration, the switch must have 12 MGate cards installed because six are required for each CallPilot server in the High Availability pair.

Each 1005r server has a dedicated connection to the switch, and therefore, requires dedicated DS30X connections, MGate cards, and matching switch configuration.

Two configuration are supported:

1. Two 1005r servers with one MPB96 each (up to 96 channels).

   For a 96-channel High Availability server, each server in the pair must support 96 channels, which means there must be three MGate cards per server for a total of 6 MGate cards.

2. Two 1005r servers with three MPB96 each (up to 192 channels).

   For a 192-channel High Availability server, each server in the pair must support 192 channels, which means there must be six MGate cards per server for a total of 12 MGate cards.

Both High Availability servers must share the same CDN so that users do not know which server in the pair is servicing requests.

Meridian 1 planning

For Meridian 1 Option 51/61/81 switches, the clock controller card (QPC775c) must have vintage NTRB53AA or higher. This is required to avoid a problem when the midnight audit runs on the switch and IP connectivity is temporarily lost, which in turn causes the AutoStart software to initiate a failover to the standby server.

CS 1000 planning

Media Gateway shelves in a CS 1000E do not share the same clock reference. Media Gateway Expansion shelves share the same clock reference as the Media Gateway shelf to which they are connected. In a CS 1000E, all MGate cards connected to the CallPilot server must reside in the same Media Gateway/Media Gateway Expansion shelf pair.

ATTENTION

Each server in the High Availability pair must have all of its MGate connections in the same Media Gateway/Media Gateway Expansion shelf pair on a CS 1000E.

For the CS 1000M and CS 1000S, the MGate cards can reside on separate shelves.

Required hardware

The following checklists describe the contents required for a High Availability system. Most items are included when you order the High Availability feature; however, some items must be supplied by the customer. Ensure you have all of the applicable items prior to beginning the installation of the High Availability system.

Hardware included

When you order an High Availability system, the following hardware is included:

Table 4
1005r High Availability system (up to 96 MPUs or 288 MPUs)

Included with system	Qty	PEC number
CallPilot 5.0 1005r Server 96 MPU Chassis Sub-Assembly Package or CallPilot 5.0 1005r Server 288 MPU Chassis Sub-Assembly Package	2	NTUB28CAE5 NTUB28DAE5
CallPilot 5.0 Rackmount 1005r Server CD Image Set	2	NTUB50RA
CallPilot 5.0 Common Software Components and Documentation BOM	2	NTUB63CA

Included with system	Qty	PEC number
CallPilot 5.0 Keycode	1	N0119677
CallPilot 5.0 HA Feature Activation	1	NTZE64AA
EMC Software RTU License Royalty - R	2	N0119699
EMC License Registration Card	2	N0129528
Ghost Solution Suite 1.1 with CallPilot 5.0	2	N0119681
RTU for Symantec PCAnywhere v12.0 for New CallPilot Applications	2	N0119700
RTU for Windows 2003 Document	2	P1013471
RTU for Crystal Decision (Report)	2	P0989628
RTU for DOS 6.20 Document	2	P0887449
RTU for SQL Anywhere	2	P0887451
CallPilot 1005r Storage Hours - 2400 Hours	1	NTZE08FA
CallPilot Prompt Languages - Activate Six	1	NTZE16AB
CallPilot Speech Activated Messaging Vocabulary - Activate Three	1	NTZE16BB
Nortel Standard Security Device [RoHS]	1	NTDK57AAE5
CABLE ASSY, TRIPLE DS30X InterConnect Cable for MPB96 2 (for 96 MPUs) or 4 (for 288 MPUs)	2 or 4	NTRH2014E6

Customer provided equipment

The following table provides the list of equipment that must be supplied by the customer.

Table 5
Customer provided equipment

Not included with system	Qty	PEC number	Notes
Crossover cable	3	n/a	Used to connect the HB1, HB2, and Mirror NICs.
1005r/600r USB modem	2	NTRH9242E6	Used for remote support. Each server must have a dedicated modem.
ELAN cable	2	n/a	One for each 1005r server.
CLAN cable	2	n/a	One for each 1005r server.

Supported hardware configurations

The CallPilot 5.0 High Availability feature is supported only on the 1005r platform. Two identical 1005r servers are required for the High Availability feature. The pair of servers are required to provide the active and standby server configuration.

One dongle is shared between the pair of High Availability servers as they share the same keycode and serial number.

The two supported hardware configurations are:

- three MPB96 boards (up to 192 channels/288 MPU) with two dual-port NIC cards

- one MPB96 board (up to 96 channels/96 MPU) with two dual-port NIC cards

  Note: The hardware configuration must be identical on both 1005r servers.

Chapter 4
Failover overview

In this chapter

Introduction

In a High Availability system, one server is active while the other is in standby mode. If a failure occurs on the active server, the standby server comes into service, becoming the active server. The process of the standby server becoming the active server is called a failover.

The standby server takes over from the active server when:

- A failure condition is detected on the active server and the software triggers a failover to the standby server. This is known as an automatic failover. For more information, see "Automatic failovers" (page 34).

- A manual failover is initiated by an administrator to perform maintenance activities, or when there is degradation of service that is not detected by the AutoStart software. For more information, see "Manual failovers" (page 35).

In normal day-to-day use, end users are not aware that two CallPilot servers are configured in a High Availability pair. There is one Control Directory Number (CDN) configured on the switch that users call for any given service. Any calls to a given CDN are routed to the CallPilot server that is currently active.

Note: The CDNs configured on both server must be the same.

If a failover occurs, the standby CallPilot server becomes the active server of the pair and the switch routes incoming calls to the active server.

In case of a failover, where the standby server becomes the active server, any calls or connections that were in process when the failover occurs are dropped. The CallPilot server is out-of-service from the time the active server fails to the time the standby server takes over. During the failover process, when the standby server is coming into active service, neither server is available to accept or process connections. This process takes approximately 4 to 12 minutes (depending on the scenario). Calls coming in during this time receive the default treatment that is configured on the switch. After the standby server become the active server, end users can connect with the CallPilot server without changing any settings.

Automatic failovers

An automatic failover occurs when the AutoStart software determines that something has gone wrong on the active CallPilot server, that is, a critical CallPilot service has failed. The software initiates a failover to the standby CallPilot server without any user interaction. Only a limited number of automatic failover cases are supported in CallPilot 5.0.

The following cases trigger an automatic failover from the active CallPilot server to the standby server:

- A reboot or shut down of the active server.

- Failure of one or more of the critical CallPilot services. The system attempts to restart a failed critical CallPilot service three times before resorting to a failover. These critical services include:

Table 6
Critical CallPilot services

Service name	Description
Adaptive Server Anywhere - DB_SQLANY	Database service
CallPilot AOS Service	Active Operation Server (AOS) Service
CallPilot HAL Monitor	Monitors the Hardware Abstraction Layer (HAL)
CallPilot LDAP Service	Directory server used to set and retrieve the most persistent data except for messages and prompts
CallPilot Multimedia Volume 1	Data management for users, messages, and so on, stored in volume VS1 (VS1T, VS1V, and VS1B)
CallPilot Multimedia Volume 102	Data management for users, messages, and so on, stored in volume VS102 (VS102T, VS102V, and VS102B)
CallPilot Multimedia Volume 103	Data management for users, messages, and so on, stored in volume VS103 (VS103T, VS103V, and VS103B)

Service name	Description
CallPilot Multimedia Cache	Cache for multimedia volumes 1, 102, and 103.
CallPilot Resource Package 1	Middleware resources for MPB board 1
CallPilot Resource Package 2	Middleware resources for MPB board 2
CallPilot Resource Package 3	Middleware resources for MPB board 3
CallPilot Blue Call Router	Routes calls to the CallPilot Blue application
CallPilot Call Channel Router	Telephony channel delivers the voice path of the call
CallPilot SLEE Service	Service Logic Execution Environment (SLEE)
CallPilot Notification Service	Event notification service
CallPilot MTA Service	Message Transfer Agent (MTA)
CallPilot MWI Service	Message Waiting Indication (MWI)

- Optional automatic failover on the loss of connection of the ELAN at the TCP/IP level (that is, failure of the switch to respond to the ping command of the Managed ELAN IP address for a specified period of time). By default, there is no failover on the Path Test failure of the Managed ELAN IP address, which CallPilot 5.0 High Availability servers use to connect to the switch through ELAN. However, the CallPilot 5.0 High Availability system sends a notification e-mail to the administrators when the Path Test failure of the Managed ELAN IP occurs. If necessary, you can also set up the failover on the failure of the Managed ELAN IP address by following the procedure "Configuring failovers on the Path Test failures of the Managed ELAN IP address" (page 189).

Using the AutoStart console software, you can disable and enable automatic failovers. For more information, see the following procedures:

- "Disabling automatic failovers (stop monitoring)" (page 213)
- "Enabling automatic failovers (start monitoring)" (page 214)

Manual failovers

A manual failover occurs when the server administrator decides to initiate a failure manually using the AutoStart Console. Failovers can also be manually triggered by powering down the active server. The actual failover mechanism is the same as in the automatic case; the only difference is that the failover is manually initiated.

The administrator can choose to perform a manual switchover if there is a problem on the active CallPilot server that is not part of the automatic failover rules. A manual failover can be initiated for the following situations:

- For hardware repairs of failed hardware in the server that requires the server to be powered down (for example, failure of an internal fan)

- For service improvement due to an end-user-reported degradation of service on the server

- For scheduled maintenance

To perform a manual failover, see "Initiating a manual failover" (page 215).

Chapter 5
Install and configure the High Availability pair

In this chapter

New system installation procedure

This chapter describes how to perform a fresh installation of High Availability servers and how to configure the pair of CallPilot High Availability servers.

In this NTP, the administrator installs and configures the CallPilot server.

This installation assumes the following:

- The CallPilot 5.0 image on the 1005r server was installed at the factory.

- The additional hardware (two dual-port NIC cards) was installed at the factory.

- The AutoStart software is not installed as part of the CallPilot 5.0 image. The software must be installed by the customer as part of the High Availability installation.

A CallPilot High Availability system consists of two servers that work as peers. At any time, one server is active while the other server is in standby mode. For the purpose of the following procedure, the servers are referred to as CallPilot server 1 (CP1) and CallPilot server 2 (CP2). Initially, CP1 is the active server and CP2 is the standby server.

ATTENTION

The following table outlines the tasks required to install, configure, and test the High Availability feature.

The tasks (and procedures within each task) must be completed in the order presented.

Table 7
High Availability task list

Task	Estimated time	Procedures required to complete the task
Prepare the switch	60 minutes	– "Preparing the switch" (page 40)
Install the two 1005r servers	210 minutes per server	– "Installing the two 1005r servers" (page 40)
Prepare both 1005r servers	120 minutes per server	– "Manually changing the server name" (page 41) (optional) – "Manually setting the IP parameters" (page 42) (optional) – "Installing the antivirus software" (page 43) (optional) – "Running the CallPilot Setup Wizard" (page 44)
Configure CP1 and CP2 using the CallPilot Configuration Wizard	40 minutes per server based on two installed languages and three provisioned channels Allow 10 minutes for each additional language	– "Configuring CP1 using the CallPilot Configuration Wizard" (page 49) – "Configuring CP2 using the CallPilot Configuration Wizard" (page 63)

Task	Estimated time	Procedures required to complete the task
Connect and verify the LAN connections	30 minutes	– "Connecting and verifying LAN connections" (page 69) – "Modifying the hosts file" (page 72) (optional) – "Testing the host name resolution" (page 74)
Run Stage 1 of the High Availability Configuration Wizard to check the configuration of CP1 and CP2	5 minutes	– "Running Stage 1 of the High Availability Configuration Wizard to check CP1 and CP2 configuration" (page 75)
Install the AutoStart 5.2.2 software on CP1	10 minutes	– "Installing the AutoStart Agent and Console software on CP1" (page 79)
Configure licensing and security on CP1	10 minutes	– "Add the node 2 administrator account to the AutoStart Console on node 1" (page 92)
Install the AutoStart 5.2.2 software on CP2	10 minutes	– "Installing the AutoStart software on CP2" (page 95)
Configure the AutoStart software *Note:* All configuration is completed on CP1.	35 minutes	Configure the AutoStart software on CP1 – "Modifying the AutoStart Domain and Verification links" (page 109) – "Adding the Remote Mirroring Host for CP2" (page 112) – "Generating the AutoStart Definition File" (page 115)
		Import the AutoStart definition file on CP1 – "Importing the AutoStart Definition file" (page 117)
		Add the Windows administrator password for the AutoStart utility processes in the AutoStart Console – "Adding the Windows administrator account password for the AutoStart Utility Processes" (page 118)
		Add e-mail addresses to the Managed_ELAN_IP _Failure_Notif rule – "Adding e-mail addresses to the Managed_ELAN_IP_Failure_Notif rule" (page 120)
Bring the Resource Groups online	10 minutes	– "Bringing the CallPilot Resource Group online on CP1" (page 122) – "Bringing the Resource Groups CallPilot_[CP1] and CallPilot_[CP2] online" (page 125)

Task	Estimated time	Procedures required to complete the task
Test your configuration	120 minutes	– "Testing the configuration of CP1 and CP2" (page 127)
Create the CallPilot Reporter connections	20 minutes	– "Creating the CallPilot Reporter connection" (page 129)
Add server to a Windows domain (if required)	30 minutes	– "Joining a Windows domain" (page 130)

Prepare the switch and install the 1005r servers

Before you install and configure the High Availability feature you must prepare the switch and 1005r servers. Use the following procedures to prepare the switch and install the 1005r servers.

Preparing the switch

Step	Action

1 Configure the Meridian 1 or CS 1000 switch by referring to the following documents:

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

- *Communication Server 1000 and CallPilot Server Configuration* (NN44200-312)

   Note: Both High Availability servers must use the same Control Directory Number (CDN). The MGate cards on the switch must provide twice the channel capacity than that of a single High Availability server. However, only half the channels are in use at any one time (the other half of the channels are in standby mode).

—End—

Installing the two 1005r servers

Step	Action

1 Refer to *1005r Server Hardware Installation* (NN44200-308) and *Installation and Configuration Task List* (NN44200-306) for details about performing the following tasks:

a. Unpack both of the CP1 and CP2 servers.

b. Install the dongle on CP1.

c. Connect the peripheral equipment (monitor, keyboard, and mouse) to both servers.

d. Connect USB modems to each server.

e. Power on both servers.

Result: The servers start and the Windows 2003 Mini-Setup runs. (During the Windows 2003 Mini-Setup, the servers automatically restart twice.)

—End—

Prepare both 1005r servers

The following procedures can be required depending upon your setup configuration.

- Manually change the server name. (The CallPilot Configuration Wizard can also be used to change the server name.)

- Manually set the IP parameters. (The CallPilot Configuration Wizard can also be used to set the IP parameters.)

    Note: The procedures listed in the preceding bullets are performed under the following circumstances:

    1. If you are restoring from a network location. In order to perform a restore the CLAN IP address must first be set.

    2. If you are using a DNS as part of your network solution, then the DNS entries must be manually completed.

- Check the Primary DNS suffix.

- Install antivirus software on both servers. (optional)

    Note: For more information about the antivirus software packages that are approved by Nortel for CallPilot, see the *P-2007-0101-Global : CallPilot Support for Anti-Virus Applications* bulletin.

- Run the CallPilot Setup Wizard

Manually changing the server name

Step	Action

Changing the server name can also be done using the CallPilot Configuration Wizard.

1 Log on to the server with the default administrator user name and password (administrator / Bvw250).

2 Right-click **My Computer** and select **Properties** from the shortcut menu.

Result: The System Properties window appears.

3   Select the **Computer name** tab.

4   Click **Change**.

Result: The Computer Name Changes window appears.

5   In **Computer Name** field, enter new computer name.

ATTENTION

The computer name must contain only alphanumeric characters.
Nonalphanumeric characters (such as a hyphen [-]), are not supported.

---

6   Click **OK**.

Result: A warning message appears prompting you to restart the
computer for the changes to take effect.

7   Click **OK**.

Result: The System Properties window appears.

8   Click **OK**.

Result: A message appears prompting you to restart the computer.

9   Click **Yes** to restart the computer.

Result: The system restarts.

—End—

Manually setting the IP parameters

Step	Action

*Setting the IP parameter can also be done using the CallPilot Configuration
Wizard; however, DNS entries must be manually configured.*

1   Select **Start > Settings > Network Connections**.

Result: The Network Connections window appears and displays a
list of network connections.

2   Right-click **CLAN** and select **Properties**.

Result: The CLAN Properties window appears.

3   Select **Internet Protocol (TCP/IP)** and then click **Properties**.

Result: The TCP/IP Properties window appears.

4 Enter the following IP information (which is provided by the network administrator):

- IP address

- Subnet mask

- Default gateway

- Preferred DNS server

- Alternate DNS server

    Note: The DNS entries cannot be configured using the CallPilot Configuration Wizard. The DNS entries must be manually configured.

5 Click **OK**.

 Result: The CLAN Properties window appears.

6 Click **Close**.

7 Repeat the preceding steps for the ELAN, HB1, HB2, and Mirror network interfaces.

—End—

Installing the antivirus software

Step	Action

This procedure is optional.

1 For information about the antivirus software packages that are approved by Nortel for CallPilot, see the *P-2007-0101-Global : CallPilot Support for Anti-Virus Applications* bulletin.

2 Install the antivirus software on the CallPilot servers.

 The Antivirus software must be configured to exclude the AutoStart Database directory to ensure uninterrupted processing. The path to the AutoStart Database directory is:

 D:\Program Files\EMC AutoStart<AutoStart-Domain-Name>\<AutoStart-Domain-Name_NodeName>

 See the *P-2007-0101-Global : CallPilot Support for Anti-Virus Applications* bulletin for detailed instructions on how to exclude the AutoStart Database directory on CallPilot 5.0 High Availability systems.

—End—

Running the CallPilot Setup Wizard

Step	Action

The CallPilot Setup Wizard must be run on both CP1 and CP2.

1   Log on to the CallPilot server.

The default password for the administrator account is Bvw250.

Result: When you first log on to the system after powering it up, the Setup Wizard runs automatically. If the Setup Wizard does not open, launch the Setup Wizard by clicking **Start > Programs > CallPilot > Setup Wizard**.

Result: The Welcome to the CallPilot Setup Wizard window appears.

Figure 3
CallPilot Setup Wizard: Welcome window

2   Click **Next**.

Result: The Service Update (SU) / PEP Installation window appears.

Figure 4
Service Update (SU) / PEP Installation window
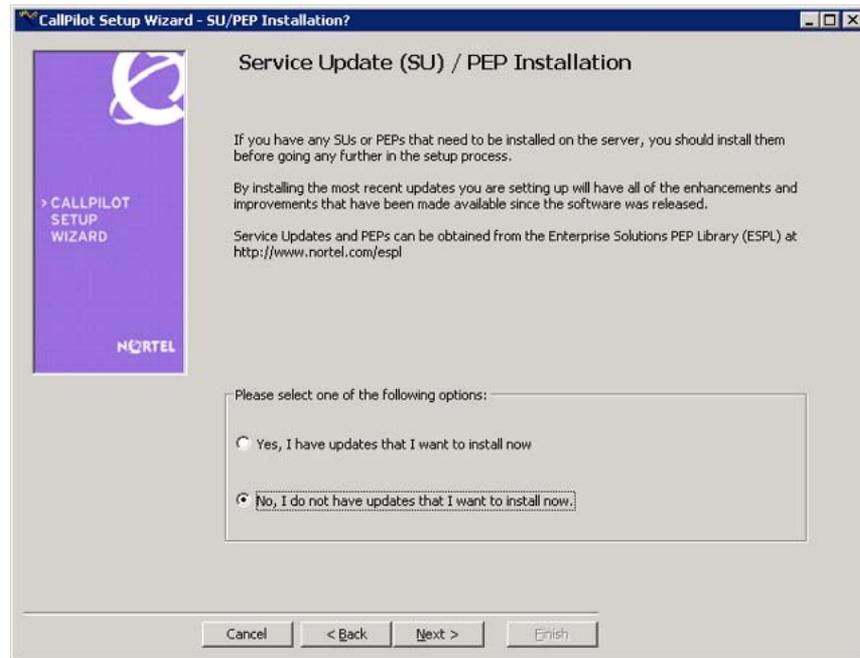
3   Select one of the following options:

  • If you have SUs or PEPs to install, select the **Yes, I have
    updates that I want to install now** option.

    SUs and PEPs are found in the Enterprise Solutions PEP Library
    (ESPL) at the following Web site: www.nortel.com/espl

    Result: The Installing SU/PEP screen appears. Install the
    required updates and restart if necessary.

  • If there are no SUs or PEPs to install, select the **No, I do not
    have updates that I want to install now** option.

4   Click **Next**.

    Result: The Performing Platform Validity Check window appears.

Figure 5
Performing Platform Validity Check window
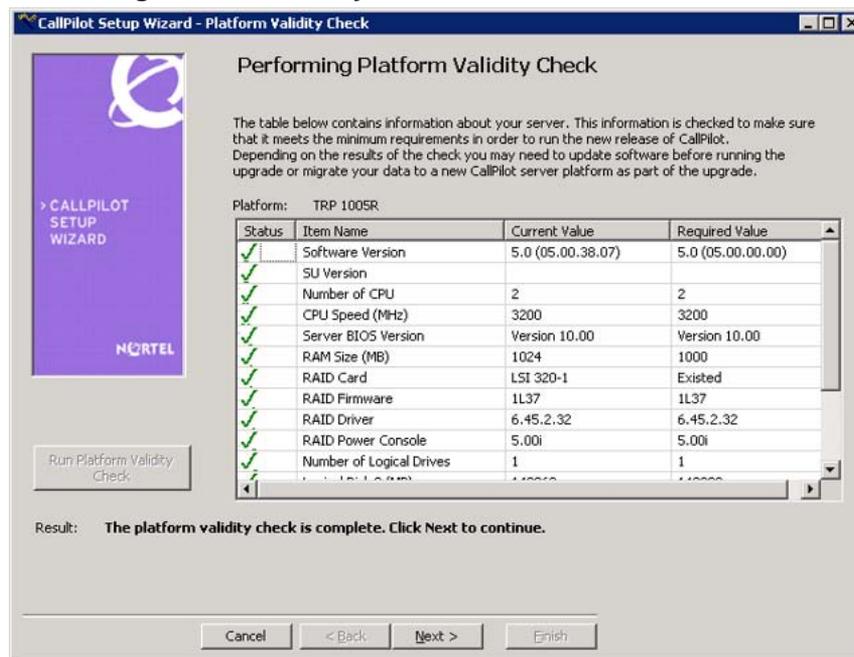
5 View the items on the Performing Platform Validity Check screen.

Note: If your server does not meet the minimum hardware and software requirements, contact your support organization.

6 Click **Next**.

Result: The Telephony Board Validation window appears.

Figure 6
Telephony Board Validation window
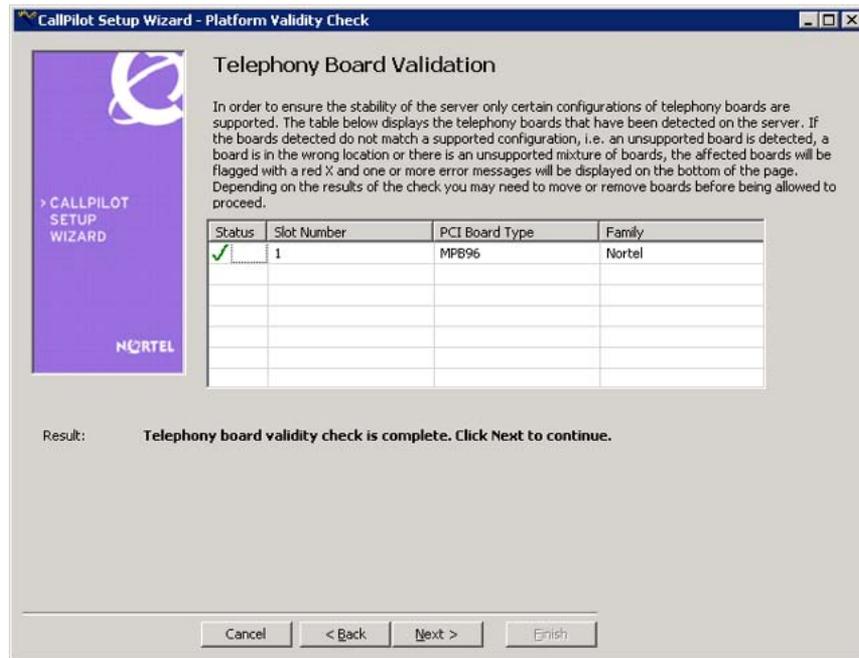
7 If your board configuration is correct, click **Next**.

Result: The Selecting Upgrade of CallPilot window appears.

Figure 7
Selecting Upgrade of CallPilot window
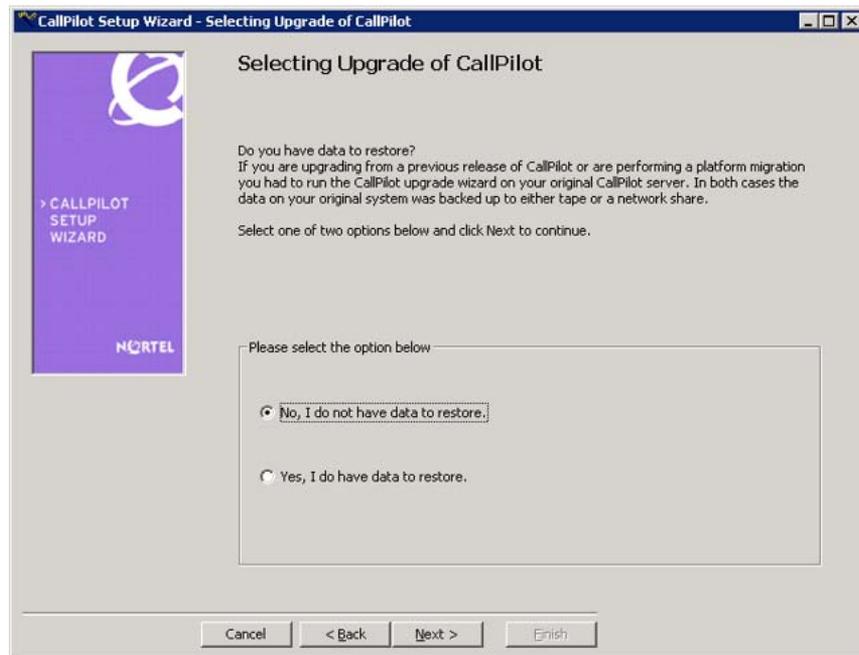
8   Select the **No, I do not have data to restore** option.

9   Click **Next**.

Result: The Finished window appears.

Figure 8
Finished window

10   Click **Finish** to exit the CallPilot Setup Wizard.

—End—

Configure CP1 and CP2 using the CallPilot Configuration Wizard

This section provides the procedures to configure CP1 and CP2 using the CallPilot Configuration Wizard within CallPilot Manager.

> **ATTENTION**
> If you must go back into the Configuration Wizard at any time to correct any entries, note that the Database, LDAP, and AOS services must be started to gain access to CallPilot Manager.
>
> The D:\Nortel\HA folder contains a file called start_svr.bat that automatically starts any necessary services. This script can be run to start the required services.

Configuring CP1 using the CallPilot Configuration Wizard

Step	Action

Time required: 20 minutes (assuming one language is installed)

ATTENTION

Ensure that the dongle is installed on CP1.

---

1   On CP1, launch the Internet Explorer Web browser.

2   In the address field, enter the following URL to start CallPilot Manager: **http://localhost/cpmgr**

3   Log on to CallPilot Manager using the administrator mailbox and default password created from the CallPilot Setup Wizard:

a. Under the **User** area, enter the following:

   •   The administrator mailbox number is 000000.

   •   The default password is 124578.

b. Under the **Server** area, enter the **localhost** in the **Server** field.

Figure 9
CallPilot Manger Login page

4   Click **Login**.

Result: The Change User Password window appears.

Figure 10
Change User Password
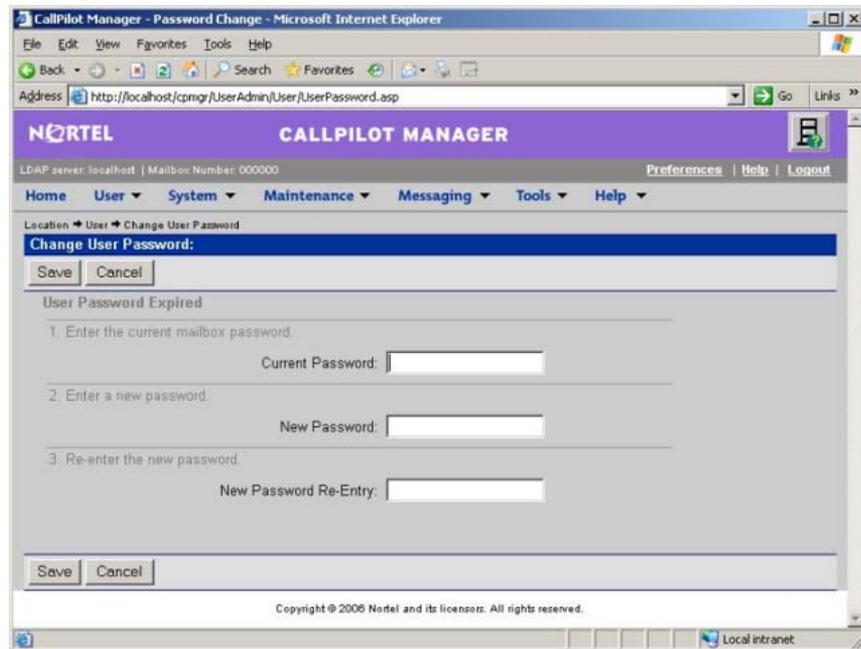
5 Change the password for the 000000 administrator mailbox by doing the following:

a. Enter the **Current Password**.

b. Enter the **New Password**.

c. Reenter the new password in the **New Password Re-Entry** field.

d. Click **Save**.

Result: The Welcome to CallPilot Manager page appears.

Figure 11
Welcome to CallPilot Manager page
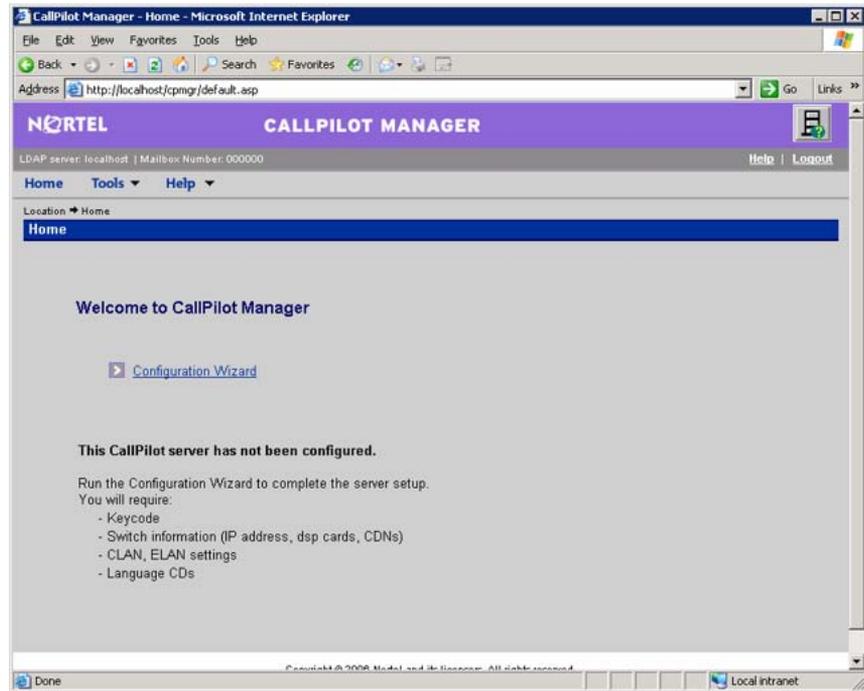
6   Click **Configuration Wizard**.

Result: The Configuration Wizard: Welcome page appears.

Figure 12
Configuration Wizard: Welcome page
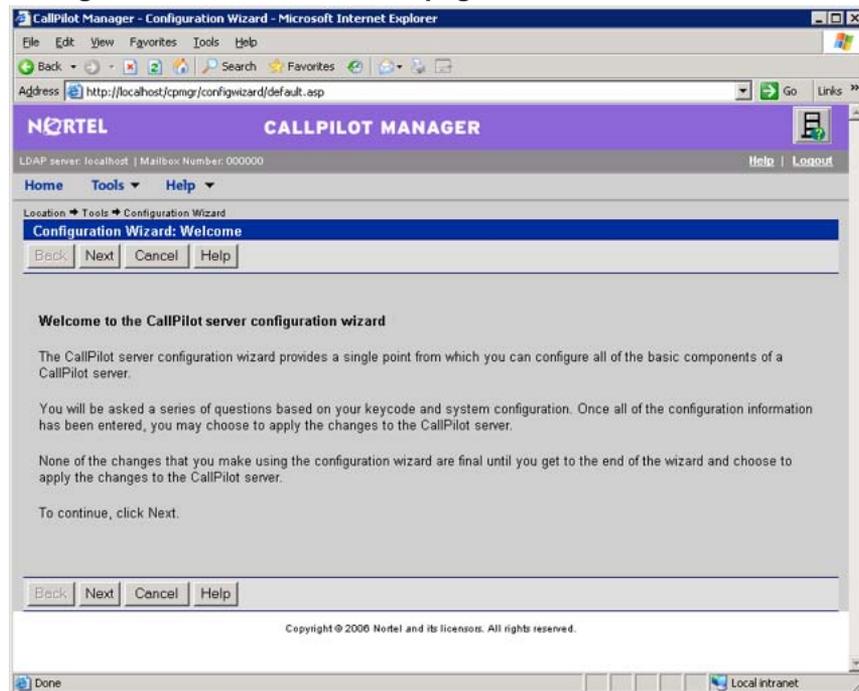
7 Click **Next**.

Result: The Keycode and serial number page appears.

Figure 13
Configuration Wizard: Keycode and serial number page

8   Enter the following:

    a. In the **Serial number** field, enter the serial number of the dongle assigned to the CallPilot server.

    b. In the **Keycode** field, enter the High Availability-enabled keycode assigned to CallPilot server.

9   Click **Next**.

    Result: The Feature Verification page appears.

Figure 14
Configuration Wizard: Feature Verification page
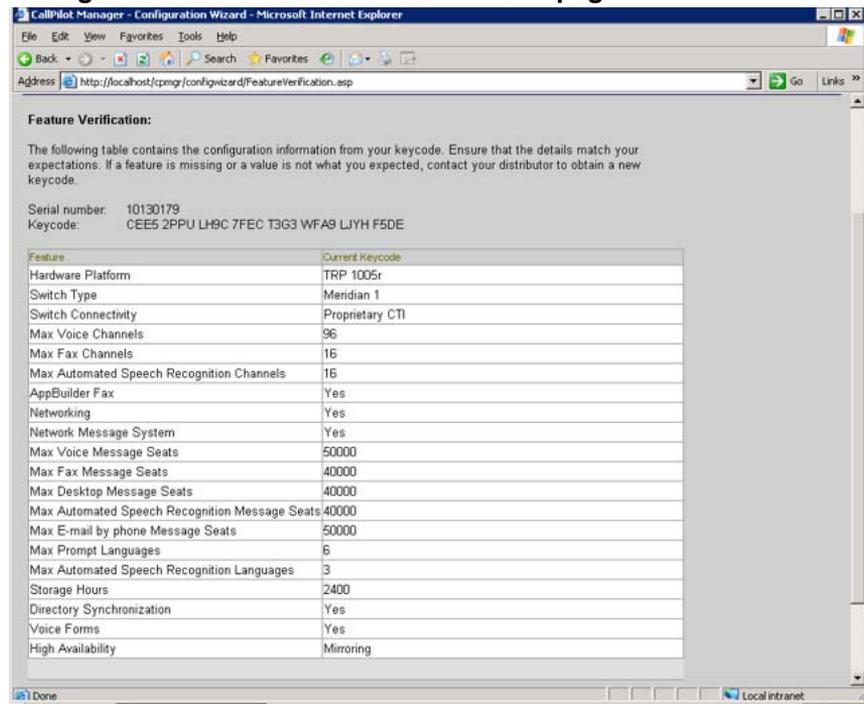
10 Ensure that all parameters are correct and that the High Availability feature is set to Mirroring.

11 Click **Next**.

Result: The Server Information page appears.

Figure 15
Configuration Wizard: Server Information

12 On the Server Information page, do the following:

a. In the **Computer Name** field, enter the CallPilot server name.

b. In the **Time Zone** field, select the correct time zone.

c. Under Dialing Information, enter the **Area Code** and **Country Code**.

d. Enter the **LDAP search base**. For example, **dc=nortel,dc=ca**.

13 Click **Next** option.

Result: The Password Information page appears and the **Change the password** option is selected.

Figure 16
Password Information
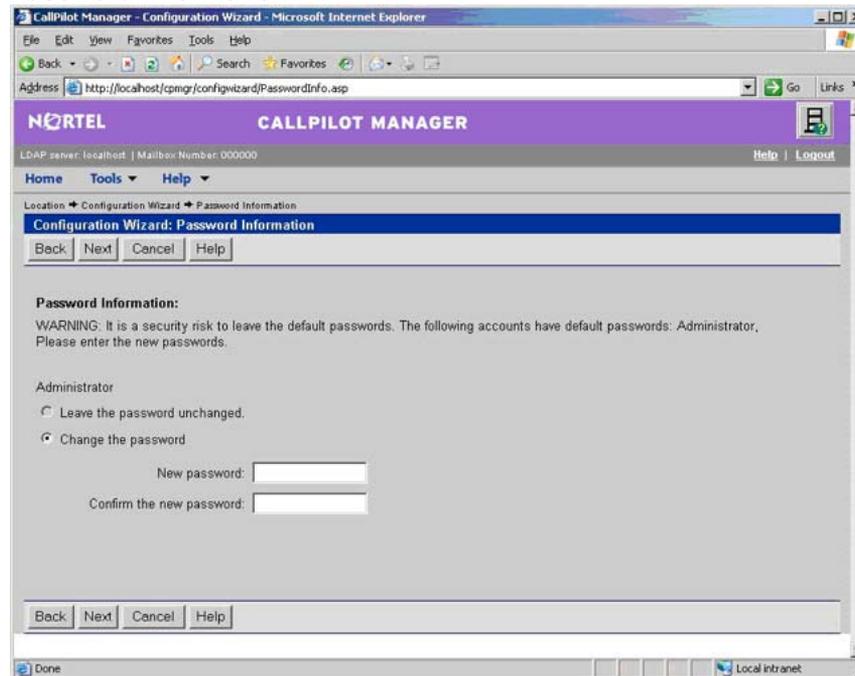
14 On the Password Information page, do the following:

a. In the **New Password** field, enter the new password.

b. In the **Confirm the new password** field, reenter the new password.

c. Click **Next**.

Result: A warning message appears.

Figure 17
Change password warning message

15 Click **OK** to dismiss the warning message.

Result: The Password Information page reappears.

16 Click **Next**.

Result: The Multimedia Allocation page appears.

17 Configure the MPB96 settings.

18 Click **Next**.

Result: The M1 Switch Information page appears.

Figure 18
Configuration Wizard: M1 Switch Information page

19 Configure the switch information.

a. Select the **Switch Type**.

b. Enter the **Switch Customer Number**.

c. Enter the **Switch IP Address**.

See the containing the information for both nodes.

d. Provision the channels, as follows:

i. Select a channel.

Result: The Channel Detail window appears.

ii. Enter the TN, ACD Position ID, and SCN.

iii. Ensure that Channel Allocation is set to Multimedia.

iv. Click **OK**.

Result: The Meridian 1 Switch Information window appears again.

v. Continue the provisioning of channels until complete.

Note: To automatically provision a number of channels, you can enter the information for one channel, select the number of channels required, and then click **Fill**. The Configuration Wizard automatically datafills the channels, and increments the TNs, ACD Position ID, and SCN.

Note: This is the CP1 switch-provisioning information for the switch. To obtain the CP1 switch-provisioning information, see the completed Table 3 "High Availability system checklist" (page 25).

20   Click **Next**.

Result: The Meridian 1 CDN Information page appears.

Figure 19
Configuration Wizard: Meridian 1 CDN Information page
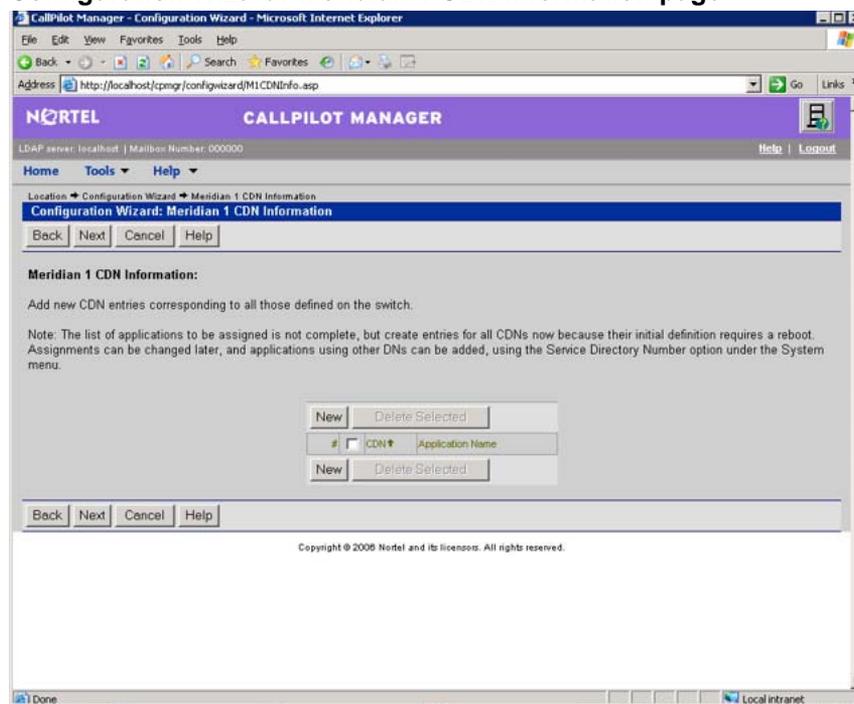
21   Click **New** to add a new CDN.

Result: The CDN Details page appears.

ATTENTION
The CDNs on both CP1 and CP2 must be the same.

---

22   On the CDN Details page, do the following:

a. In the **CDN** field, enter the new CDN.

    b. Select the **Application Name** (Voice Messaging or Multimedia Messaging).

    c. Click **OK**.

       Result: The new CDN is added and the CDN information page reappears.

23   Click **Next**.

       Result: The Language Source Directory page appears.

Figure 20
Configuration Wizard: Language Source Directory
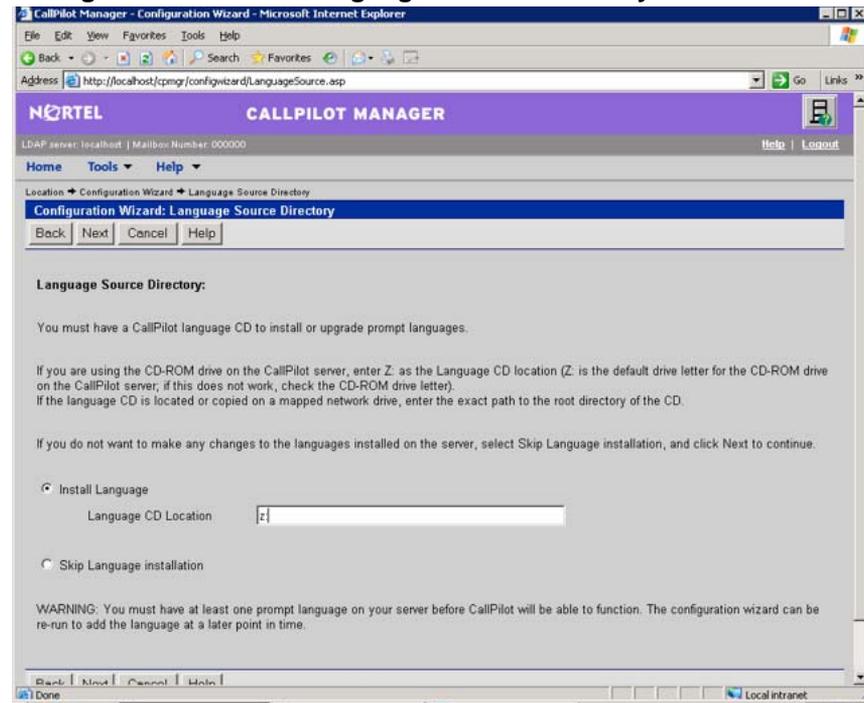
24   Insert the CallPilot 5.0 Language CD into the CD/DVD drive on CP1.

ATTENTION

You must use a CallPilot 5.0 Language CD.

Language CDs from previous CallPilot releases are not compatible with CallPilot 5.0. The Configuration Wizard checks the version of the Language CD and blocks the use of the CD if it is not a CallPilot 5.0 CD.

---

25   On the Language Source Directory Select page, do the following:

    a. Select the **Install Language** option.

> b. In the **Language CD Location** field, enter the directory location of the Language disk or file. Typically, CallPilot uses drive Z (therefore, enter **Z:**).

26   Click **Next**.

Result: The Language Installation page appears.

27   On the Language Installation page, do the following:

a. Select Languages and Automated Speech recognition to be installed.

b. Select Primary and Secondary Languages.

> *Note:* The Secondary Language is optional.

ATTENTION

The same languages must be installed on CP1 and CP2.

---

28   Click **Next**.

Result: The CallPilot Local Area Network Interface page appears.

Figure 21
Configuration Wizard: CallPilot Local Area Network Interface page (upper portion of page)

Figure 22
**Configuration Wizard: CallPilot Local Area Network Interface page
(lower portion of page)**

29 On the CallPilot Local Area Network Interface page, do the following:

a. Select the network interface card from the drop-down list.

Result: The MAC address, IP address, and Subnet mask values
are updated for the network interface card.

b. Change the **ELAN** and **CLAN** IP information (**IP address** and
Subnet Mask).

c. Select the **High Availability mode** check box to display the High
Availability Network Interfaces.

Note: To enable High Availability, a proper keycode is
required and the High Availability Mode check box must
be selected. The keycode has the ability to enable High
Availability; however, the feature does not have to be enabled
and can be done at a later date.

d. Enter IP information for the **HB1**, **HB2**, and **MIRROR** network
interface cards.

The following table shows the suggested default values for HB1, HB2, and MIRROR on CP1. If you do not use these suggested values, ensure that you use your new values throughout the configuration.

Network Interface Card (NIC)	IP Address	Subnet Mask
Heartbeat 1 (HB1)	192.0.0.10	255.255.255.0
Heartbeat 2 (HB2)	194.0.0.10	255.255.255.0
MIRROR	193.0.0.10	255.255.255.0

30   Click **Next**.

Result: The Ready to Configure page appears.

Figure 23
Configuration Wizard: Ready to Configure
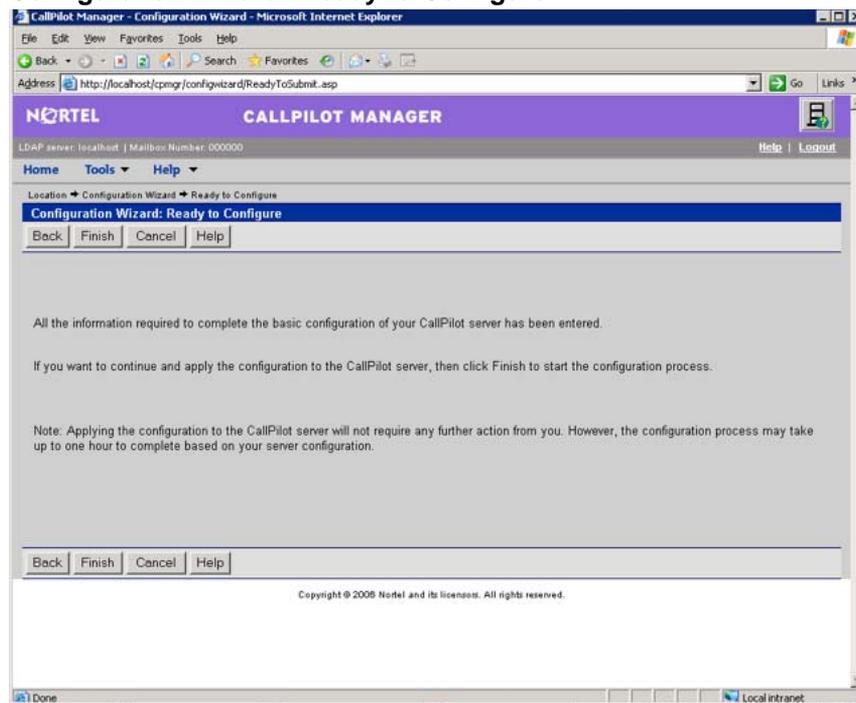
31   Click **Finish** to start process.

Result: The system starts the configuration process and the Progress Information screen appears.

Figure 24
Progress Information page
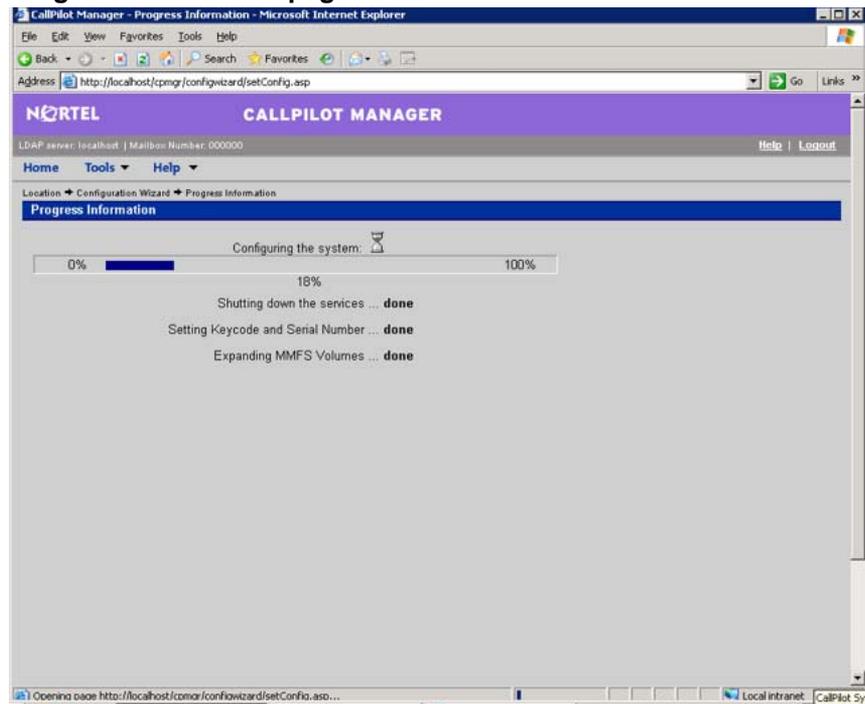
32 After the process is complete, restart the CallPilot server.

—End—

Configuring CP2 using the CallPilot Configuration Wizard

Step Action

Time required: 20 minutes (assuming one language is installed)

The dongle does not have to be moved from CP1 to CP2 to run the Configuration wizard on CP2. Using a High Availability-enabled keycode, the Configuration wizard can be run on CP2.

1 Launch a supported Internet Web browser on CP2.

2 In the address field, enter the following URL to start CallPilot Manager: **http://localhost/cpmgr**

3 Log on to CallPilot Manager using the administrator mailbox and default password created from the CallPilot Setup Wizard:

a. Under the **User** area, enter the following:

• The administrator mailbox number is 000000.

- The default password is 124578.

    b. Under the **Server** area, enter the **localhost** in the **Server** field.

4   Click **Login**.

    Result: The Change User Password screen appears.

5   Change the password for the 000000 mailbox by doing the following:

    a. Enter the **Current Password**.

    b. Enter the **New Password**.

    c. Reenter the new password in the **New Password Re-Entry** field.

    d. Click **Save**.

    Result: The Welcome to CallPilot Manager page appears.

6   Click **Configuration Wizard**.

    Result: The Configuration Wizard Welcome Back page appears.

7   Click **Next**.

    Result: The Keycode and serial number page appears.

8   Enter the following:

    a. In the **Serial Number** field, enter the serial number of the dongle assigned to the CallPilot server. The serial number entered for CP2 must be the same as the serial number entered for CP1.

    b. In the **Key Code** field, enter the High Availability-enabled keycode assigned to CallPilot server. The keycode entered for CP2 must be the same as the keycode entered for CP1.

9   Click **Next**.

    Result: The Feature Verification page appears.

10   Ensure that all parameters are correct and that the High Availability feature says Mirroring.

11   Click **Next**.

    Result: The Server Information page appears.

12   Do the following:

    a. In the **Computer Name** field, enter the CallPilot server name.

    b. In the **Time Zone** field, select the correct time zone.

    c. Under **Dialing Information**, enter the area code and country code.

d. Enter the **LDAP Search Base**. For example, **dc=nortel,dc=ca**.

Note: All values on the Server Information page for CP2 must be the same as CP1. Use Table 3 "High Availability system checklist" (page 25) that you completed for both CP1 and CP2.

13   Click **Next** option.

Result: The Password Information page appears and the **Change the password** option is selected.

14   On the Password Information page, do the following:

a. In the **New Password** field, enter the new password.

b. In the **Confirm the new password** field, reenter the new password.

c. Click **Next**.

Result: A warning message appears.

15   Click **OK** to dismiss the warning message.

Result: The Password Information page reappears.

16   Click **Next**.

Result: The Multimedia Allocation page appears.

17   Configure the MPB96 settings.

18   Click **Next**.

Result: The M1 Switch Information page appears.

19   Configure the switch information.

a. Select the **Switch Type**. The Switch Type for CP2 must be the same as CP1.

b. Enter the **Switch Customer Number**. The Switch Customer Number for CP2 must be the same as CP1.

c. Enter the **Switch IP Address**. The Switch IP Address for CP2 must be the same as CP1.

See Table 3 "High Availability system checklist" (page 25) containing the information for both the CP1 and CP2 nodes.

d. Provision the channels, as follows:

i. Select a channel.

Result: The Channel Detail window appears.

ii. Enter the TN, ACD Position ID, and SCN.

iii. Ensure that Channel Allocation is set to Multimedia.

iv. Click **OK**.

Result: The Meridian 1 Switch Information window appears again.

v. Continue the provisioning of channels until complete.

Note: To automatically provision a number of channels, you can enter the information for one channel, select the number of channels required, and then click **Fill**. The Configuration Wizard automatically datafills the channels, and increments the TNs, ACD Position ID, and SCN.

The number of TNs configured on CP2 must be the same as the number configured on CP1.

Note: This is the CP2 switch-provisioning information for the switch. To obtain the CP2 switch-provisioning information, see the completed Table 3 "High Availability system checklist" (page 25).

20 Click **Next**.

Result: The Meridian 1 CDN Information page appears.

21 Click **New** to add a new CDN.

Result: The CDN Details page appears.

22 On the CDN Details page, do the following:

a. In the **CDN** field, enter the new CDN.

Note: The CDN for CP2 must be the same as the CDN configured on CP1.

b. Select the **Application Name** (Voice Messaging or Multimedia Messaging).

c. Click **OK**.

Result: The new CDN is added and the CDN information page reappears.

23 Click **Next**.

Result: The Language Source Directory page appears.

24 Insert the CallPilot 5.0 Language CD in to the CD/DVD drive on CP2.

> **ATTENTION**
>
> You must use a CallPilot 5.0 Language CD.
>
> Language CDs from previous CallPilot releases are not compatible with CallPilot 5.0. The Configuration Wizard checks the version of the Language CD and blocks the use of the CD if it is not a CallPilot 5.0 CD.

25   On the Language Source Directory Select page, do the following:

   a. Select **Install Language**.

   b. In the Language CD Location field, enter the directory of the Language disk or file. Typically, CallPilot uses drive Z.

26   Click **Next**.

   Result: The Language Installation page appears.

27   On the Language Installation page, do the following:

   a. Select Languages and Automated Speech recognition to be installed.

   b. Select Primary and Secondary Languages.

      Note: The Secondary Language is optional.

> **ATTENTION**
>
> The same languages must be installed on CP1 and CP2.

28   Click **Next**.

   Result: The CallPilot Local Area Network Interface page appears.

29   On the CallPilot Local Area Network Interface page, do the following:

   a. Select the network interface card from the drop-down list.

      Result: The MAC address, IP address, and Subnet mask values are updated for the network interface card.

   b. Change the **ELAN** and **CLAN** IP information (**IP address** and **Subnet Mask**).

   c. Select the **High Availability mode** check box to display the High Availability Network Interfaces.

      Note: To enable High Availability, a proper keycode is required and the High Availability Mode check box must be selected. The keycode has the ability to enable High Availability; however, the feature does not have to be enabled as it can be done at a later date.

d. Enter IP information for the **HB1**, **HB2**, and **MIRROR** network interfaces cards.

The following table shows the suggested default values for HB1, HB2, and MIRROR on CP2. If you do not use these suggested values, ensure that you use your new values throughout the configuration.

Network Interface Card (NIC)	IP Address	Subnet Mask
Heartbeat 1 (HB1)	192.0.0.11	255.255.255.0
Heartbeat 2 (HB2)	194.0.0.11	255.255.255.0
MIRROR	193.0.0.11	255.255.255.0

30   Click **Next**.

Result: The Ready to Configure page appears.

31   Click **Finish** to start process.

Result: The system starts the configuration process and displays its progress.

32   After the process is complete, restart the CallPilot server.

—End—

Connect and verify LAN connections

Use the following figure and procedure to connect the HB1, HB2, and MIRROR crossover LAN cables, and the ELAN and CLAN cables between the two High Availability servers.

Figure 25
Rear panel of 1005r server showing LAN connections
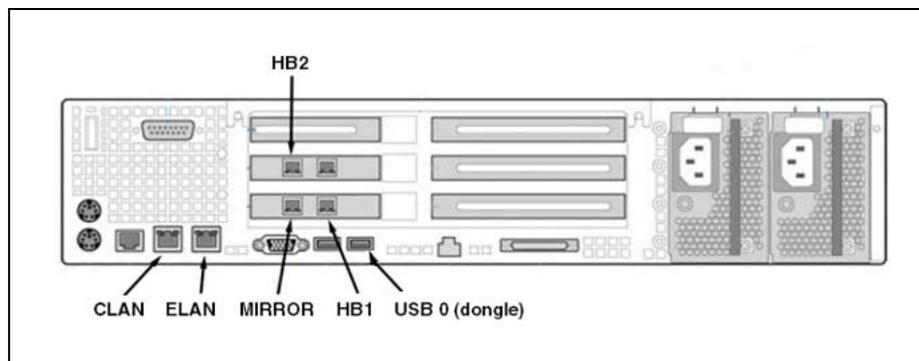
Connecting and verifying LAN connections

Step	Action

1   On CP1 and CP2, select **Start > Settings > Network Connections**.

Result: The Network Connection window appears and shows that the HB1, HB2, MIRROR, ELAN, and CLAN connections are not connected.

Figure 26
Network Connections - no connections
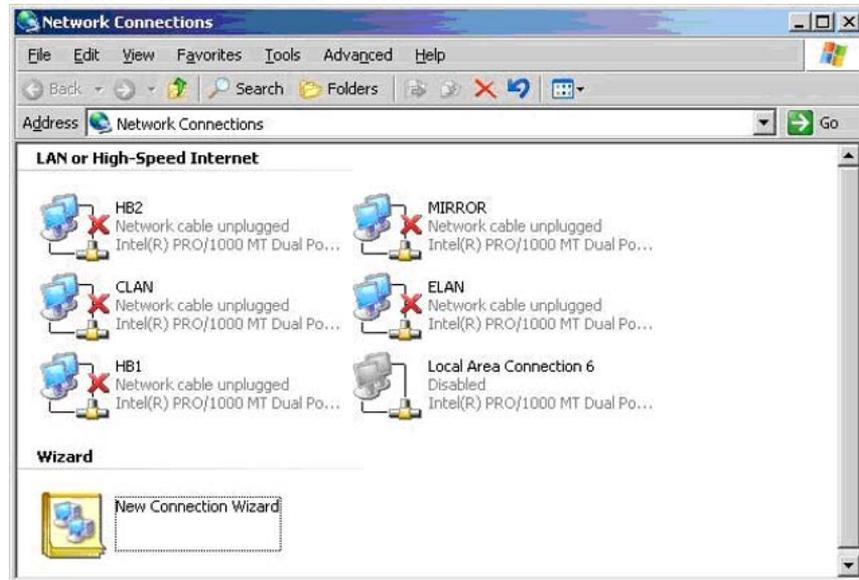
2   Connect the HB1 crossover LAN cable between both the CP1 and CP2 servers.

3   In the Network Connections window, verify that HB1 shows that it is connected.

Result: The red X is removed from the HB1 icon, as shown in the following figure.

Figure 27
Network Connections - HB1 connected
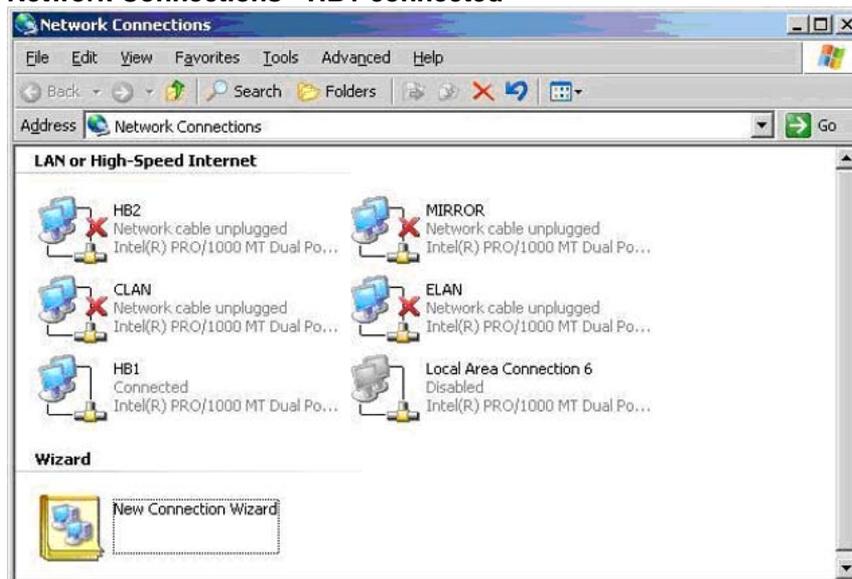
4 To ensure that the HB1 cable is properly connected, perform the following from CP1:

a. Open a command prompt.

b. Enter the command **tracert –d 192.0.0.11** to verify the HB1 connection.

> *Note:* If you are not using the default values for the heartbeat connections, enter tracert -d <IP address of HB1 on CP2>.

c. Confirm that server CP2 can be reached in one hop.

5 Connect the HB2 crossover LAN cable between both the CP1 and CP2 servers.

6 In the Network Connections window, verify that HB2 shows that it is connected.

Result: The red X is removed from the HB2 icon.

7 To ensure that the HB2 cable is properly connected, perform the following from CP1:

a. Open a command prompt.

b. Enter the command **tracert –d 194.0.0.11** to verify the HB2 connection.

> *Note:* If you are not using the default values for the heartbeat connections, enter tracert -d <IP address of HB2 on CP2>.

c. Confirm that server CP2 can be reached in one hop.

8 Connect the MIRROR crossover LAN cable between both the CP1 and CP2 servers.

9 In the Network Connections window, verify that MIRROR shows that it is connected.

Result: The red X is removed from the MIRROR icon.

10 To ensure that the MIRROR cable is properly connected, perform the following from CP1:

a. Open a command prompt.

b. Enter the command **tracert –d 193.0.0.11** to verify the MIRROR connection.

> *Note:* If you are not using the default values for the heartbeat connections, enter tracert -d <IP address of Mirror on CP2>.

c. Confirm that server CP2 can be reached in one hop.

11 Connect the ELAN cable.

12 In the Network Connections window, verify that ELAN shows that it is connected.

Result: The red X is removed from the ELAN icon.

13 To ensure that the ELAN is properly connected, perform the following from CP1:

a. Open a command prompt.

b. Verify that the switch is accessible by running the following command: **ping <switch IP address>**

c. Verify that CP2 is accessible by running the following command: **ping <CP2 ELAN IP address>**

14 Connect the CLAN cable.

15 In the Network Connections window, verify that CLAN shows that it is connected.

Result: The red X is removed from the CLAN icon.

16 To ensure that the CLAN is properly connected, perform the following from CP1:

a. Open a command prompt.

b. Verify that the default gateway is accessible by running the following command: **ping <CLAN/Nortel server subnet default gateway IP address>**

c. Verify that CP2 is accessible by running the following command: **ping <CP2 CLAN IP address>**

17 Check the Network Connections window and ensure that all connections are made.

Result: No red Xs appear on any of the icons (as shown in the following figure).

Figure 28
Network Connections - all connections made
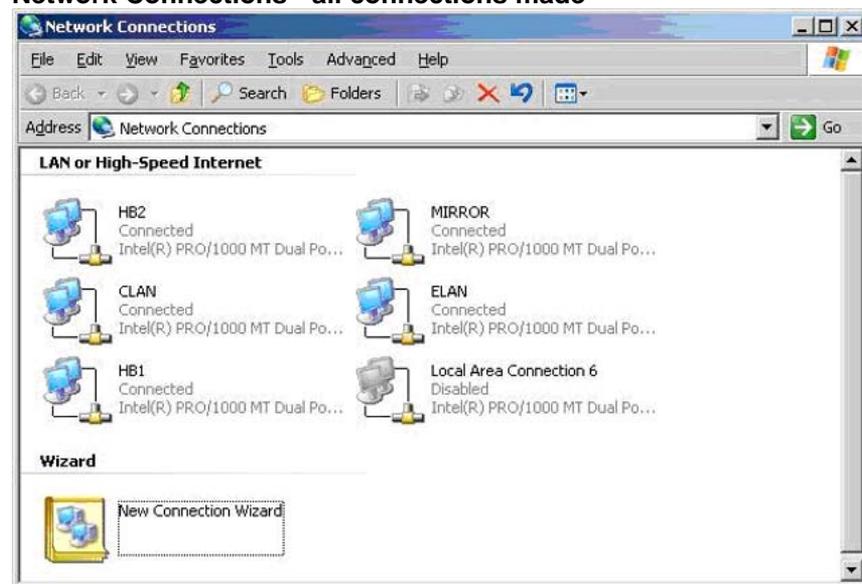
—End—

Modifying the hosts file

Step   Action

This procedure is required if a DNS server is not used in the network solution or part of the configuration (in particular, where IP address name resolution is preferred). Use the following procedure to resolve the Managed CLAN IP address (virtual CLAN IP address).

1 On your <server or client PC>, perform the following steps:

a. Open Windows Explorer and navigate to the following folder: **C:\WINDOWS\system32\drivers\etc**

b. Double-click the **hosts** file.

Result: The **Open with** window appears.

Figure 29
Open With window

c. Select **Notepad**.

d. Click **OK**.

Result: The Notepad application appears and displays the hosts file information.

e. Save a copy of the hosts file (as a backup) before you modify the file.

f. Place the cursor at a new line directly underneath the default entry 127.0.0.1.

g. Enter the Managed CLAN IP address.

For more information, see Table 3 "High Availability system checklist" (page 25).

h. Press the **Tab** key until cursor is underneath the default localhost and enter the **Managed CLAN Host Name** for the associated Managed CLAN IP address that was just entered.

Figure 30
hosts file

i. Press the **Enter** key to go to next line.

   Note: If a DNS server is used as a solution, ensure Network Administrator has the entries entered into the DNS server configuration.

—End—

Use the following procedure to test the host name resolution.

Testing the host name resolution

Step	Action

This procedure is an example of how to test the host name for CP1 and CP2 if the Managed CLAN host name has been added to their respective host files.

1   On CP1, do the following:

    a. Select **Start > Run**.

       Result: The Run window appears.

    b. In the **Open** field, type `cmd`.

       Result: The DOS Command Prompt appears.

    c. Enter the following command: `ping <CP2 CLAN Host Name>`

Result: If the CLAN is properly connected and the host file is configured with the IP address and host name information, a reply is displayed showing the Managed CLAN IP address and the time to return.

d. Repeat (if necessary) with other host names from CP2.

2   On CP2, repeat the preceding steps.

—End—

Run Stage 1 of the High Availability Configuration Wizard to check CP1 and CP2 configuration

The High Availability Configuration Wizard is run twice during the configuration of a High Availability server pair:

*   Stage 1: The High Availability Configuration Wizard is run for the first time to gather and verify the configuration of the two nodes in the High Availability pair. This is done to ensure that the nodes are correctly configured (for example, to ensure that the networking information is consistent between the two nodes). For more information, see "Running Stage 1 of the High Availability Configuration Wizard to check CP1 and CP2 configuration" (page 75).

*   Stage 2: The High Availability Configuration Wizard is run a second time to verify the AutoStart software installation and to generate the definition file that is imported into the AutoStart Console to provide the initial configuration. For more information, see "Generating the AutoStart Definition File" (page 115).

Running Stage 1 of the High Availability Configuration Wizard to check CP1 and CP2 configuration

Step	Action

The High Availability Configuration Wizard is only run on CP1.

1   Use Windows Explorer to navigate to the **D:\Nortel\HA** folder.

2   Double-click the **HighAvailabilityConfigurationWizard.exe** file.

Result: The High Availability Configuration Wizard appears.

Figure 31
High Availability Configuration Wizard

3   Enter the following information based on the server configuration.
    This information is completed in Table 3 "High Availability system
    checklist" (page 25):

    a. **Managed CLAN Host Name**: Enter the Host Name of the
        Managed CLAN.

    b. **Managed CLAN IP**: Enter the IP address of the Managed CLAN.

    c. **Managed ELAN IP**: Enter the IP address of the Managed ELAN.

    d. **Node 1 Host Name**: The Node 1 Host Name is initialized to the
        name of the server on which the High Availability Configuration
        Wizard is run. The Host Name is the name of the first CallPilot
        server (CP1) in the High Availability pair.

    e. **Node 2 Host Name:** Enter the Host Name of the second
        CallPilot server (CP2) in the High Availability pair.

    f. **Number of MPB96 boards:** Enter the number of MPB96 boards
        installed in the server.

    g. **User name:** Enter the user name of the administrator account.

    h. **Server Workgroup / Domain Name:** Enter the name of the
        Windows workgroup or Windows domain in which the CallPilot
        servers belong.

  i. **EMC AutoStart Domain Name:** Enter the domain name of the AutoStart domain.

   The Domain Name must be a unique name and is used as the AutoStart domain for the pair of CallPilot servers. This name must contain only alphanumeric characters and have a maximum length of eight characters. The domain name must be the same domain name that was used in the High Availability Configuration Wizard.

   Note: This document uses [AutoStart_Domain]. This value must be replaced with your AutoStart domain name.

  j. **CLAN Test IP:** Enter the IP address on the CLAN to be used to verify the CLAN connection. The IP address must be of a device that responds to the ping command. If there is no CLAN connection, enter the loopback IP address (127.0.0.1).

4 Click the **Step 1: Get Node Information** button to retrieve information from the two servers in the High Availability pair.

- If there are any errors, a dialog box is displayed with the error details. If the Configuration Wizard is unable to communicate with either of the servers, verify that both servers have all the network cables connected and that the administrator account passwords are the same on both servers.

- If there are no errors, the Configuration Wizard is updated with the information from the servers and the Validate Node Information button is enabled.

Figure 32
Node Information displayed in bottom pane

5   Click the **Step 2: Validate Node Information** button to check
     that the configuration of the two servers in the pair match. The
     Validate Node Information button checks the format of the entered
     IP addresses, pings the HB1, HB2, and Mirror IP addresses, and
     compares the workgroup or domain information on both nodes to
     ensure the information is the same.

     •   If there are any errors, a message box is displayed with details of
         the error. Correct the problem on the server that has the error
         and then click the **Step 2: Validate Node Information** button
         again.

     •   If there are no errors, a message displays showing that Stage 1
         is complete. You must exit the Configuration Wizard and continue
         with the installation (or upgrade) process. The information you
         entered is automatically saved.

     Figure 33
     Stage 1 Complete

6   Click the **Exit** button.

7 Click **Yes** to confirm the exit from the High Availability Wizard.

—End—

Install the AutoStart Agent and Console software

The High Availability feature uses the AutoStart 5.2.2 software that must be installed on both servers. The AutoStart software includes both Agent and Console software.

There can also be AutoStart software patches that must be installed. SUs and PEPs are found in the Enterprise Solutions PEP Library (ESPL), which can be accessed at the following Web site: www.nortel.com/espl

Note: Within the AutoStart software, the two CallPilot servers are included in an AutoStart domain. The name of the domain must be unique within the network. For the purposes of this document, the domain name **[AutoStart_Domain]** is used. This value must be replaced with the AutoStart domain name to be used by the customer. The AutoStart Domain has no association with the customer's network domain and is used only by the AutoStart software.

Install the AutoStart software on CP1

The following procedure installs the AutoStart 5.2.2 Agent and Console software on server CP1. This procedure takes approximately 10 minutes.

Installing the AutoStart Agent and Console software on CP1

Step	Action

ATTENTION

The computer name must be set before you install the AutoStart software. The software requires the computer name. The computer name must contain only alphanumeric characters. Nonalphanumeric characters (such as a hyphen [-]) are not supported.

If you want to change the computer name after installing the server you must uninstall and then reinstall the AutoStart software.

---

1 Insert the **CallPilot Application CD**.

2 Navigate to the **Z:\EMC** folder on the CallPilot Application CD.

3 Double-click the **EAS522_WIN-x86.exe** file to start the installation.

Result: The InstallShield Wizard dialog box appears and informs you that the AutoStart 5.2.2 software requires that the Microsoft .NET Framework be installed before you install the AutoStart software.

Figure 34
Pending install of Microsoft .NET Framework
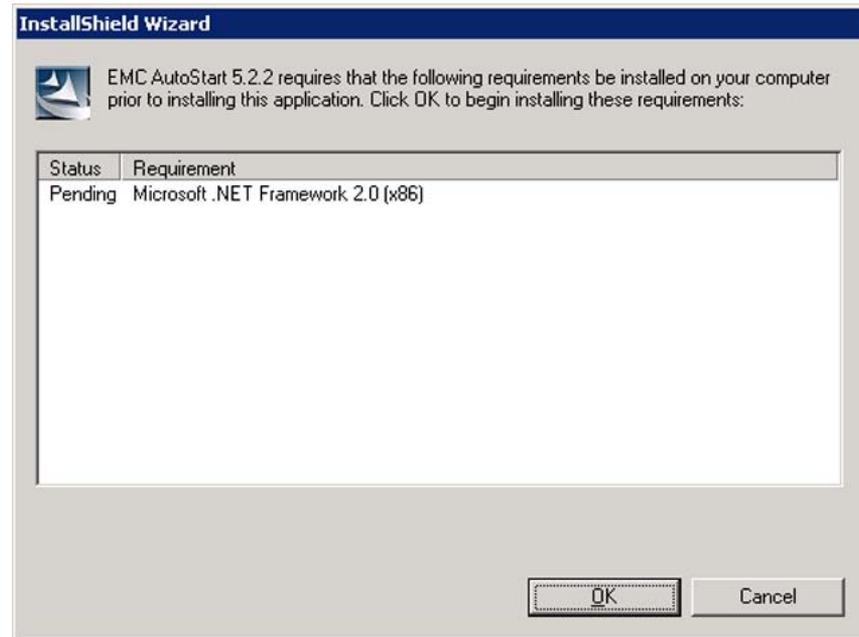
4   Click **OK**.

Result: The InstallShield Wizard extracts the files and then automatically installs the Microsoft .NET Framework.

Figure 35
Extracting Microsoft .NET Framework files
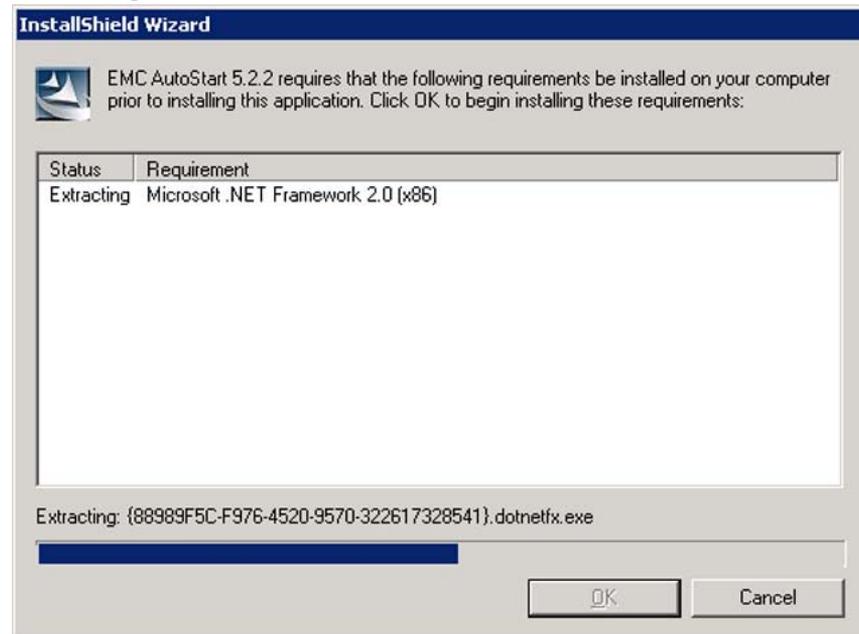
Figure 36
Installing Microsoft .NET Framework
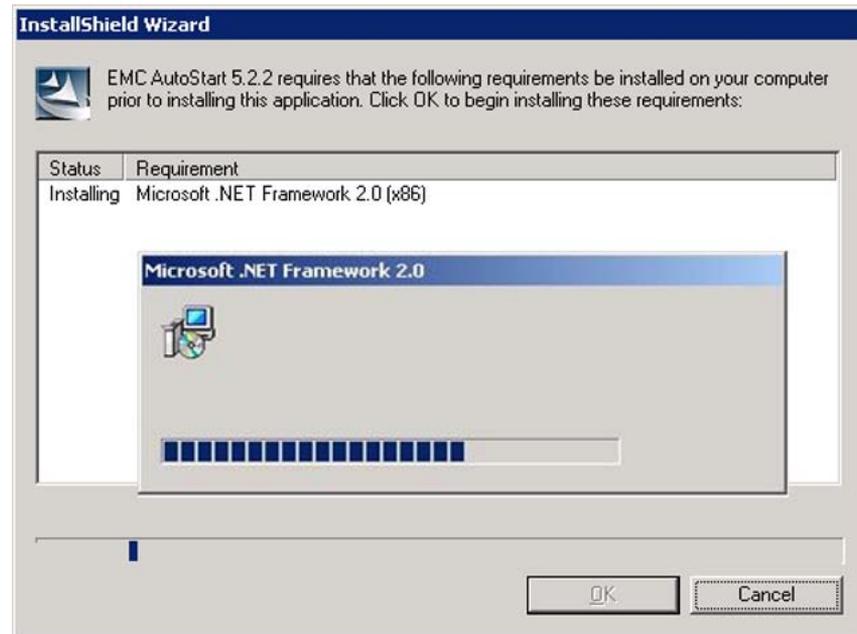
5   Wait while the InstallShield Wizard installs the Microsoft .NET Framework.

Result: The InstallShield Wizard informs you that the AutoStart 5.2.2 software is preparing to install. (This install preparation can take a few minutes.) After the preparation completes, the Welcome window appears.

Figure 37
InstallShield Wizard - Preparing to install the AutoStart 5.2.2 software
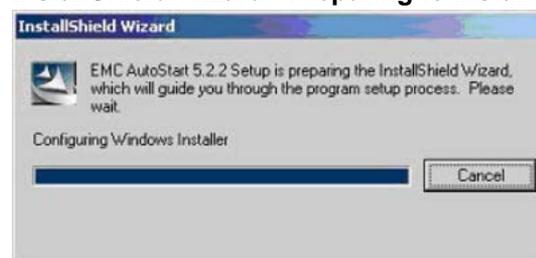
Figure 38
Welcome window

6 Click **Next**.

Result: The License Agreement window appears.

Figure 39
License Agreement window

7   Select the **I accept the terms in the license agreement** option.

8   Click **Next**.

Result: The Setup Type window appears.

Figure 40
Setup Type window

9   Select the **Complete** option button.

10   Click **Next**.

Result: The Destination Folder window appears.

Figure 41
Destination Folder

11 Click **Change**.

Result: The Change Current Destination Folder dialog box appears.

Figure 42
Change Current Destination Folder dialog box
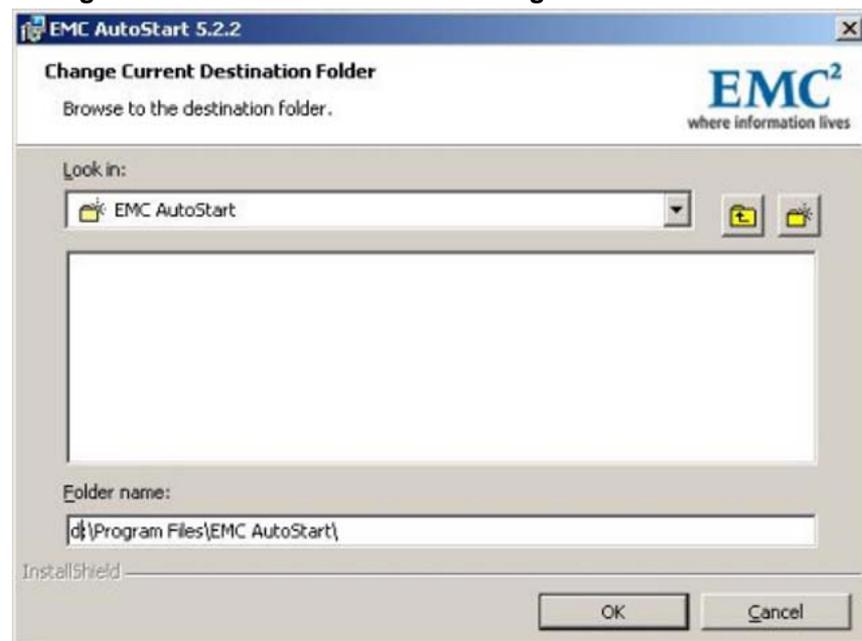
12   In the Folder name field, change only the drive letter from C to D. Do not change the rest of the path.

The path must be as follows: **D:\Program Files\EMC AutoStart**

Note: You must install the software to the D:\Program Files\EMC AutoStart\ directory or the software does not work correctly.

13   Click **OK**.

Result: The Change Current Destination Folder dialog box closes and you are returned to the Destination Folder window, which shows the correct installation path.

14   Click **Next**.

Result: The Domain Information window appears.

Figure 43
Domain Information window

15   Enter the EMC AutoStart **Domain Name**. The AutoStart Domain Name must be the same name that you entered in the High Availability Configuration Wizard.

Note: This document uses [AutoStart_Domain]. This value must be replaced with your AutoStart domain name.

16   Click **Next**.

Result: The [AutoStart_Domain] domain first node window appears.

Figure 44
[AutoStart_Domain] domain first node window
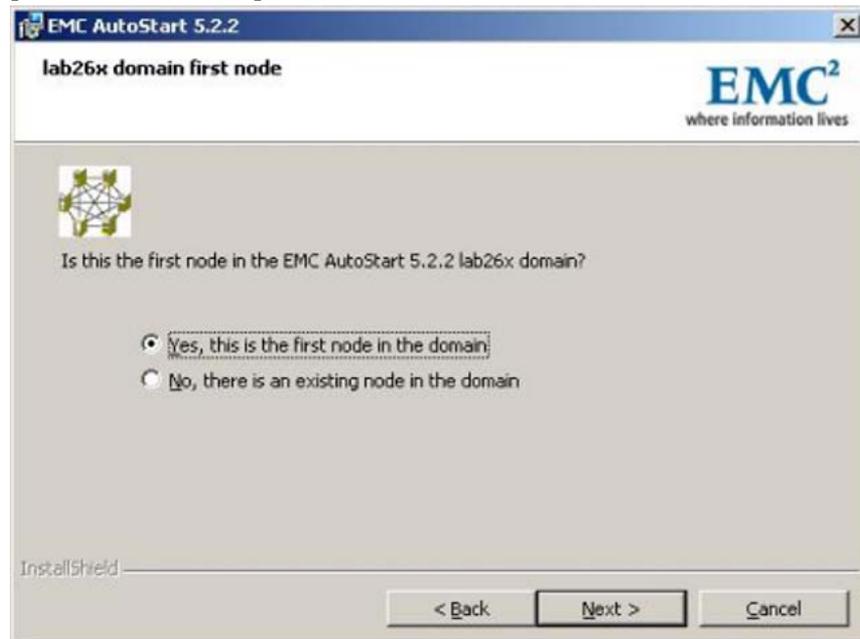
17 Select the **Yes, this is the first node in the domain** option.

18 Click **Next**.

Result: The EMC AutoStart 5.2.2 Licensing window appears.

Figure 45
EMC AutoStart 5.2.2 Licensing window

19   Enter your AutoStart 5.2.2 license key (provided with your CallPilot
server) in the **AutoStart 5.2.2** field. Leave the values in the other
fields unchanged.

> *Note:* When you order the High Availability feature, the
> AutoStart 5.2.2 license key comes in the form of an EMC License
> Registration Card.

20   Click **Next**.

Result: The Mirroring Network Configuration window appears.

Figure 46
Mirroring Network Configuration window
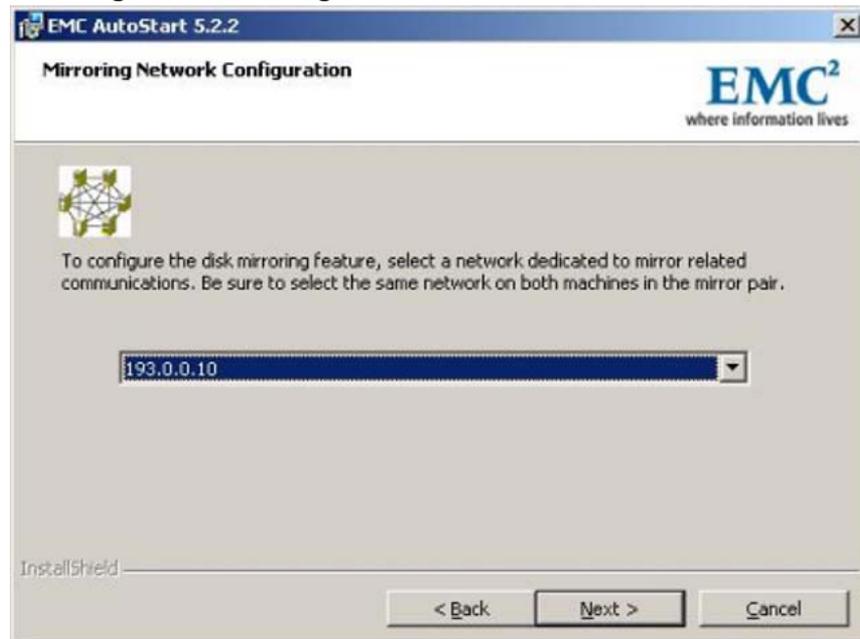
21   Select the IP address that was assigned to the Mirror NIC on CP1.
     The default value is 193.0.0.10. If you used a different value, select
     that IP address.

22   Click **Next**.

     Result: The Confirm Settings window appears.

Figure 47
Confirm Settings window
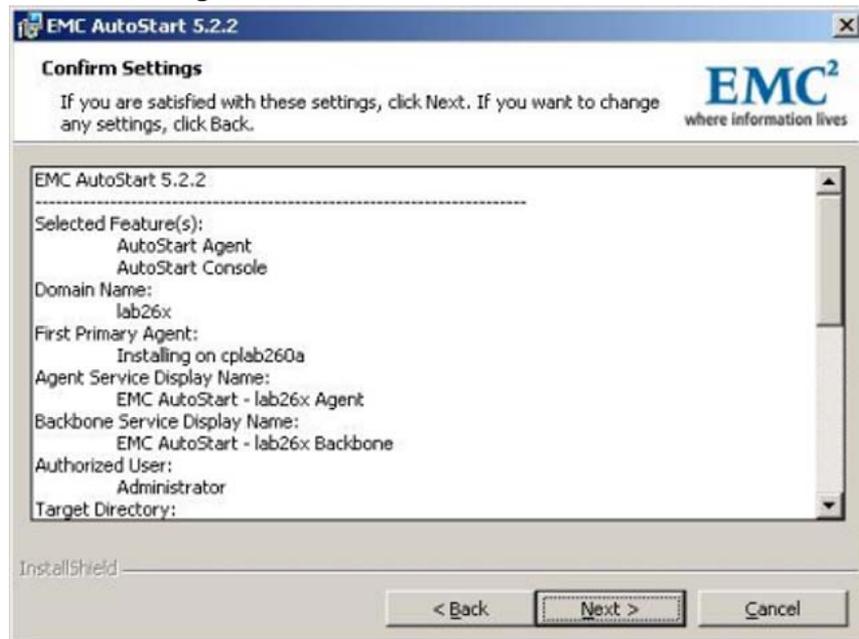
23   Verify that the settings are correct.

24   Click **Next**.

Result: The Ready to Install the Program window appears.

Figure 48
Ready to Install the Program window
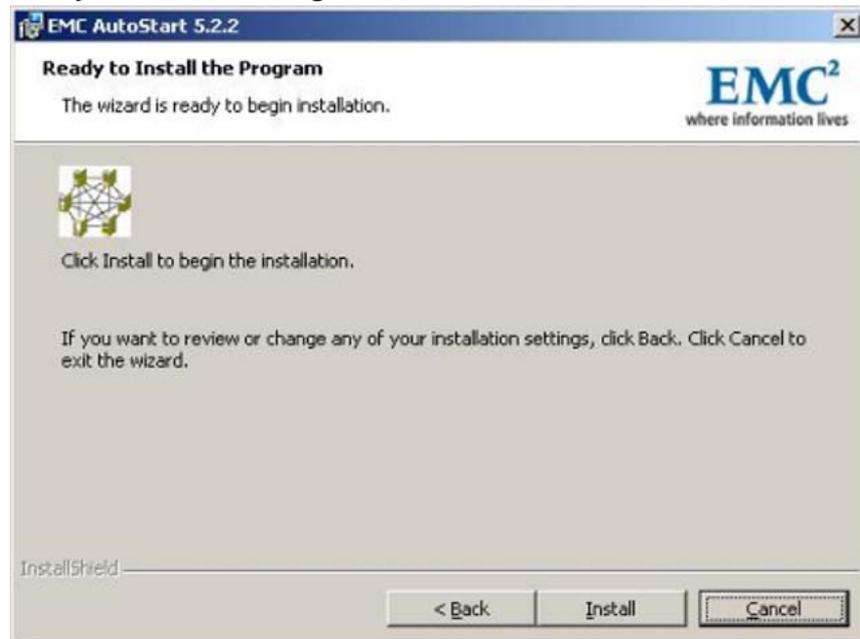
25 Click **Install** to start the installation of the AutoStart Agent and
Console software.

Result: The Installing EMC AutoStart 5.2.2 window appears and
shows the status of the installation.

Figure 49
Installing EMC AutoStart 5.2.2 window
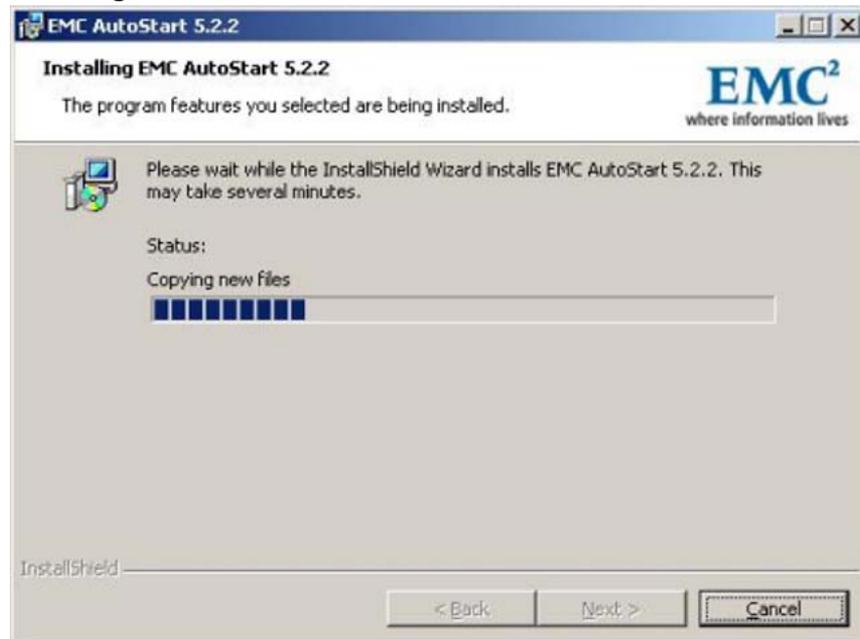
26   Wait until the installation is complete and the InstallShield Wizard
Completed window appears.

Figure 50
InstallShield Wizard Completed

27 Clear the **Check for program updates now** check box.

28 Click **Finish**.

Result: The EMC AutoStart 5.2.2 dialog box appears, prompting you to restart your system.

Figure 51
EMC AutoStart 5.2.2 dialog box
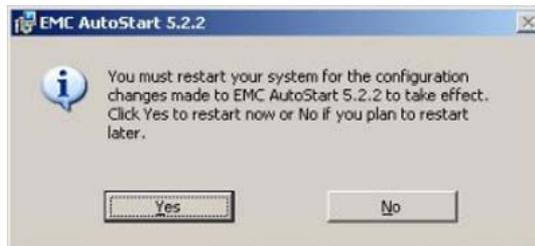
29 Click **No** if there are patches to install or click **Yes** to restart CP1.

Note: If there are patches available, install the patches and then restart CP1.

—End—

Add the node 2 administrator account to the AutoStart Console on node 1

Add the node 2 administrator account to the AutoStart Console on node 1

Step   Action

This procedure adds the CP2 Administrator Account to the AutoStart Console on CP1.

ATTENTION

The CP2 Administrator Account must be added to the AutoStart Console on CP1 before you install the AutoStart software on CP2. If you try to install the AutoStart software on CP2 before you add the administrator account of CP2 into the AutoStart console on CP1, the AutoStart Agent installed on CP2 cannot communicate with the Agent installed on CP1. You must uninstall the Agent and Console software and then reinstall the software.

---

1 Log on to CP1.

Note: An error can appear, indicating that "At least one service or driver failed to start." This is normal, as the AutoStart mirroring

service is installed on node 1; however, the service is not yet
fully configured so the server cannot start.

2   Launch the AutoStart Console on CP1 by selecting **Start >
Programs > EMC AutoStart Console > EMC AutoStart Console
5.2**.

Result: The AutoStart Console appears.

3   In the Domain pane (left side of the window), click
[AutoStart_Domain] where [AutoStart_Domain] is the domain
name created when you installed the AutoStart Agent.

Note: If the domain is not visible and an error is reported, close
and reopen the AutoStart Console.

4   Select the **Licensing/Security** tab.

Figure 52
AutoStart Console - Licensing/Security tab - Add Admin User
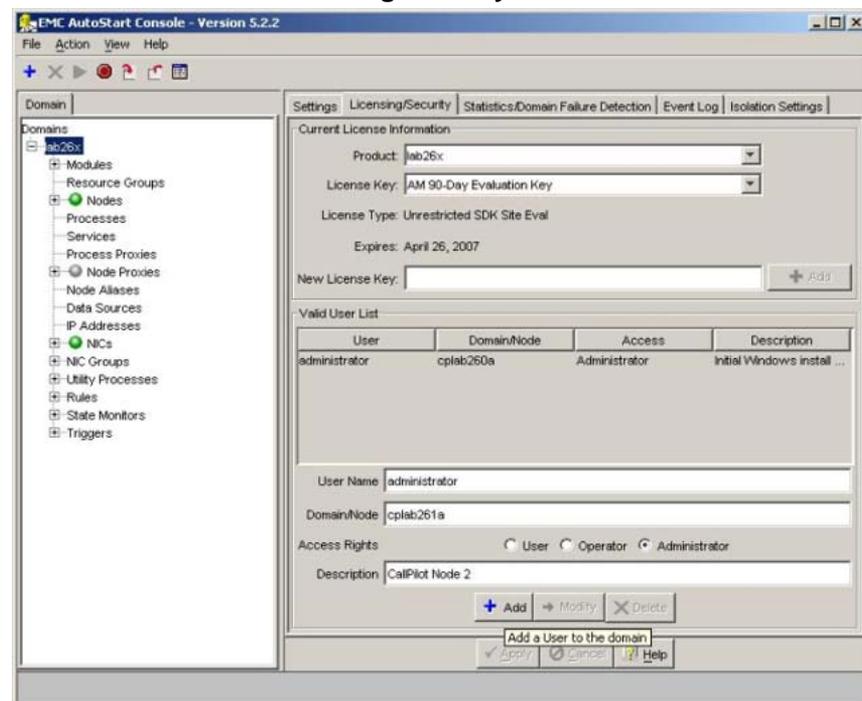
5   In the **Valid User List** area, enter the following information:

a. In the **User Name** field, enter administrator.

b. In the **Domain/Node** field, enter the host name of CP2.

c. For the **Access Rights** option, select the **Administrator** option
button.

     d. In the **Description** field, enter CallPilot Node 2.

6   Click **Add**.

     Result: A row is added to the Valid User List.

Figure 53
AutoStart Console - Licensing/Security tab - Node 2 Administrator user is added
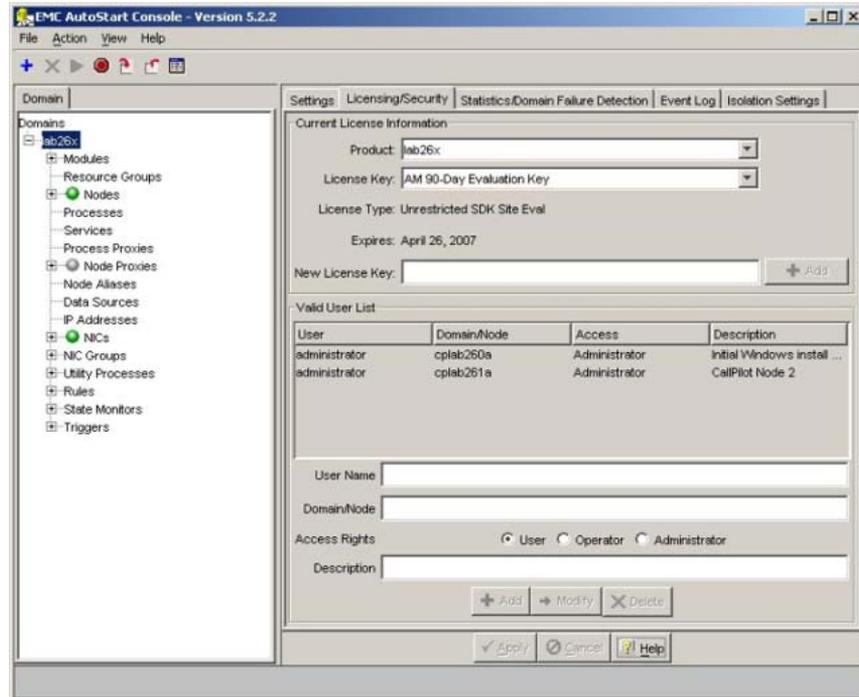
7   Exit the AutoStart Console on CP1.

—End—

Install the AutoStart software on CP2

The following procedure installs the AutoStart 5.2.2 Agent and Console software on server CP2. This procedure takes approximately 10 minutes.

Installing the AutoStart software on CP2

Step	Action

> ### ATTENTION
>
> The computer name must be set before you install the AutoStart software. The software requires the computer name. The computer name must contain only alphanumeric characters. Nonalphanumeric characters (such as a hyphen [-]) are not supported.
>
> If you want to change the computer name after you install the server you must uninstall and then reinstall the AutoStart software.

1   Insert the **CallPilot Application CD**.

2   Navigate to the **Z:\EMC** folder on the CallPilot Application CD.

3   Double-click the **EAS522_WIN-x86.exe** file to start the installation.

    Result: The InstallShield Wizard dialog box appears and informs you that the AutoStart 5.2.2 software requires that the Microsoft .NET Framework be installed before you install the AutoStart Software.

Figure 54
Pending install of Microsoft .NET Framework
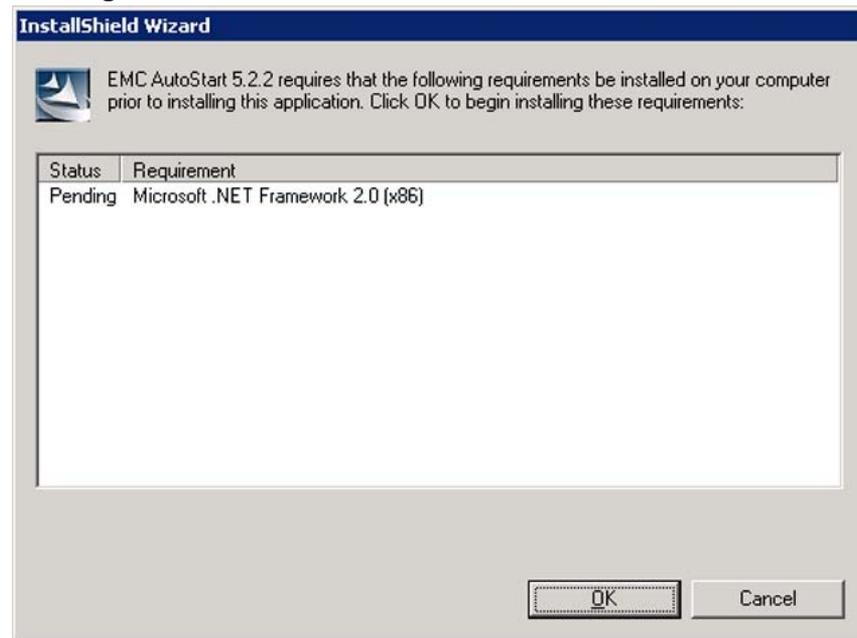
4   Click **OK**.

    Result: The InstallShield Wizard extracts the files and then automatically installs the Microsoft .NET Framework.

Figure 55
Extracting Microsoft .NET Framework files
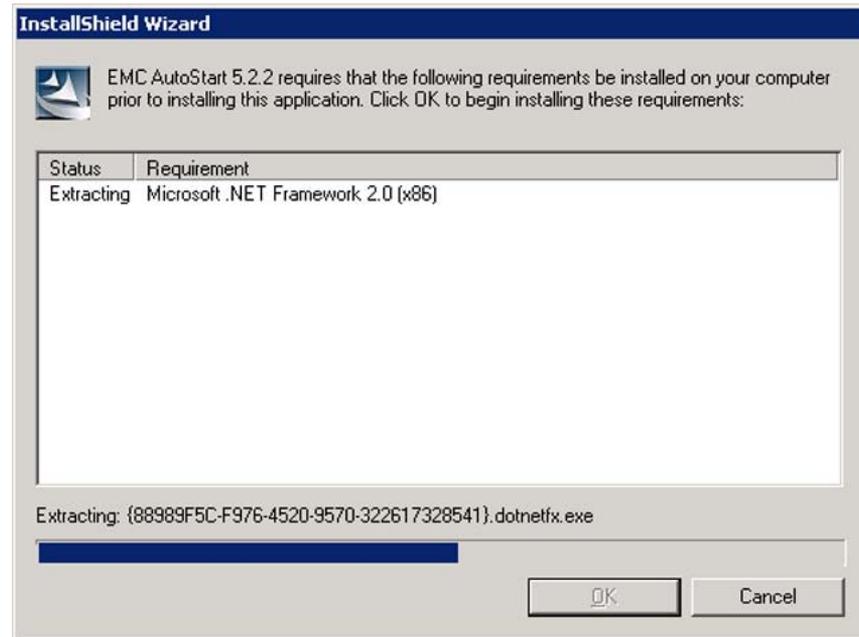
Figure 56
Installing Microsoft .NET Framework
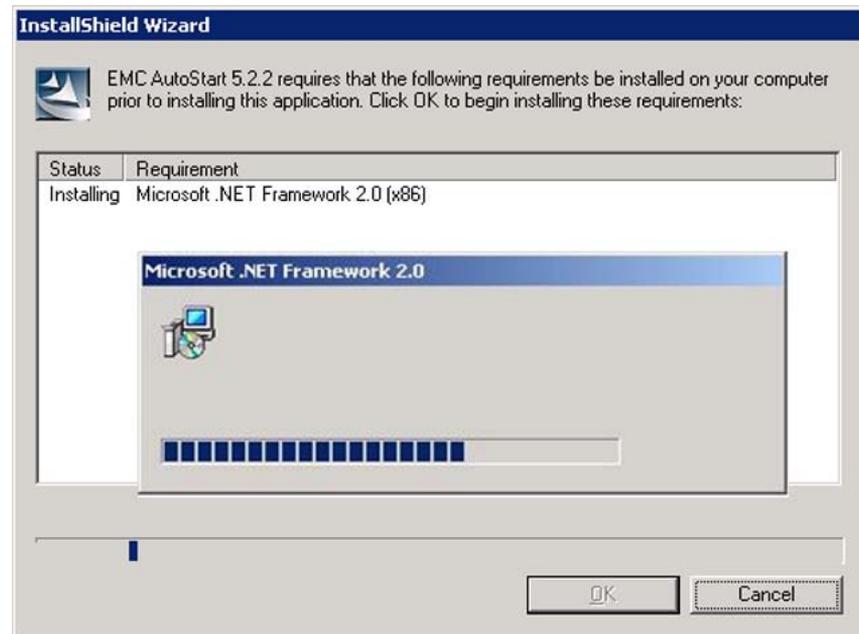
5 Wait while the InstallShield Wizard installs the Microsoft .NET Framework.

Result: The InstallShield Wizard informs you that the AutoStart
5.2.2 software is preparing to install. (The install preparation can
take a few minutes.) After the preparation is complete, the Welcome
window appears.

Figure 57
InstallShield Wizard - Preparing to install the AutoStart 5.2.2 software

Figure 58
Welcome window

6   Click **Next**.

Result: The License Agreement window appears.

Figure 59
License Agreement window

7 Select the **I accept the terms in the license agreement** option.

8 Click **Next**.

Result: The Setup Type window appears.

Figure 60
Setup Type window

9   Select the **Complete** option button.

10   Click **Next**.

Result: The Destination Folder window appears.

Figure 61
Destination Folder

11   Click **Change**.

Result: The Change Current Destination Folder dialog box appears.

Figure 62
Change Current Destination Folder dialog box
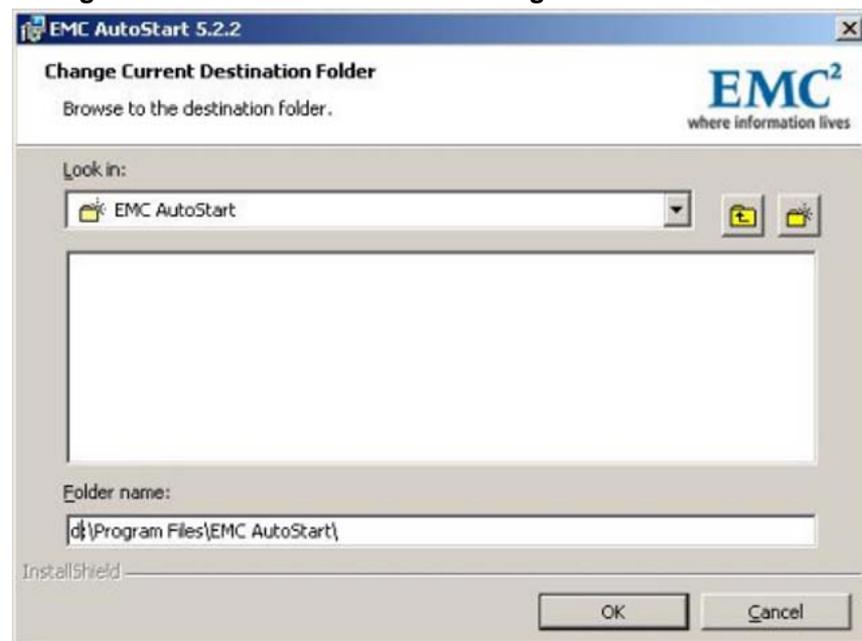
12   In the Folder name field, change only the drive letter from C to D. Do not change the rest of the path.

The path must be as follows: **D:\Program Files\EMC AutoStart**

ATTENTION

You must install the software to the D:\Program Files\EMC AutoStart\ directory or the software does not work correctly.

---

13   Click **OK**.

Result: The Change Current Destination Folder dialog box closes and you are returned to the Destination Folder window, which shows the correct installation path.

14   Click **Next**.

Result: The Domain Information window appears.

Figure 63
Domain Information window

15   Enter the EMC AutoStart **Domain Name**. The AutoStart Domain Name must be the same name that you entered in the High Availability Configuration Wizard.

  Note: This document uses [AutoStart_Domain]. This value must be replaced with your AutoStart domain name.

16   Click **Next**.

Result: The [AutoStart_Domain] domain first node window appears.

17 Select the **No, there is an existing node in the domain** option button.

Figure 64
[AutoStart_Domain] domain first node
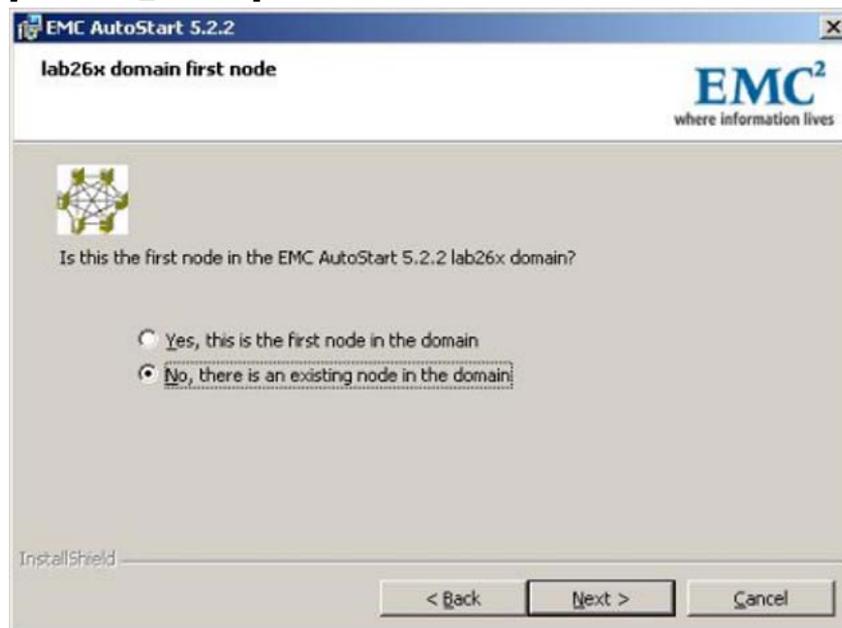
18 Click **Next**.

Result: The Identify Primary Node window appears.

Figure 65
Identify Primary Node window
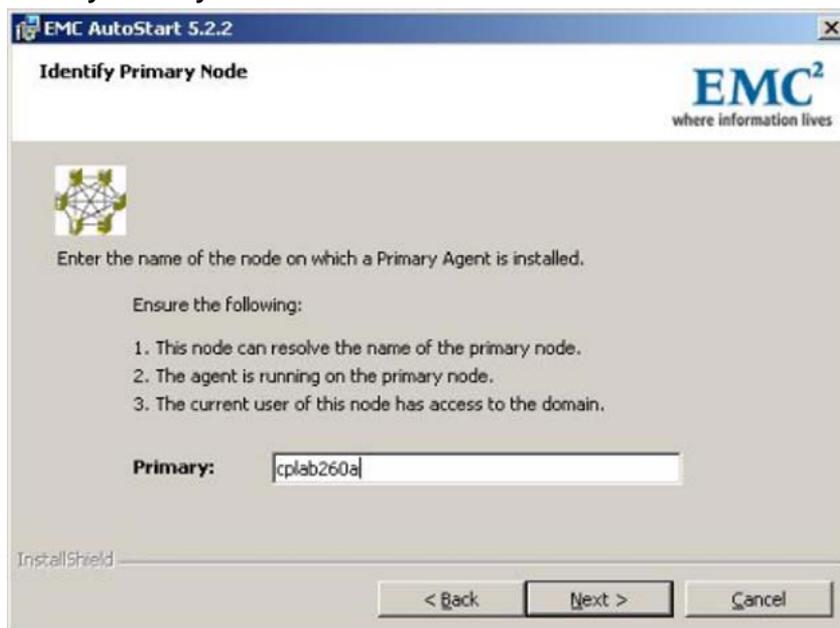
19 Enter the host name of the CP1 server in the High Availability pair in the **Primary** field.

20 Click **Next**.

> *Note:* If you enter an invalid name for the Primary node, or the AutoStart agent is not running on the Primary node, an error message (similar to the following) is displayed. Confirm that the primary node name is correct and that the networking is configured so that the name can be resolved on the secondary node. Click **OK** to return to the Identify Primary Node window.

Figure 66
Error: Invalid name or agent not running for Primary node

Note: If you forgot to add the administrator account of CP2 into the AutoStart domain as a domain administrator, the following error is displayed. Click on **OK** to return to the Identify Primary Node screen.

Figure 67
Primary Agent error

21   Click **Next**.

Result: The Mirroring Network Configuration window appears.

Figure 68
Mirroring Network Configuration window
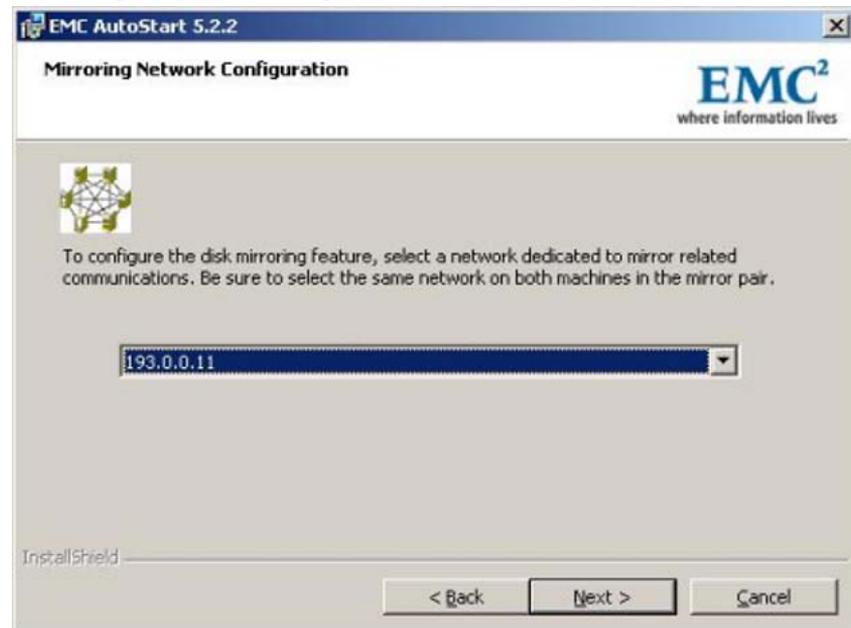
22   Select the IP address that was assigned to the Mirror NIC on CP2.
     The default value is 193.0.0.11. If you used a different value, select
     that IP address.

23   Click **Next**.

     Result: The Confirm Settings window appears.

Figure 69
Confirm Settings window

24 Verify that the settings are correct.

25 Click **Next**.

Result: The Ready to Install the Program window appears.

Figure 70
Ready to Install the Program window
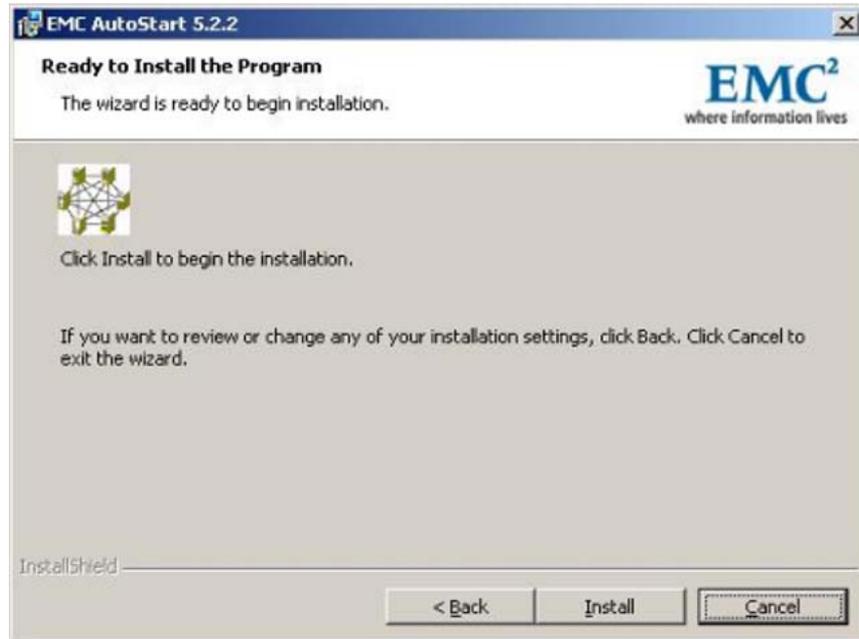
26   Click **Install** to start the installation of the AutoStart Agent and
Console software.

Result: The Installing EMC AutoStart 5.2.2 window appears and
shows the status of the installation.

Figure 71
Installing EMC AutoStart 5.2.2 window

27 Wait until the installation is complete and the InstallShield Wizard Completed window appears.

Figure 72
InstallShield Wizard Completed

28   Clear the **Check for program updates now** check box.

29   Click **Finish**.

Result: The EMC AutoStart 5.2.2 Installer Information dialog box appears.

Figure 73
EMC AutoStart 5.2.2 dialog box
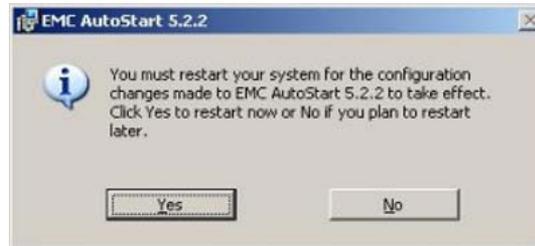
30   Click **No** if there are patches to install or click **Yes** to restart CP2.

Note: If there are patches available, install the patches and then restart CP2.

—End—

Configure the AutoStart software

To configure the AutoStart software, both servers (CP1 and CP2) must be running and have the HB1, HB2, and MIRROR LANs connected so that the two servers can communicate using the LAN connections.

Configure the AutoStart software on CP1

Use the procedures in the following section to configure the AutoStart software on CP1.

Modifying the AutoStart Domain and Verification links

Step	Action

1   Launch the AutoStart Console by selecting **Start > Programs > EMC AutoStart Console > EMC AutoStart Console 5.2**.

> **WARNING**
> Do not continue the configuration process until CP2 is finished rebooting.

<table>
<tr>
<td>⚠️</td>
<td>

WARNING

Wait for both servers under Domains > [AutoStart_Domain] > Nodes to appear green before making any changes in the AutoStart Console. Failure to do so can result in losing configured information for verification links upon the next reboot.

</td>
</tr>
</table>

2   In the **Domains** pane, select the CP1 node (**Domains > [AutoStart_Domain] > Nodes > <CP1 Node Name>**).

a.   Select the **Failure Detection and Mirroring** tab.

Figure 74
AutoStart Console - Failure Detection and Mirroring tab
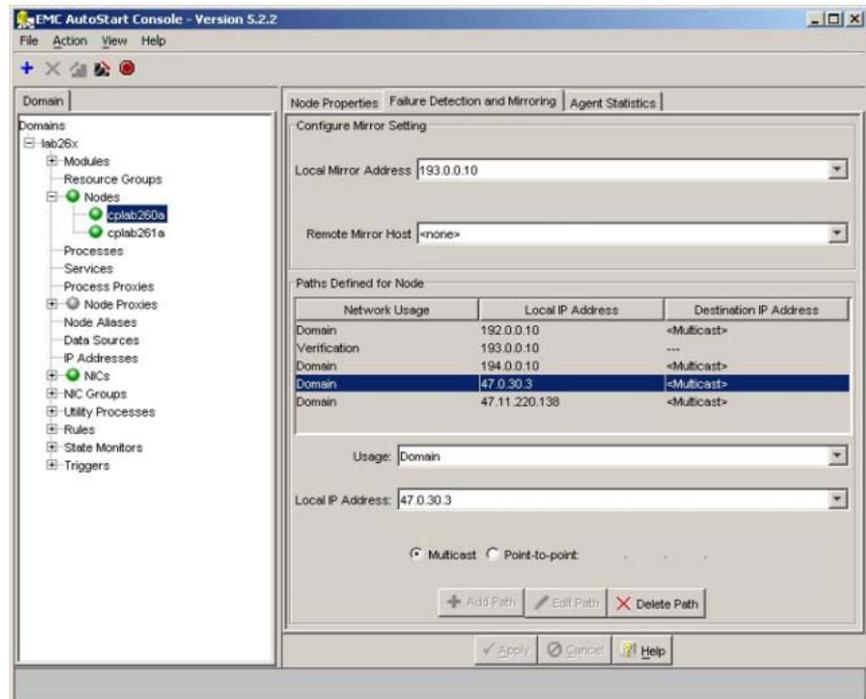
b.   In the **Paths Defined for Node** list, select the entry that has the ELAN IP address for CP1.

c.   Click **Delete Path**.

d.   In the **Usage** drop-down list, select **Verification**.

e.   In the **Local IP Address** drop-down list, select the ELAN IP address for CP1.

f.   Click **Add Path**.

g. In the **Paths Defined for Node** list, select the entry that has the CLAN IP address for CP1.

h. Click **Delete Path**.

i. In the **Usage** drop-down list, select **Verification**.

j. In the **Local IP Address** drop-down list, select the CLAN IP address for CP1.

k. Click **Add Path**.

Figure 75
AutoStart Console - Failure Detection and Mirroring tab - Adding path
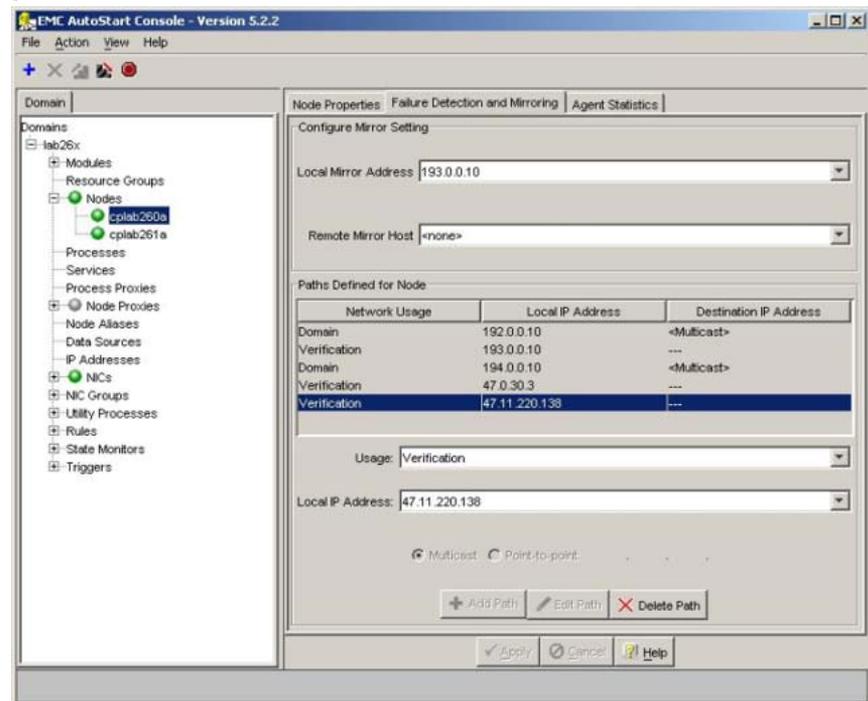
l. Click **Apply**.

m. Click **Yes**, if you are prompted to restart the agent to apply the changes.

> *Note:* It takes a few minutes for the agent to restart.

3 In the **Domains** pane, select the CP2 node (**Domains > [AutoStart_Domain] > Nodes > <CP2 Node Name>**).

a. Select the **Failure Detection and Mirroring** tab.

b. In the **Paths Defined for Node** list, select the entry that has the ELAN IP address for CP2.

c. Click **Delete Path**.

d. In the **Usage** drop-down list, select **Verification**.

e. In the **Local IP Address** drop-down list, select the ELAN IP address for CP2.

f. Click **Add Path**.

g. In the **Paths Defined for Node** list, select the entry that has the CLAN IP address for CP2.

h. Click **Delete Path**.

i. In the **Usage** drop-down list, select **Verification**.

j. In the **Local IP Address** drop-down list, select the CLAN IP address for CP2.

k. Click **Add Path**.

l. Click **Apply**.

m. Click **Yes**, if you are prompted to restart the agent to apply the changes.

> *Note:* It takes a few minutes for the agent to restart.

4   Wait for the CP1 node and the CP2 node to start.

The icon for the nodes (in the left-hand pane of the AutoStart console) turn green after the AutoStart Agent starts.

—End—

Adding the Remote Mirroring Host for CP2

Step	Action

1   On CP1, and in the **Domains** pane, select the CP2 node (**Domains > [AutoStart_Domain] > Nodes > <CP2 Node Name>**).

2   Select the **Failure Detection and Mirroring** tab.

3   Ensure that the value in the **Local Mirror Address** field is set to the IP address assigned to the MIRROR NIC on CP2. (The default value is 193.0.0.11.)

Figure 76
AutoStart Console - Failure Detection and Mirroring tab - Local Mirror Address
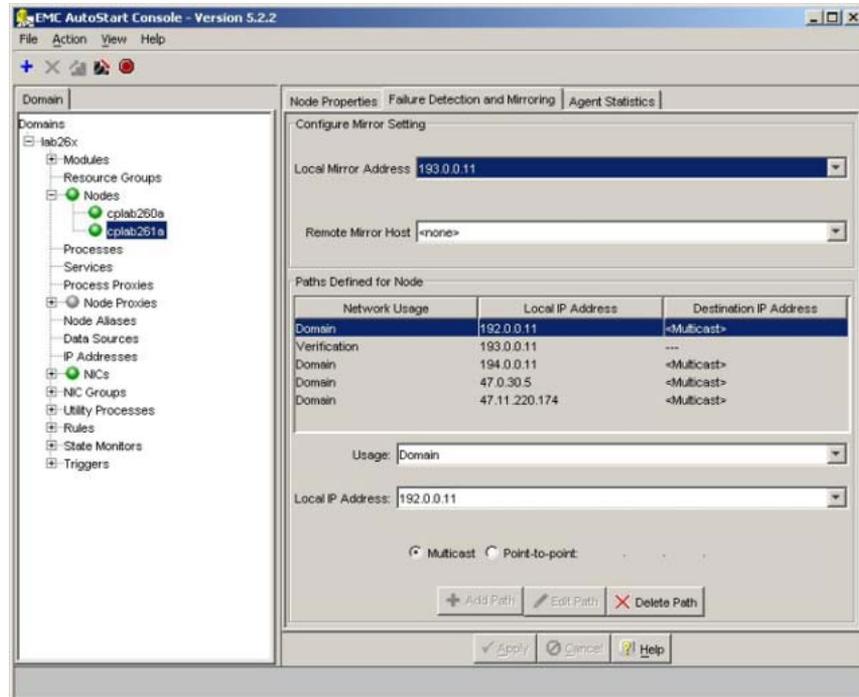
4   Change the value in the **Remote Mirror Host** field to the host name
       of node CP1.

Figure 77
**AutoStart Console - Failure Detection and Mirroring tab - Remote
Mirror Host**
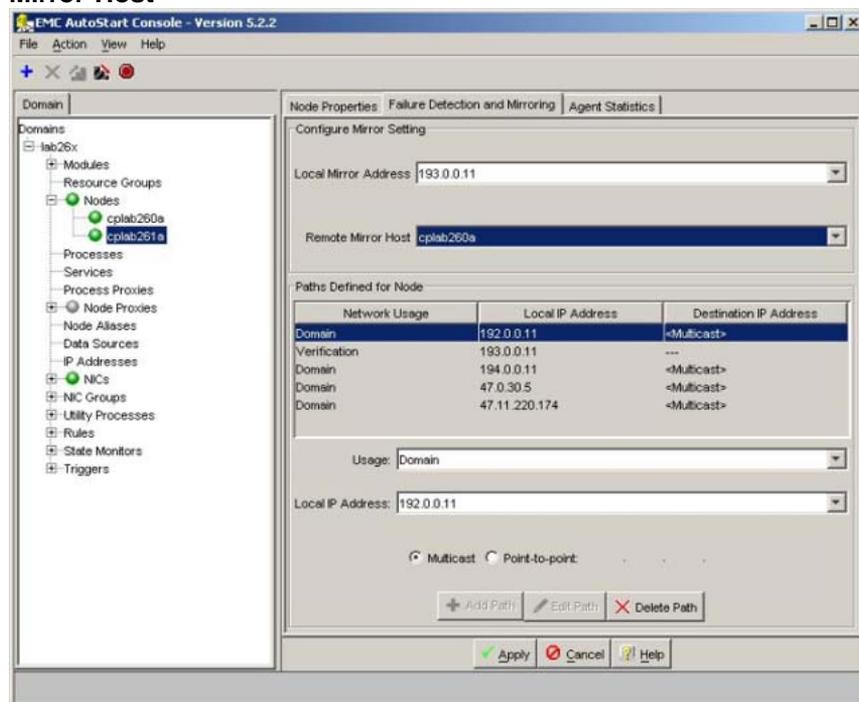
5 Click **Apply**.

6 Click **Yes**, if you are prompted to restart the agent to apply the
changes.

7 In the **Domains** pane, select the CP1 node (**Domains >
[AutoStart_Domain] > Nodes > <CP1 Node Name>**).

8 Select the **Failure Detection and Mirroring** tab.

Figure 78
AutoStart Console - Failure Detection and Mirroring tab - Verify Local and Remote Mirrors
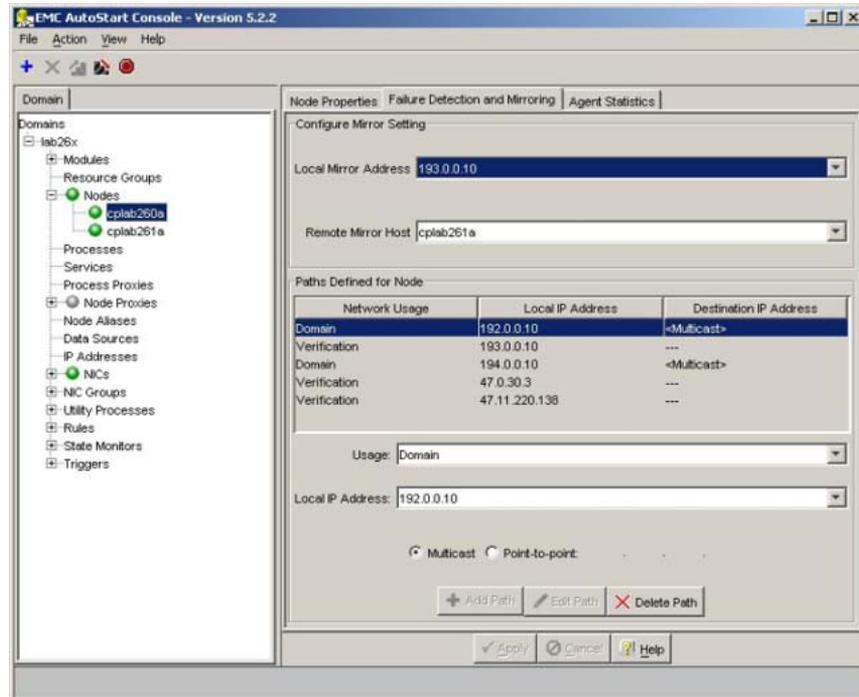
9 Verify that the value in the **Local Mirror Address** field is set to the IP address assigned to the MIRROR NIC on CP1. (The default value is 193.0.0.10.)

10 Verify that the value in the **Remote Mirror Host** field is set to the host name of node CP2.

—End—

Generating the AutoStart Definition File

Step Action

Generating the AutoStart Definition File is required to set the node-specific settings in the AutoStart Definition Template file.

1 In Windows Explorer, navigate to the **D:\Nortel\HA** folder.

2 Double-click the **HighAvailabilityConfigurationWizard.exe** file.

Result: The High Availability Configuration Wizard appears.

The information that was previously entered is automatically loaded and the node information validation is automatically rerun.

Figure 79
High Availability Configuration Wizard

3   Click the **Step 3: Generate Definition File** button to validate the
AutoStart software configuration and generate the Definition File.

- If there are any errors, a message box is displayed with the
error. Correct the problem and then click the **Step 3: Generate
Definition File** button again.

- If there are no errors, a message is displayed that the Definition
File is successfully generated and that you can exit the High
Availability Configuration Wizard.

Figure 80
Phase 2 Complete

4   Click **OK** to return to the High Availability Configuration Wizard.

5   Click **Exit** and then confirm that you want to exit from the High
Availability Configuration Wizard.

—End—

Import the AutoStart definition file on CP1

Import the AutoStart definition file (CallPilot-Mirroring.def or CallPilot-Mirroring-Single.def) in the AutoStart Console on CP1 by using the following the procedure. Two AutoStart definition files are available, as follows:

- CallPilot-Mirroring-Single.def (For systems with one MPB96 board.)

- CallPilot-Mirroring.def (For systems with three MPB96 boards.)

Importing the AutoStart definition file

Step	Action
1	Open the **AutoStart Console** window.
2	Expand **Domains**.
3	Right-click **[AutoStart_Domain]**. (This is the domain name created when the AutoStart agent is installed.)
4	Select the **Import Domain Information** option. **Result:** The Import dialog box appears.
5	In the **Import** window, select **CallPilot-Mirroring.def** or **CallPilot-Mirroring-Single.def** from the **D:\Nortel\HA\ToolkitInstaller2.0** folder. The AutoStart definition file is named either CallPilot-Mirroring-Single.def (for systems with one MPB96 board) or CallPilot-Mirroring.def (for systems with three MPB96 boards).
6	Click **Import**. The import process takes approximately one minute to complete.

> **WARNING**
> During the Import process the AutoStart Console does not respond.

Step	Action
7	Verify that the AutoStart definition file was successfully imported by doing the following: a. Check the information bar at the bottom of the AutoStart Console window for any error or warning messages. b. In the AutoStart Console, expand **Data Sources** and check that the drvE and drvF data sources were created.

c. In the AutoStart Console, expand **Resource Groups** and check that the CallPilot resource group was created.

—End—

Add the Windows administrator password for the AutoStart Utility Processes

> **ATTENTION**
>
> If the Windows administrator account names or passwords are different on servers CP1 and CP2, the AutoStart software does not work correctly after it is installed and configured.
>
> You must ensure that the Windows administrator account is the same on both High Availability servers for the AutoStart software to work properly.

The AutoStart software requires that the Windows administrator account be updated for each Utility Process in the AutoStart software.

Use the following procedure to enter the Windows administrator account information for each AutoStart Utility Process on CP1.

Adding the Windows administrator account password for the AutoStart Utility Processes

Step	Action
1	Open the **AutoStart Console** window.
2	Expand **Domains**.
3	Expand **[AutoStart_Domain]**. (This is the domain name created when the AutoStart agent is installed.)
4	Expand **Utility Processes**. **Result:** The Utility Processes are displayed: • DisableAOS • KillServices • LoadDN • LoadTSP • UnloadTSP • UnloadTSPOnStandbyServer
5	Select the **DisableAOS** Utility Process.

6 Select the **Settings** tab and do the following:

a. In the **Login Info** section, enter the password for the Windows administrator account in the **Password** and **Confirm** fields.

Figure 81
AutoStart Console - Utility Processes
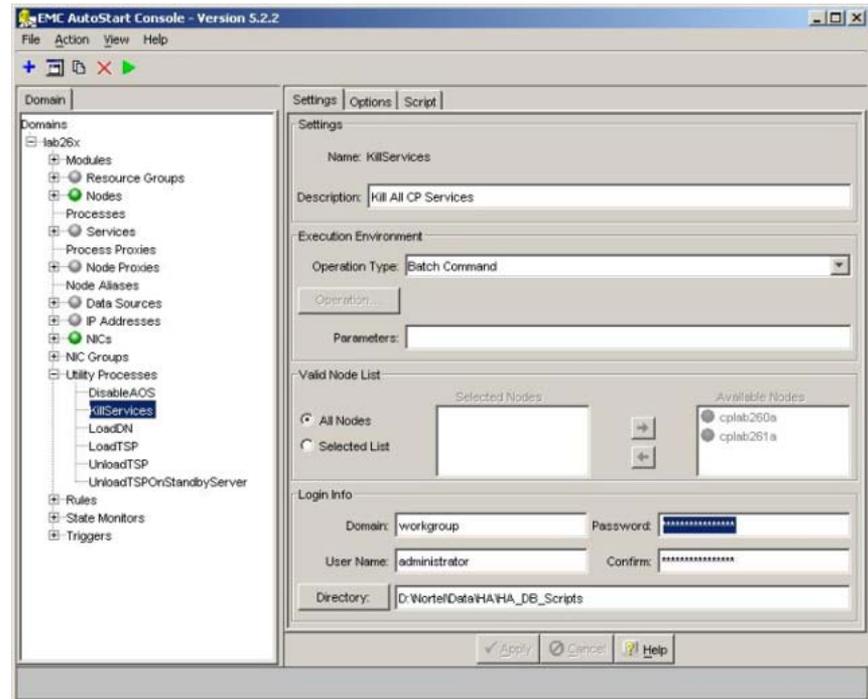
b. Check the **Domain**, **User Name**, and **Directory** fields to ensure they are right.

- Domain must be the Windows domain that the CallPilot servers are on (if applicable) or the Windows workgroup in which the servers are located.

- User name must be the administrator account for selected domain.

- The default directory is D:\Nortel\Data\HA\HA_DB_Scripts.

c. Click **Apply**.

7 Repeat Step 6 for each of the remaining Utility Processes.

—**End**—

Add e-mail addresses to the Managed_ELAN_IP_Failure_Notif rule

Use the following procedure to add e-mail addresses into the script of the Managed_ELAN_IP_Failure_Notif rule so that the AutoStart software can send out notification e-mail to the administrators when the Path Test failure of the Managed ELAN IP occurs.

Adding e-mail addresses to the Managed_ELAN_IP_Failure_Notif rule

Step	Action
1	Open the AutoStart Console.
2	On the left pane of the AutoStart Console, expand **Rules**.
3	Select **Managed_ELAN_IP_Failure_Notif**.

Result: The Settings tab for the Managed_ELAN_IP_Failure_Notif rule appears.

Figure 82
Rules - Managed_ELAN_IP_Failure_Notif
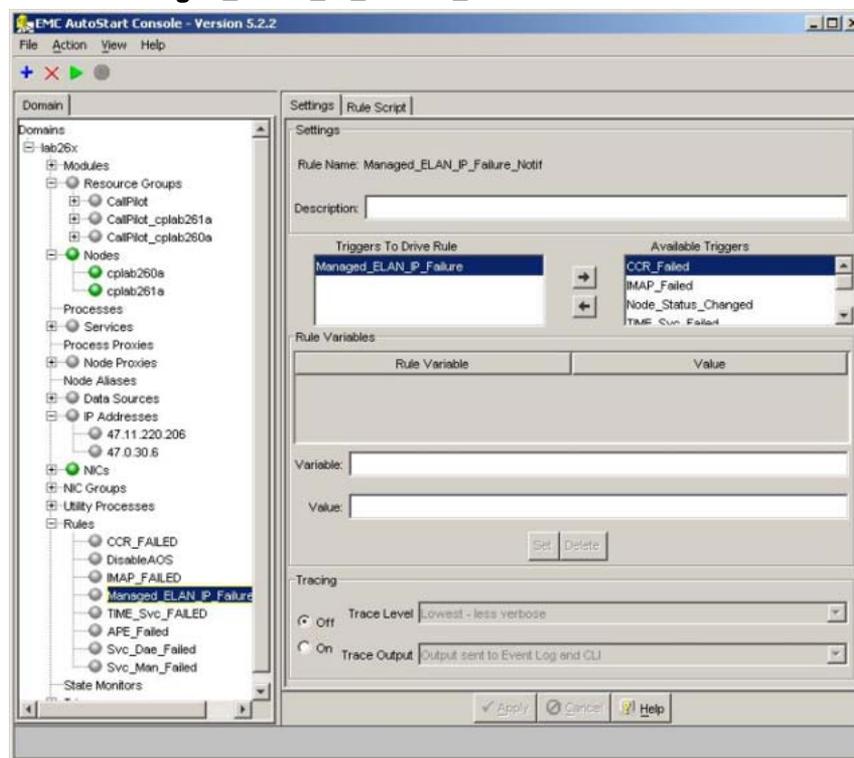
| **4** | Select the **Rule Script** tab. |

Result: The rule script appears in the right pane of the AutoStart Console.

Figure 83
Rule Script tab for Managed_ELAN_IP_Failure_Notif rule
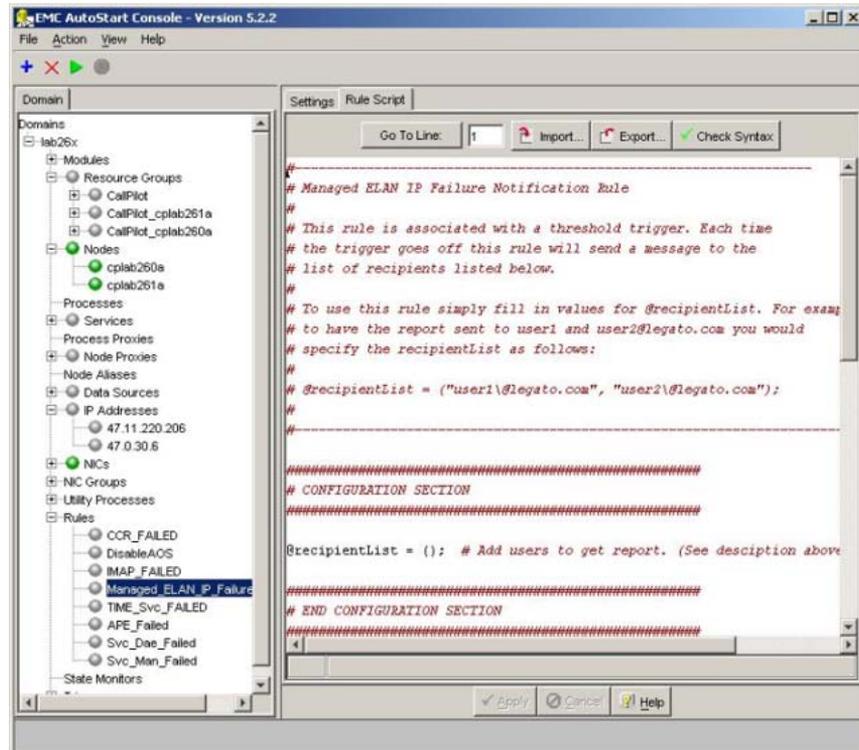
5   Look for the **@recipientList = ()** line in the rule script.

6   Add the recipient's e-mail address in the parenthesis () of the
@recipientList line. You must add the backslash symbol (\) before
the at symbol (@) in the e-mail address.

If multiple e-mail addresses are added, separate each e-mail
address by a comma (,).

7   Click **Apply**.

8   Configure the Simple Mail Transfer Protocol (SMTP) server so that
the AutoStart software can provide e-mail notification for failovers
and resource group state changes. The SMTP server domain must
first be configured for recipients to receive notification that a failover
or state change has occurred. See "Configuring the SMTP Server
for a domain" (page 183).

—End—

Bring the Resource Groups online

This section provides the procedures for bringing the following resource groups online:

- CallPilot Resource Group
- CallPilot_[CP1] and CallPilot_[CP2] Resource Groups

Bring the CallPilot Resource Group online on CP1

Using the AutoStart Console, bring the CallPilot Resource Group online on CP1 to activate the High Availability feature. Bringing the CallPilot Resource Group online does the following:

- Assigns the shared drives to server CP1.
- Assigns the Managed ELAN/CLAN (virtual) IP addresses so that they point to CP1.
- Loads the CallPilot database tables back to the CallPilot database.
- Starts all CallPilot services.

Bringing the CallPilot Resource Group online on CP1

Step	Action
1	In the **AutoStart Console** window, expand **Resource Groups** (**Domains > [AutoStart_Domain] > Resource Groups**).
2	Right-click **CallPilot**.
3	Select the **Bring Online** option, and then select **<CP1 node name>**.

Figure 84
AutoStart Console - Bring Online - CallPilot Resource Group
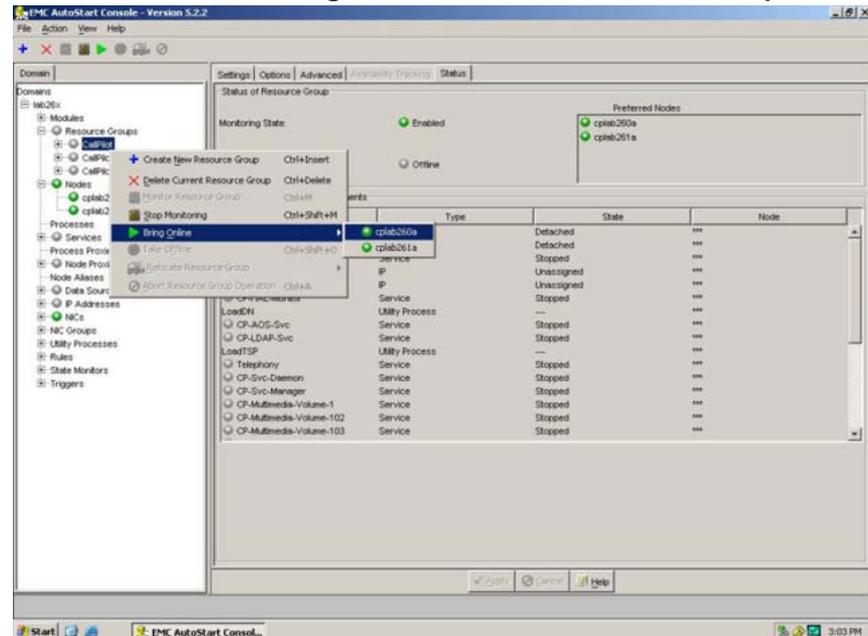
Result: The following occurs:

- The Group State changes to Online Pending.

- The data sources (drive E and drive F) are automatically attached and initialized. While the data sources are initialized, they are in the warning state and their icons are yellow.

- The CallPilot services start on CP1.

  Note: A message is displayed informing you that a data source is being mirrored and the status of the data source is updated to show the progress of the synchronization. It can take between 30 minutes to 2 hours for the data sources to be mirrored between the two servers.

Figure 85
AutoStart Console - Initializing Volume Mirror message
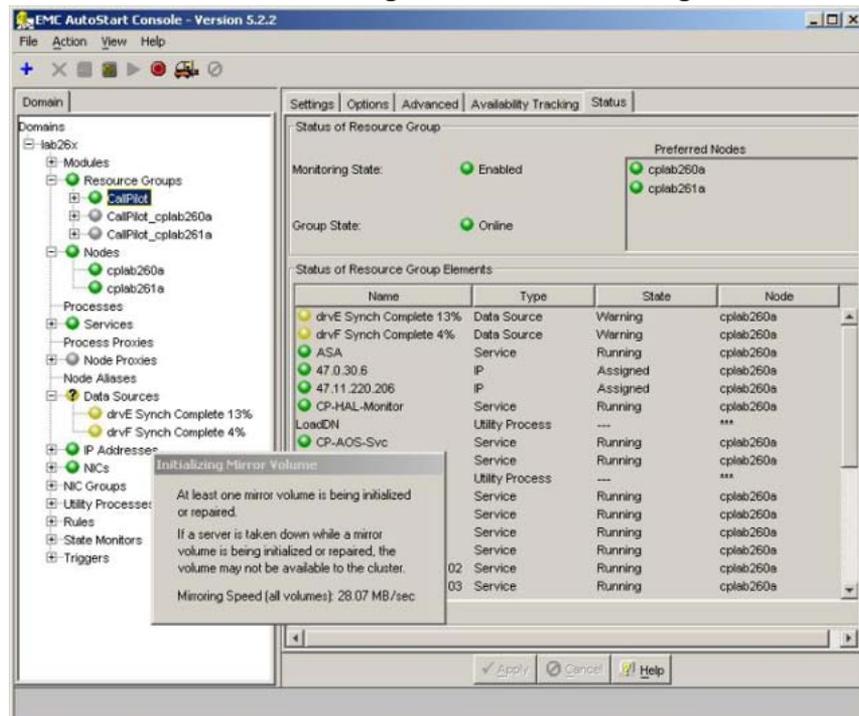
4   Wait while the data sources are mirrored.

5   Verify that the **Group State** field turns green and shows as Online.

         Result: When the Group State appears green and online, CallPilot
         is started.

Figure 86
AutoStart Console - Monitoring and Group States

—End—
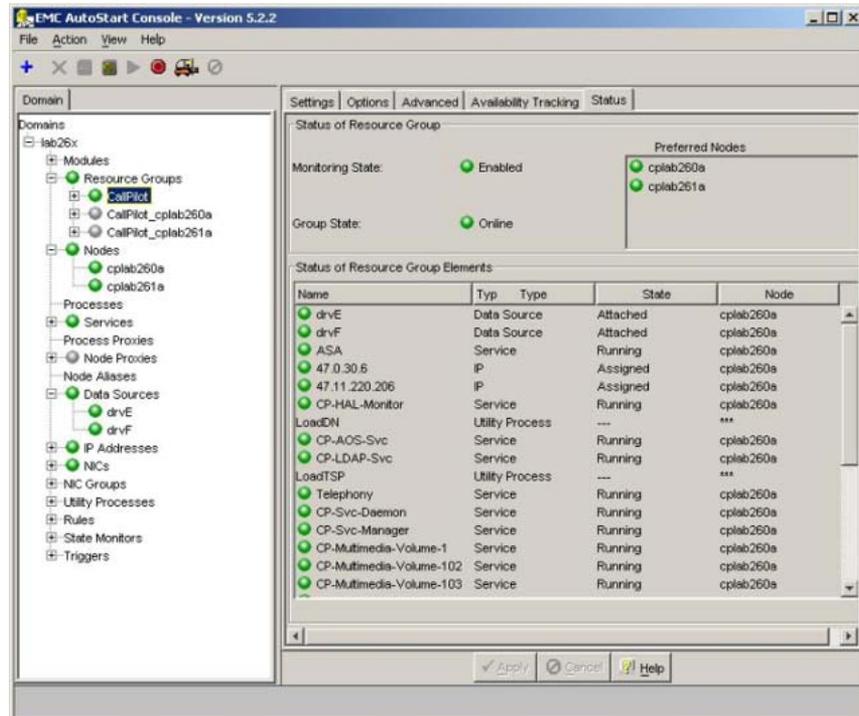
Bring the Resource Groups CallPilot_[CP1] and CallPilot_[CP2] online

Use the following procedure to bring the CallPilot_[CP1] and CallPilot_[CP2] resource groups online.

Bringing the Resource Groups CallPilot_[CP1] and CallPilot_[CP2] online

Step	Action

1   In the **AutoStart Console** window, expand **Resource Groups** (**Domains > [AutoStart_Domain] > Modules > Resource Groups**).

2   Bring CallPilot_[CP1] online (where [CP1] is the name of the CP1 server).

     a. Right-click **CallPilot_[CP1]**.

     b. Select the **Bring Online** option, and then select **<CP1 node name>**.

Figure 87
AutoStart Console - Bring Online - CallPilot_[CP1] Resource Group
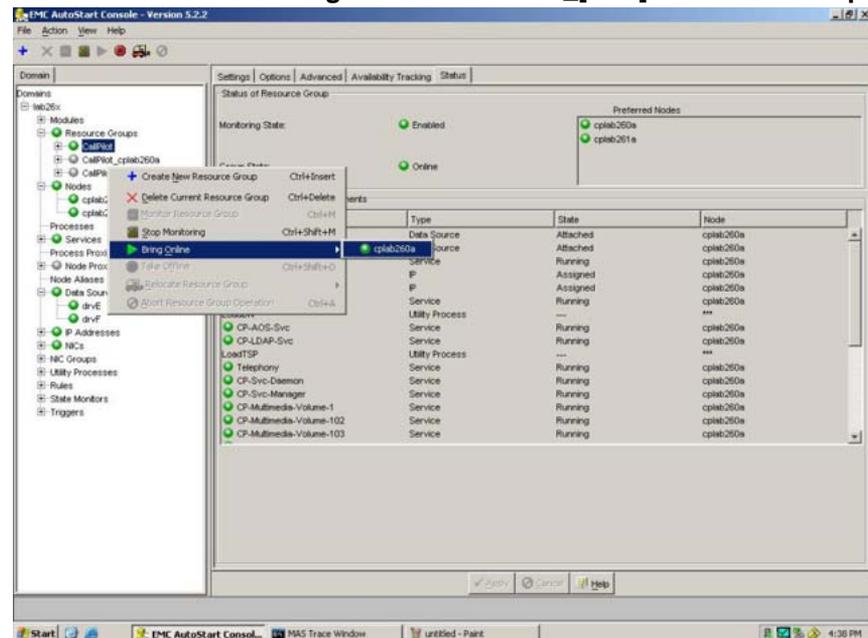
3   Bring CallPilot_[CP2] online (where [CP2] is the name of the CP2
     server).

     a.   Right-click **CallPilot_[CP2]**.

     b.   Select the **Bring Online** option, and then select **<CP2 node
          name>**.

4   Verify that both Resource Groups are green and show a **Group
     State** of Online.

Figure 88
AutoStart Console - Verify status of both CallPilot_[CP1] and CallPilot_[CP2] Resource Groups
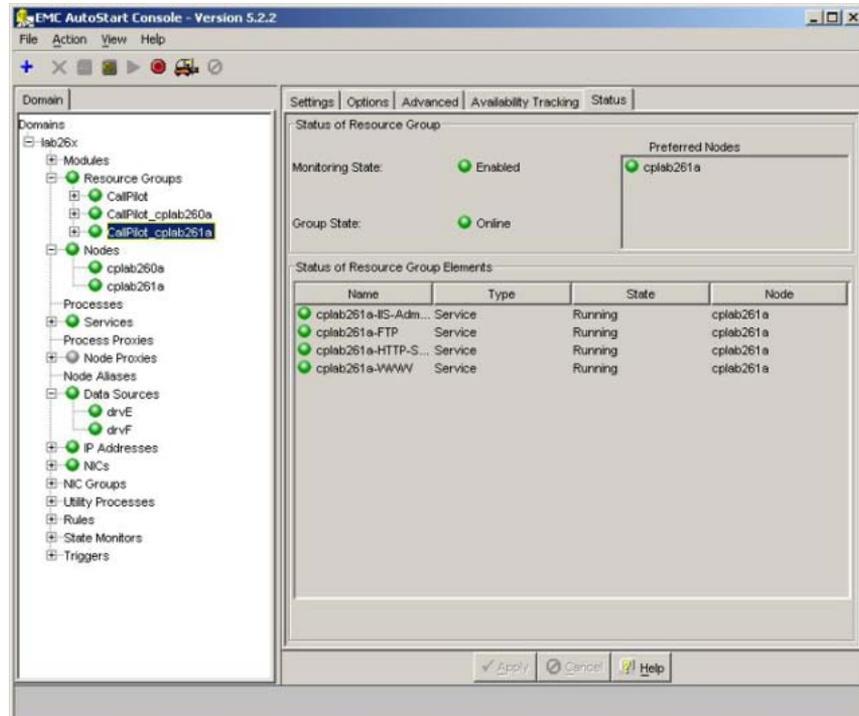
—**End**—

Test your configuration

Use the following procedure to test the configuration of CP1 and CP2.

Testing the configuration of CP1 and CP2

Step	Action
1	Verify that server CP1 is running and accepting calls. Test the server CP1 to make sure that all channels and DSP resources are working correctly.
2	Using the AutoStart console, manually cause a failover by relocating the Resource Group CallPilot to server CP2.

> **WARNING**
> Do not attempt to failover from CP1 to CP2 until the mirroring started in "Bringing the CallPilot Resource Group online on CP1" (page 122) is complete.

For more information, see "Initiating a manual failover" (page 215).

3 Ensure that server CP2 takes over and can accept calls.

4 Move the dongle from server CP1 to server CP2.

5 Test the server CP2 to make sure that all channels and DSP resources are working correctly.

> *Note:* At this point server CP2 is running as the active server and CP1 is the standby server.

—End—

Create the CallPilot Reporter connections

CallPilot Reporter connects to the pair of High Availability servers using the Managed (virtual) host name. After CallPilot Reporter first connects to the pair of servers, the active server returns the Managed host name, rather than the actual host name of the active server. Because the Managed host name is returned (and not the actual host name of the active server), CallPilot Reporter is unaware that it is connected to a pair of High Availability servers.

Any reports generated are based on the Managed host name, independent of which server is currently the active server. Both High Availability servers must first register with the CallPilot Reporter to make the CallPilot Reporter work with the High Availability system.

Note: If you are not performing a new installation of CallPilot 5.0 High Availability system, a backup of CallPilot Reporter must be performed prior this procedure and the backup must be restored on the Reporter stand-alone PC right after this registration. This note applies only to the following:

- upgrading to CallPilot 5.0 High Availability system
- changing the computer name of the Reporter stand-alone PC
- using a new Reporter stand-alone PC

ATTENTION

To make both High Availability servers register with CallPilot Reporter, perform the following manual procedure the very first time you connect the CallPilot Reporter to a CallPilot 5.0 High Availability system.

For CallPilot Reporter, the failover process is the same as if a server goes down and then comes back into service (even though the active server goes down and the standby server comes into service as the new active server). The CallPilot Reporter recovery mechanism pings the Managed host name and automatically reconnects when the server comes back into service. Because the database is mirrored from the active High Availability to the standby High Availability server, CallPilot Reporter can download any additional Operational Measurements (OM) that are buffered during the failover process.

Use the following the following procedure the first time you bring up the High Availability system and register it to the CallPilot Reporter Server.

Creating the CallPilot Reporter connection

Step	Action
1	Ensure that CallPilot Reporter is online.
2	Connect CallPilot Reporter to the High Availability system using the Managed host name (where CP1 is the active server and CP2 is the standby server).
3	Perform a manual failover. See "Initiating a manual failover" (page 215). **Result:** The active server (CP1) goes down and the standby server (CP2) comes into service as the new active server.
4	Wait for CP2 to become the active server and ensure that the server is ready to accept calls.
5	In CallPilot Reporter, click **Log out and Erase**.
6	Log back on to CallPilot Reporter.
7	Ensure that CallPilot Reporter is online. **Result:** CallPilot Reporter creates a record using the Managed host name and places all incoming data from the active High Availability server (it does not matter which High Availability server in the pair) under that record.

—End—

Add the servers to a Windows domain

This following procedure is optional. It is only required if the CallPilot servers will be members of a Windows domain. Nortel recommends using the Windows default workgroup to first configure the High Availability system, and then join the customer domain after the High Availability system is working (if the system has to join the domain). If the CallPilot 5.0 High Availability system is installed and configured under a workgroup, use the following procedure to join a domain.

> *Note:* Adding the CallPilot 5.0 High Availability system into a domain makes the system dependent on the domain controller, the DNS server, and the CLAN connection. If the system lost the connection to the domain controller after joining a domain (which can be caused by losing the CLAN connection), then the CallPilot 5.0 High Availability system cannot properly perform failovers because of domain user validation failure. (The domain user information is needed for the AutoStart Utilities to run after joining a domain.) However, for a CallPilot 5.0 High Availability system in a workgroup, the loss of the CLAN connection has no impact to the failover performance. Nortel does not recommend that you add your CallPilot 5.0 High Availability system into a domain unless it must be part of the domain.

Joining a Windows domain

Step	Action

This procedure assumes that CP1 is the active server and CP2 is the standby server.

1   Log on to CP1.

2   Launch the AutoStart Console on CP1 by selecting **Start > Programs > EMC AutoStart Console > EMC AutoStart Console 5.2**.

Result: The AutoStart Console appears.

3   Select the **[AutoStart_Domain]**.

4   Select the **Licensing/Security** tab.

5   In the **Valid User List** area, enter the following information:

    a.   In the **User Name** field, enter **administrator**.

    b.   In the **Domain/Node** field, enter the Windows domain name that the CallPilot system will be joining.

    c.   For the **Access Rights** option, select the **Administrator** option button.

    d.   In the **Description** field, enter Windows domain.

6   Click **Add**.

    Result: A row is added to the Valid User List.

7   On CP1, stop monitoring. See "Disabling automatic failovers (stop monitoring)" (page 213).

8   Take the CallPilot resource group offline on CP1. See "Taking the CallPilot resource group offline" (page 211).

9   On CP1, do the following:

    a.   Right-click **My Computer**.

       Result: The System Properties window appears.

    b.   Select the **Computer Name** tab and click **Change**.

       Result: The Computer Name Changes window appears.

       Figure 89
       Computer Name Changes

    c.   In the **Member of** section, select the **Domain** option.

    d.   Enter the name of the domain and click **OK**.

       Result: The Domain Administrator Privileges window appears.

e. Enter the domain administrator and password.

Contact your network administrator for this information.

Result: The Welcome to Domain window appears.

f. Click **OK**.

Result: A warning window appears prompting you to restart the computer in order for changes to take effect.

g. Click **OK**.

Result: The System Properties window appears.

h. Click **OK**.

Result: The System Settings Changes window appears prompting you to restart the computer.

i. Click **Yes** to restart CP1.

j. Log on to CP1 using the domain user account which is a member of the Domain Administrators group.

10 On CP2, do the following:

a. Right-click **My Computer**.

Result: The System Properties window appears.

b. Select the **Computer Name** tab and click **Change**.

Result: The Computer Name Changes window appears.

c. In the **Member of** section, select the **Domain** option.

d. Enter the name of the domain and click **OK**.

Result: The Domain Administrator Privileges window appears.

e. Enter the domain administrator and password.

Contact your network administrator for this information.

Result: The Welcome to Domain window appears.

f. Click **OK**.

Result: A warning window appears prompting you to restart the computer in order for changes to take effect.

g. Click **OK**.

Result: The System Properties window appears.

h. Click **OK**.

Result: The System Settings Changes window appears prompting you to restart the computer.

     i.   Click **Yes** to restart CP2.

     j.   Log on to CP2 using the domain user account which is a member of the Domain Administrators group.

11   On CP1, launch the **AutoStart Console** window.

12   Expand **Domains**.

13   Expand **[AutoStart_Domain]**. (This is the domain name created when the AutoStart agent was installed.)

14   Expand **Utility Processes**.

    Result: The Utility Processes are displayed:

- DisableAOS
- KillServices
- LoadDN
- LoadTSP
- UnloadTSP
- UnloadTSPOnStandbyServer

15   Select the **DisableAOS** Utility Process.

16   Select the **Settings** tab and to the following:

     a.   Update the **Domain**, **User Name**, and **Directory** fields.

- Domain must be the Windows domain that the CallPilot servers are on (if applicable) or the Windows workgroup in which the servers are located.
- User name must be the domain administrator account for selected domain.
- The default directory is D:\Nortel\Data\HA\HA_DB_Scripts.

     b.   In the **Login Info** section, enter the password for the Windows administrator account in the **Password** and **Confirm** fields.

Figure 90
AutoStart Console - Utility Processes
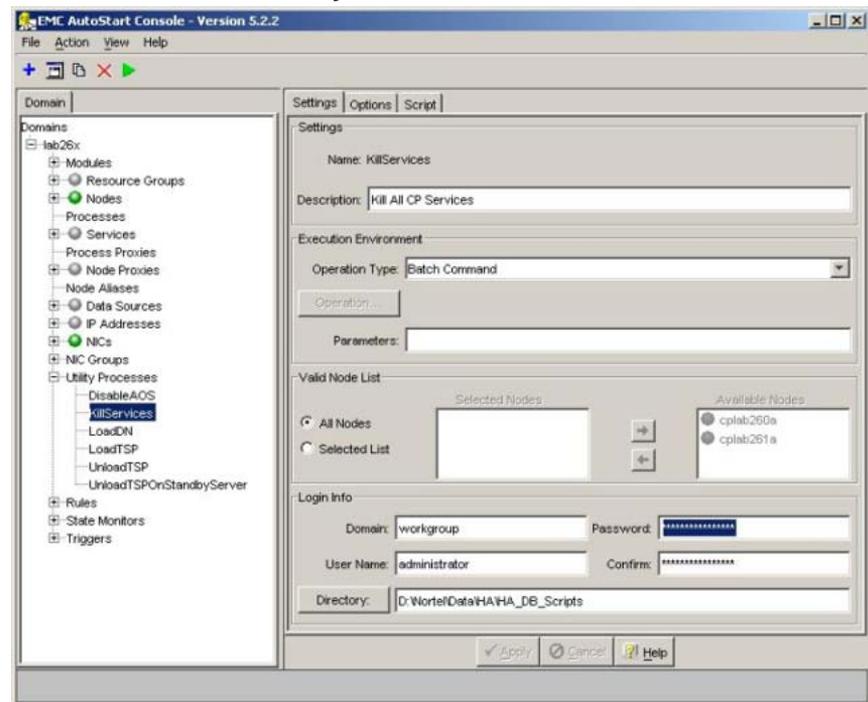
    c.   Click **Apply**.

17   Repeat Step 10 for each of the remaining Utility Processes.

18   On CP1, enable monitoring. See "Enabling automatic failovers (start monitoring)" (page 214).

19   Bring the CallPilot resource group online on CP1. See "Bringing the CallPilot resource group online" (page 209).

—End—

Chapter 6
Maintaining a High Availability system

In this chapter

This chapter outlines the procedures used to maintain a High Availability system.

CallPilot Configuration Wizard

The EMC AutoStart software stores some information (including host names and IP addresses) from both servers in a High Availability pair to provide the data mirroring and failover mechanisms. As a result, when changing the configuration of a server using the Configuration Wizard, additional steps are required to ensure that the pair of servers continues to function correctly. Use the following procedure for rerunning the Configuration Wizard after the system is configured.

Change the Server Information

The Server Information page of the Configuration Wizard can be used to change the computer name, time zone, dialing information, LDAP search base and the administrator account password

- To change the time zone, dialing information, or LDAP search base, see "Changing the Server Information" (page 136).

- To change a computer name, see Figure 89 "Computer Name Changes" (page 131).

- To change the administrator account password, see "Administrator account changes" (page 140).

Changing the Server Information

Step	Action

Use this procedure to change the time zone, dialing information, and LDAP search base.

1 On CP1 (the active High Availability server) do the following:

a. Ensure the dongle is plugged into CP1. If the dongle is not on CP1, move it to CP1 and wait for three minutes.

For more information about the dongle, see *1005r Server Hardware Installation* (NN44200-308).

b. Launch the AutoStart Console.

c. Stop monitoring on the CallPilot resource group. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

d. Log on to CallPilot Manager on CP1 and start the Configuration Wizard.

e. Select the **CallPilot Individual Feature Configuration (Express Mode)** option and then click **Next**.

Result: The Configuration Wizard: Express Configuration List screen appears.

f. Select the **Server Information** check box.

Result: The Server Information window appears.

g. If necessary, change the **Time Zone**, **Dialing Information**, or **LDAP Search Base**.

Note: Do not change the computer name using this procedure, see "Computer name changes" (page 138).

h. Click **Next**.

Result: The Password Information window appears.

i. Select the **Leave password unchanged** option.

Note: Do not the change the password using this procedure, see "Administrator account changes" (page 140).

j. Click **Next**.

k. Click **Finish** to complete the Configuration Wizard.

l. Perform a manual failover. For more information, see "Initiating a manual failover" (page 215).

Result: The CallPilot resource group is automatically brought online on the standby High Availability server (CP2).

m. After the CallPilot resource group is online on CP2, restart CP1.

2 Move the dongle to CP2.

For more information about the dongle, see *1005r Server Hardware Installation* (NN44200-308).

3 On CP2, do the following:

a. Launch the AutoStart Console.

b. Wait until node CP1 and both drive E and drive F are online and show green in the AutoStart Console.

c. If required, disable monitoring for the CallPilot resource group. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

d. Log on to CallPilot Manager on CP2 and start the Configuration Wizard.

e. Select the **CallPilot Individual Feature Configuration (Express Mode)** option and then click **Next**.

Result: The Configuration Wizard: Express Configuration List screen appears.

f. Select the **Server Information** check box.

Result: The Server Information window appears.

g. If necessary, change the **Time Zone**, **Dialing Information**, or **LDAP Search Base**.

> *Note:* Do not change the computer name using this procedure, see "Computer name changes" (page 138).

h. Click **Next**.

Result: The Password Information window appears.

i. Select the **Leave password unchanged** option.

> *Note:* Do not change the password using this procedure, see "Administrator account changes" (page 140).

j. Click **Next**.

k. Click **Finish** to complete the Configuration Wizard.

l. Perform a manual failover. For more information, see "Initiating a manual failover" (page 215).

Result: The CallPilot resource group is automatically brought online on the standby High Availability server (CP1).

m. After the CallPilot resource group is online on CP1, restart CP2.

4 On CP1, do the following:

a. Launch the AutoStart Console.

b. Wait until node CP2 and both drvE and drvF are online/green in the AutoStart Console.

c. Enable monitoring for the CallPilot resource group. For more information, see "Enabling automatic failovers (start monitoring)" (page 214).

—**End**—

Computer name changes
After the AutoStart software is installed, it is possible to change the name of either of the servers in a High Availability pair. However, to do so you must uninstall and reinstall the AutoStart software after making the change. Use the procedures in this section to change the computer name of the following types of servers:

- Servers in a workgroup (For more information, see "Changing the name of a server in a workgroup" (page 138).)

- Servers in a Windows domain (For more information, see "Changing the name of a server in a Windows domain" (page 139).)

Changing the name of a server in a workgroup

Step	Action

Use the following procedure to change the computer name of a High Availability server that is in a workgroup.

1 Disable the AutoStart Monitoring. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

2 Take the CallPilot resource group offline. For more information, see "Taking the CallPilot resource group offline" (page 211).

3 Uninstall the AutoStart Agent and AutoStart Console, including their patches on both nodes. For more information, see "Uninstall the AutoStart software" (page 228).

4 Change the computer name. For more information, see "Manually changing the server name" (page 41).

> **ATTENTION**
> The computer name must contain only alphanumeric characters.
> Nonalphanumeric characters (such as a hyphen [-]) are not supported.

5   Restart both nodes.

6   Reinstall AutoStart Agent and Console and configure the High
Availability system by performing all the tasks and procedures:

- from "Running Stage 1 of the High Availability Configuration
  Wizard to check CP1 and CP2 configuration" (page 75)

- to "Testing the configuration of CP1 and CP2" (page 127)

    Note: You do not have to perform all the steps in the testing
    procedure. Stop after you have performed the manual
    failover.

—End—

Changing the name of a server in a Windows domain

Step	Action

*Use the following procedure to change the computer name of a High
Availability server that is in a Windows domain.*

1   From the AutoStart Console, stop monitoring. For more information,
see "Disabling automatic failovers (stop monitoring)" (page 213).

2   Take the AutoStart resource group offline. For more information, see
"Taking the CallPilot resource group offline" (page 211).

    Note: This takes the CallPilot Server out of service.

3   Remove the server from the Windows domain.

4   Set the server back to WORKGROUP using a domain account that
has permissions to do so.

5   Restart the server.

6   After the server restarts, log on as an administrator.

7   Change the server name. For more information, see "Manually
changing the server name" (page 41).

8   Restart the server.

9   After the server restarts, log on as an administrator.

10 Rejoin the domain.

11 Restart the server.

12 After the server restarts, log on using the CallPilot High Availability server domain account.

13 Uninstall, reinstall, and reconfigure the AutoStart software. For more information, see the following:

- "Uninstall the AutoStart software" (page 228)
- "Reinstall the AutoStart software" (page 234)
- "Configure the AutoStart software" (page 109)

14 Bring the Resource group online. For more information, see "Bringing the CallPilot resource group online" (page 209).

15 Reenable the AutoStart monitoring after all CallPilot services are up. For more information, see "Enabling automatic failovers (start monitoring)" (page 214).

—End—

Administrator account changes

Use the following procedure to change the administrator password of a High Availability system using the Configuration Wizard.

Changing the administrator password of High Availability system using the Configuration Wizard

Step	Action

1 If the High Availability system is currently on a workgroup, proceed to the next step. Otherwise, move the CallPilot 5.0 High Availability pair from the domain to a workgroup. For more information, see "Joining a workgroup" (page 176).

2 On CP1 (the active High Availability server) do the following:

a. Ensure the dongle is plugged into CP1. If the dongle is not on CP1, move it to CP1 and wait for 3 minutes.

   For more information about the dongle, see *1005r Server Hardware Installation* (NN44200-308).

b. Launch the AutoStart Console.

    c.   Stop monitoring on the CallPilot resource group. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

    d.   Log on to CallPilot Manager on CP1 and start the Configuration Wizard.

    e.   Select the **CallPilot Individual Feature Configuration (Express Mode)** option and then click **Next**.

         Result: The Configuration Wizard: Express Configuration List screen appears.

    f.   Select the **Server Information** check box.

         Result: The Server Information window appears.

    g.   Click **Next**.

         Result: The Password Information window appears.

    h.   Select the **Change the password** option.

         Result: When this option is selected, three additional password options appear.

    i.   Enter the **Current password**.

    j.   Enter the **New password**.

    k.   Reenter the new password in the **Confirm the password** field.

    l.   Click **Next**.

         Result: A warning message appears informing you to change the password on the other High Availability server (CP2) and to also change the administrator password for the AutoStart Utility Processes.

    m.   Click **OK** to dismiss the warning message.

    n.   Click **Finish** to complete the Configuration Wizard.

    o.   Perform a manual failover. For more information, see "Initiating a manual failover" (page 215).

         Result: The CallPilot resource group is automatically brought online on the standby High Availability server (CP2).

    p.   After the CallPilot resource group is online on CP2, restart CP1.

3   Move the dongle to CP2.

      For more information about the dongle, see *1005r Server Hardware Installation* (NN44200-308).

4   On CP2, do the following:

a. Launch the AutoStart Console.

b. Wait until node CP1 and both drvE and drvF are green/online in the AutoStart Console.

c. If required, disable monitoring for the CallPilot resource group. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

d. Log on to CallPilot Manager on CP2 and start the Configuration Wizard.

e. Select the **CallPilot Individual Feature Configuration (Express Mode)** option and then click **Next**.

   Result: The Configuration Wizard: Express Configuration List screen appears.

f. Select the **Server Information** check box.

   Result: The Server Information window appears.

g. Click **Next**.

   Result: The Password Information window appears.

h. Select the **Change the password** option.

   Result: When this option is selected, three additional password options appear.

i. Enter the **Current password**.

j. Enter the **New password**.

k. Reenter the new password in the **Confirm the password** field.

l. Click **Next**.

   Result: A warning message appears informing you to change the password on the other High Availability server (CP1 - which you have already completed) and to also change the administrator password for the AutoStart Utility Processes.

m. Click **OK** to dismiss the warning message.

n. Click **Finish** to complete the Configuration Wizard.

o. Change the administrator password for each of the Utility Processes. For more information, see "Changing the Utility Processes administrator password" (page 164).

p. Perform a manual failover. For more information, see "Initiating a manual failover" (page 215).

   Result: The CallPilot resource group is automatically brought online on the standby High Availability server (CP1).

    q. After the CallPilot resource group is online on CP1, restart CP2.

5   On CP1, do the following:

    a. Launch the AutoStart Console.

    b. Wait until node CP2 and both drvE and drvF are online/green in the AutoStart Console.

    c. Enable monitoring for the CallPilot resource group. For more information, see "Enabling automatic failovers (start monitoring)" (page 214).

—End—

Change the Media Allocation

Use the following procedure to modify the MPB96 board or DSP resource settings.

Changing the Media Allocation

Step	Action

1   On CP1 (the active High Availability server) do the following:

    a. Ensure the dongle is plugged into CP1. If the dongle is not on CP1, move it to CP1 and wait for 3 minutes.

        For more information about the dongle, see *1005r Server Hardware Installation* (NN44200-308).

    b. Launch the AutoStart Console.

    c. Stop monitoring on the CallPilot resource group. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

    d. Log on to CallPilot Manager on CP1 and start the Configuration Wizard.

    e. Select the **CallPilot Individual Feature Configuration (Express Mode)** option and then click **Next**.

        Result: The Configuration Wizard: Express Configuration List screen appears.

    f. Select the **Media Allocation** check box.

        Result: The Media Allocation window appears.

    g. Select the MPB96 board to be modified.

    h. Change the DSP resources as required.

    i. Click **Next**.

    j. Click **Finish** to complete the Configuration Wizard.

    k. Perform a manual failover. For more information, see "Initiating a manual failover" (page 215).

        Result: The CallPilot resource group is automatically brought online on the standby High Availability server (CP2).

    l. After the CallPilot resource group is online on CP2, restart CP1.

2   Move the dongle to CP2.

    For more information about the dongle, see *1005r Server Hardware Installation* (NN44200-308).

3   On CP2, do the following:

    a. Launch the AutoStart Console.

    b. Wait until node CP1 and both drvE and drvF are green/online in the AutoStart Console.

    c. If required, disable monitoring for the CallPilot resource group. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

    d. Log on to CallPilot Manager on CP2 and start the Configuration Wizard.

    e. Select the **CallPilot Individual Feature Configuration (Express Mode)** option and then click **Next**.

        Result: The Configuration Wizard: Express Configuration List screen appears.

    f. Select the **Media Allocation** check box.

        Result: The Media Allocation window appears.

    g. Select the MPB96 board to be modified.

    h. Change the DSP resources as required.

    i. Click **Next**.

    j. Click **Finish** to complete the Configuration Wizard.

    k. Perform a manual failover. For more information, see "Initiating a manual failover" (page 215).

        Result: The CallPilot resource group is automatically brought online on the standby High Availability server (CP1).

    l. After the CallPilot resource group is online on CP1, restart CP2.

4   On CP1, do the following:

a. Launch the AutoStart Console.

b. Wait until node CP2 and both drvE and drvF are online/green in the AutoStart Console.

c. Enable monitoring for the CallPilot resource group. For more information, see "Enabling automatic failovers (start monitoring)" (page 214).

—End—

Change the Switch Configuration

Use the following procedure to change the switch configuration on a working CallPilot 5.0 High Availability system. This procedure can be used to change the following in the Switch Configuration:

- Changing the Switch Information (switch type, customer number, and switch IP address)

> **ATTENTION**
> If you are changing the switch IP Address, you must first change the switch IP address in the AutoStart Console. For more information, see "Change the Switch IP address in AutoStart Console" (page 204). Then use the following procedure to complete the change of the switch IP Address.

- Changing the TNs
- Changing the CDNs

Changing the Switch Configuration

Step	Action

CP1 is the active High Availability server and CP2 is the standby High Availability server.

1 On CP1 (the active High Availability server) do the following:

a. Ensure the dongle is plugged into CP1. If the dongle is not on CP1, move it to CP1 and wait for 3 minutes.

For more information about the dongle, see *1005r Server Hardware Installation* (NN44200-308).

b. Launch the AutoStart Console.

c. Stop monitoring on the CallPilot resource group. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

d. Log on to CallPilot Manager on CP1 and start the Configuration Wizard.

e. Select the **CallPilot Individual Feature Configuration (Express Mode)** option and then click **Next**.

Result: The Configuration Wizard: Express Configuration List screen appears.

f. Select the **Switch Configuration** check box.

Result: The Meridian 1 Switch Information window appears.

g. If required, change the Switch Type, Switch Customer Number, or Switch IP Address.

ATTENTION

Before changing the Switch IP Address in the Configuration Wizard, you must have changed the IP address in the AutoStart Console.

---

h. If required, change or add the TNs on CP1 and click **Next**.

i. If required, change or add the CDNs on CP1 and click **Next**.

j. Click **Finish** to complete the Configuration Wizard.

k. Perform a manual failover. For more information, see "Initiating a manual failover" (page 215).

Result: The CallPilot resource group is automatically brought online on the standby High Availability server (CP2).

l. After the CallPilot resource group is online on CP2, restart CP1.

2 Move the dongle to CP2.

For more information about the dongle, see *1005r Server Hardware Installation* (NN44200-308).

3 On CP2, do the following:

a. Launch the AutoStart Console.

b. Wait until node CP1 and both drvE and drvF are green and show as online in the AutoStart Console.

c. If required, disable monitoring for the CallPilot resource group. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

d. Log on to CallPilot Manager on CP2 and start the Configuration Wizard.

e. Select the **CallPilot Individual Feature Configuration (Express Mode)** option and then click **Next**.

Result: The Configuration Wizard: Express Configuration List screen appears.

f. Select the **Switch Configuration** check box.

> **Result:** The Meridian 1 Switch Information window appears.

g. If required, change the Switch Type, Switch Customer Number, or Switch IP Address.

> **ATTENTION**
> Before changing the Switch IP Address in the Configuration Wizard, you must have changed the IP address in the AutoStart Console.

h. If required, change or add the TNs on CP2 and click **Next**.

i. If required, change or add the CDNs on CP2 and click **Next**.

j. Click **Finish** to complete the Configuration Wizard.

k. Perform a manual failover. For more information, see "Initiating a manual failover" (page 215).

> **Result:** The CallPilot resource group is automatically brought online on the standby High Availability server (CP1).

l. After the CallPilot resource group is online on CP1, restart CP2.

4 On CP1, do the following:

a. Launch the AutoStart Console.

b. Wait until node CP2 and both drvE and drvF are online/green in the AutoStart Console.

c. Enable monitoring for the CallPilot resource group. For more information, see "Enabling automatic failovers (start monitoring)" (page 214).

5 Test new or changed TNs or CDNs to ensure system functionality.

—End—

Install a new language

Use the following procedure to install additional languages or speech recognition on the High Availability system.

Installing a new language

Step	Action

1 On CP1 (the active High Availability server) do the following:

a. Ensure the dongle is plugged into CP1. If the dongle is not on
    CP1, move it to CP1 and wait for 3 minutes.

    For more information about the dongle, see *1005r Server
    Hardware Installation* (NN44200-308).

b. Launch the AutoStart Console.

c. Stop monitoring on the CallPilot resource group. For more
    information, see "Disabling automatic failovers (stop monitoring)"
    (page 213).

d. Log on to CallPilot Manager on CP1 and start the Configuration
    Wizard.

e. Select the **CallPilot Individual Feature Configuration
    (Express Mode)** option and then click **Next**.

    Result: The Configuration Wizard: Express Configuration List
    screen appears.

f. Select the **Language Installation** check box.

    Result: The Language Source Directory window appears.

g. Insert the Language Source CD into the DVD drive.

h. Ensure the **Install Language** option is selected.

i. Ensure that the **Language CD Location** is set to **z:**.

j. Click **Next**.

    Result: The Language Installation window appears.

k. On the Language Installation page, do the following:

    i.   Select Languages and Automated Speech recognition to be
         installed.

    ii. If required, change the Primary Language or select
         Secondary Languages.

         Note: The Secondary Language is optional.

    ┌──┐
    │   **ATTENTION**   │
    │   The same languages must be installed on CP1 and CP2.   │
    └──┘

l. Click **Next**.

m. Click **Finish** to complete the Configuration Wizard.

n. Perform a manual failover. For more information, see "Initiating
    a manual failover" (page 215).

    Result: The CallPilot resource group is automatically brought
    online on the standby High Availability server (CP2).

    o. After the CallPilot resource group is online on CP2, restart CP1.

2   Move the dongle to CP2.

For more information about the dongle, see *1005r Server Hardware Installation* (NN44200-308).

3   On CP2, do the following:

    a. Launch the AutoStart Console.

    b. Wait until node CP1 and both drvE and drvF are online/green in the AutoStart Console.

    c. If required, disable monitoring for the CallPilot resource group. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

    d. Log on to CallPilot Manager on CP2 and start the Configuration Wizard.

    e. Select the **CallPilot Individual Feature Configuration (Express Mode)** option and then click **Next**.

        Result: The Configuration Wizard: Express Configuration List screen appears.

    f. Select the **Language Installation** check box.

        Result: The Language Source Directory window appears.

    g. Insert the Language Source CD into the DVD drive.

    h. Ensure the **Install Language** option is selected.

    i. Ensure that the **Language CD Location** is set to **z:**.

    j. Click **Next**.

        Result: The Language Installation window appears.

    k. On the Language Installation page, do the following:

        i. Select Languages and Automated Speech recognition to be installed.

        ii. If required, change the Primary Language or select Secondary Languages.

            Note: The Secondary Language is optional.

ATTENTION
The same languages must be installed on CP1 and CP2.

---

    l. Click **Next**.

    m. Click **Finish** to complete the Configuration Wizard.

n. Perform a manual failover. For more information, see "Initiating a manual failover" (page 215).

   Result: The CallPilot resource group is automatically brought online on the standby High Availability server (CP1).

o. After the CallPilot resource group is online on CP1, restart CP2.

4   On CP1, do the following:

a. Launch the AutoStart Console.

b. Wait until node CP2 and both drvE and drvF are online/green in the AutoStart Console.

c. Enable monitoring for the CallPilot resource group. For more information, see "Enabling automatic failovers (start monitoring)" (page 214).

—End—

Change the Network Interface Card configuration and network settings

To provide the Managed IP service that is used to make the pair of High Availability servers appear as one server to the external network, the AutoStart software must know the local IP addresses of the ELAN Subnet and Nortel Server Subnet (CLAN) of the pair of servers. If changes are made to the ELAN Subnet IP address and Nortel Server Subnet IP address on either server after the AutoStart software is installed, the AutoStart software no longer works correctly. Depending on the state of the server when the change is made, this can cause a failover to the standby server or it can break the failover process.

ATTENTION

Before changing any IP address or host name, Nortel recommends that you take note of the IP addresses and host name. It is good practice to save them to a safe location just in case you need them again (for example, if you need to recover the server).

The IP addresses and host names are in the following locations:

*   ELAN or CLAN IP addresses—Run the command **`ipconfig /all`** command to check the current IP addresses.

*   Managed host name—Navigate to the E:\Nortel\HA folder and open the AutoStart_Configuration.ini file to find the Managed host name. The Managed host name is mapped to the Managed CLAN IP address.

*   Managed ELAN IP address (Virtual ELAN IP address)—This IP address is also saved in the E:\Nortel\HA\AutoStart_Configuration.ini file.

All of the configuration data (including Managed ELAN/CLAN IP addresses) required by the AutoStart software is also saved in a customized AutoStart definition file. This definition file is in the following folder: D:\Program Files\ [AutoStart_Domain]\Module\Tool Kit 2.0.

Depending on your system, the AutoStart definition file has a different name, as follows:

- For systems with one MPB96 board, the definition file is called CallPilot-Mirroring-Single.def.

- For systems with three MPB96 boards, the definition file is called CallPilot-Mirroring.def.

Local networking settings

The following procedures are used to change the local IP settings on either of the two servers that make up a CallPilot High Availability pair.

> *Note:* These procedures do not apply to the Managed ELAN and CLAN IP settings. For more information, see "Managed networking settings" (page 157).

Use the procedures in this section to change the following:

- "ELAN or CLAN IP address changes" (page 151)

- "HB1, HB2, and Mirroring IP address changes" (page 153)

ELAN or CLAN IP address changes   You can use this procedure to change the local ELAN or CLAN IP address on either one of the servers in a High Availability configuration after the AutoStart software is installed.

Changing the ELAN or CLAN IP address

Step	Action
1	Disable the AutoStart Monitoring.
	For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).
2	Take the resource group CallPilot offline.
	For more information, see "Taking the CallPilot resource group offline" (page 211).
3	Attach drive E and drive F to the node whose ELAN IP address or CLAN IP address has to be changed. Perform the following for drive E and drive F:
	a. In the AutoStart Console, select the **[AutoStart_Domain] > Data Sources**.

b. Right-click the drive you want to connect.

c. Select **Attach Data Source**.

4 Use the Windows Services utility to manually start the following CallPilot services individually and in the following order:

- Adaptive Server Anywhere - DB_SQLANY

- CallPilot HAL Monitor

- CallPilot LDAP

- CallPilot AOS

- CallPilot Multimedia Volume 1

- CallPilot Multimedia Volume 102

- CallPilot Multimedia Volume 103

- CallPilot Multimedia Cache

5 Log on to CallPilot Manager and run the Configuration Wizard as follows:

a. On the main CallPilot Manager screen, click the **Configuration Wizard** icon.

Tip: You can also start the Configuration Wizard by clicking **Tools > Configuration Wizard**.

Result: A dialog box appears, prompting you to choose either an Express or Standard setup.

b. Select **OK** to dismiss the dialog box.

Result: The Configuration Wizard: Configuration Mode screen appears.

c. Select the **CallPilot Individual Feature Configuration (Express Mode)** option and then click **Next**.

Result: The Configuration Wizard: Express Configuration List screen appears.

d. Select the **Network Interface Card Configuration (ELAN and CLAN)** check box.

e. Change the ELAN or CLAN network setting as required.

f. Click **Next**.

Result: The Ready to Configure screen appears.

g. Click **Finish**.

Result: A dialog box prompts you to confirm the configuration.

h. Click **OK** to configure CallPilot.

Result: The configuration is applied to the server. This task can take from 5 to 10 minutes to complete. The Configuration Wizard displays progress information.

After the configuration is applied to the server, a dialog box reminds you to restart the server for the configuration to take effect.

i. Click **OK** to dismiss the dialog box.

Result: The system returns you to the main CallPilot Manager screen.

j. Log off CallPilot Manager and close the Web browser.

6 Restart the node.

7 Update the name resolution mechanism. (Update the DNS/WINS/hosts file information on both nodes if they are used, especially for the CLAN IP address, which normally is mapped to the node name on the DNS server.)

8 Launch the AutoStart Console and do the following:

a. Expand the node list in the AutoStart Console.

b. From the **Paths Defined for Node** list, delete the Verification links that use the previous ELAN or CLAN IP addresses.

c. Create new Verification links that will use the new ELAN or CLAN IP addresses.

9 If the ELAN IP or CLAN IP addresses on another node also have to be changed, repeat step 3 to step 8 on that node as well.

10 Bring the CallPilot resource group online (see "Bringing the CallPilot resource group online" (page 209)) and then enable AutoStart Monitoring (see "Enabling automatic failovers (start monitoring)" (page 214).

—End—

HB1, HB2, and Mirroring IP address changes

> **WARNING**
> Nortel recommends that you do not change the IP address used for the Heartbeat (HB1), Heartbeat backup (HB2), or Mirroring links after the AutoStart software is installed.

If the Heartbeat (HB1), Heartbeat backup (HB2), or Mirroring link IP addresses are changed, you must uninstall and reinstall the AutoStart software on both servers as part of changing the IP addresses. For more information, see the following:

* "Uninstall the AutoStart software" (page 228)

* "Reinstall the AutoStart software" (page 234).

Changing the HB1, HB2, and Mirroring IP addresses

Step	Action

1   Uninstall the AutoStart on both High Availability servers. For more information, see "Uninstall the AutoStart software" (page 228).

2   Move the dongle to the server where you will run Configuration Wizard to perform the IP address change and wait 3 minutes.

3   Use the Windows Services utility to manually start the following CallPilot services individually and in the following order:

* Adaptive Server Anywhere - DB_SQLANY

* CallPilot HAL Monitor

* CallPilot LDAP

* CallPilot AOS

* CallPilot Multimedia Volume 1

* CallPilot Multimedia Volume 102

* CallPilot Multimedia Volume 103

* CallPilot Multimedia Cache

4   Log on to CallPilot Manager and run the Configuration Wizard as follows:

     a.   On the main CallPilot Manager screen, click the **Configuration Wizard** icon.

        Tip: You can also start the Configuration Wizard by clicking Tools > Configuration Wizard.

        Result: A dialog box appears prompting you to choose either an Express or Standard setup.

     b.   Select **OK** to dismiss the dialog box.

        Result: The Configuration Wizard: Configuration Mode screen appears.

c. Select the **CallPilot Individual Feature Configuration (Express Mode)** option and then click **Next**.

   Result: The Configuration Wizard: Express Configuration List screen appears.

d. Select the **Network Interface Card Configuration (ELAN and CLAN)** check box.

e. Change the IP addresses as required.

f. Click **Next**.

   Result: The Ready to Configure screen appears.

g. Click **Finish**.

   Result: A dialog box prompts you to confirm the configuration.

h. Click **OK** to configure CallPilot.

   Result: The configuration is applied to the server. This task can take from 5 to 10 minutes to complete. The Configuration Wizard displays progress information.

   After the configuration is applied to the server, a dialog box reminds you to restart the server for the configuration to take effect.

i. Click **OK** to dismiss the dialog box.

   Result: The system returns you to the main CallPilot Manager screen.

j. Log off CallPilot Manager and close the Web browser.

5   Restart the server.

6   Repeat the previous steps if the same IP change is required on the other High Availability server.

7   Connect the LAN.

   For more information, see "Connect and verify LAN connections" (page 68) and complete the following procedures:

   - "Connecting and verifying LAN connections" (page 69)
   - "Modifying the hosts file" (page 72) (optional)
   - "Testing the host name resolution" (page 74)

8   Check the configuration of CP1 and CP2.

   For more information, see "Running Stage 1 of the High Availability Configuration Wizard to check CP1 and CP2 configuration" (page 75).

9   Install the AutoStart Software on CP1.

For more information, see "Installing the AutoStart Agent and Console software on CP1" (page 79).

10   Add the CP2 Administrator account to the AutoStart Console.

For more information, see "Add the node 2 administrator account to the AutoStart Console on node 1" (page 92).

11   Install the AutoStart software on CP2.

For more information, see "Installing the AutoStart software on CP2" (page 95).

12   To configure the AutoStart software, do the following:

    a. Configure the AutoStart software.

      For more information, see "Configure the AutoStart software" (page 109).

> **WARNING**
> You must wait for both servers under Domains > [AutoStart_Domain] > Nodes to appear green before making any changes in the AutoStart Console. Failure to do so can result in the loss configured information for verification links upon the next restart.

      i. Modify the AutoStart Domain and Verification links.

        For more information, see "Modifying the AutoStart Domain and Verification links" (page 109).

      ii. Add the Remote Mirroring Host for the new 1005r server (CP2).

        For more information, see "Adding the Remote Mirroring Host for CP2" (page 112).

    b. Generate the AutoStart Definition File.

      For more information, see "Generating the AutoStart Definition File" (page 115).

    c. Import the AutoStart Definition File.

      For more information, see "Importing the AutoStart Definition file" (page 117).

    d. Add the Windows administrator account password for the AutoStart Utility Processes.

For more information, see "Adding the Windows administrator account password for the AutoStart Utility Processes" (page 118).

13 Bring the Resource Groups online.

For more information, see "Bring the Resource Groups online" (page 122).

    a. Bring the CallPilot Resource Group online on CP1.

    For more information, see "Bringing the CallPilot Resource Group online on CP1" (page 122).

    b. Bring the CallPilot_[CP1] and CallPilot_[CP2] Resources Groups online.

    For more information, see "Bringing the Resource Groups CallPilot_[CP1] and CallPilot_[CP2] online" (page 125).

14 Create the CallPilot Reporter connections. For more information, see "Creating the CallPilot Reporter connection" (page 129).

—End—

Managed networking settings

After the AutoStart software is installed, it is possible to change the Managed networking settings, which include the following settings:

- Managed CLAN host name (See "Changing the Managed CLAN host name" (page 157).)

- Managed CLAN IP address (See "Changing the Managed CLAN IP address" (page 158).)

- Managed ELAN IP address (See "Changing the Managed ELAN IP address" (page 160).)

Changing the Managed CLAN host name

Step	Action

1 Ensure DNS or host files are updated with new Managed CLAN host name.

2 Replace the old Managed host name with the new Managed host name in the AutoStart_Configuration.ini file by doing the following:

    a. Navigate to the **E:\Nortel\HA** folder.

    b. Double-click the **AutoStart_Configuration.ini** file to open the file.

    c. Edit the **VirtualHostname** with the new Managed CLAN host name.

    d. Save the file.

—End—

Changing the Managed CLAN IP address

Step	Action

This procedure changes only the Managed CLAN IP address. (It does not change the physical CLAN IP settings.)

1   Change the Managed host name mapping to the new Managed CLAN IP address on your DNS server or in the appropriate hosts file.

2   Disable the AutoStart Monitoring. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

3   Take the CallPilot resource group offline. For more information, see "Taking the CallPilot resource group offline" (page 211).

4   Open the AutoStart Console and delete the Managed CLAN IP resources in the Startup and Shutdown sequences by doing the following:

    a. Expand **[AutoStart_Domain] > Resource Groups**.

    b. Select the **CallPilot** resource group.

    c. Select the **Settings** tab.

    d. Under Startup Sequence, select the Managed CLAN IP address and click **Delete**.

    e. Under Shutdown Sequence, select the Managed CLAN IP address and click **Delete**.

5   On the AutoStart Console, delete the Managed CLAN IP resource in the IP resource list by doing the following:

    a. Expand **[AutoStart_Domain] > IP Addresses**.

    b. Select the Managed CLAN IP address.

    c. Select the **Settings** tab.

    d. Click **Delete Interface**.

6   Create the new Managed CLAN IP resource by doing the following:

    a. Expand **[AutoStart_Domain] > IP Addresses**.

b. Right-click **IP Addresses** and select **Create New IP Address**.

Result: The New Manage IP Address window appears.

Figure 91
New Managed IP Address

c. Under IP Information, clear the **Get IP from Name Service** check box.

Result: The IP address field appears.

d. Enter the new Managed CLAN IP address and subnet mask.

e. Select the **Network Path Testing** tab.

f. Enter the test IP address of the new Managed CLAN IP address.

g. Click **Add IP Address**.

h. Click **Apply**.

7 On the AutoStart Console, add the new Managed CLAN IP resource into the Startup and Shutdown sequences of the CallPilot resource group. Using the arrows, move the Managed CLAN IP back to its original location, which is:

- directly after the Managed ELAN IP in the Startup Sequence list

- directly before the Managed ELAN IP in the Shutdown Sequence list

a. Expand **[AutoStart_Domain] > Resource Groups > CallPilot**.

b. Select the **Settings** tab.

c. Under the Startup Sequence, select the new Managed CLAN IP address and click **Edit**.

d. Clear the **Failure Response Settings** check boxes.

e. Click **Apply**.

f. Under the Startup Sequence, select the new Managed CLAN IP address and move it directly below the Managed ELAN IP address.

g. Under the Shutdown Sequence, select the new Managed CLAN IP address and move it directly above the Managed ELAN IP address.

h. Click **Apply**.

8 Bring the CallPilot resource group online. For more information, see "Bringing the CallPilot resource group online" (page 209).

9 Enable the AutoStart Monitoring. For more information, see "Enabling automatic failovers (start monitoring)" (page 214).

—**End**—

Changing the Managed ELAN IP address

Step	Action

This procedure changes only the Managed ELAN IP address. (It does not change the physical ELAN IP settings.)

1 Disable the AutoStart Monitoring. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

2 Take the CallPilot resource group offline. For more information, see "Taking the CallPilot resource group offline" (page 211).

3   Open the AutoStart Console and delete the Managed ELAN IP resources in the Startup and Shutdown sequences by doing the following:

    a. Expand **[AutoStart_Domain] > Resource Groups**.

    b. Select the **CallPilot** resource group.

    c. Select the **Settings** tab.

    d. Under Startup Sequence, select the Managed ELAN IP address and click **Delete**.

    e. Under Shutdown Sequence, select the Managed ELAN IP address and click **Delete**.

4   On the AutoStart Console, delete the Managed ELAN IP resource in the IP resource list by doing the following:

    a. Expand **[AutoStart_Domain] > IP Addresses**.

    b. Select the Managed ELAN IP address.

    c. Select the **Settings** tab.

    d. Click **Delete Interface**.

5   Create the new Managed ELAN IP resource by doing the following:

    a. Expand **[AutoStart_Domain] > IP Addresses**.

    b. Right-click **IP Addresses** and select **Create New IP Address**.

    Result: The New Manage IP Address window appears.

Figure 92
New Managed IP Address

c. Under IP Information, clear the **Get IP from Name Service**
    check box.

d. Enter the new Managed ELAN IP address and subnet mask.

e. Enter the switch IP address as the Test Path of the new Managed
    ELAN IP address.

f. Click **Apply**.

6   On the AutoStart Console, add the new Managed ELAN IP resource
    into the Startup and Shutdown sequences of the CallPilot resource
    group. Ensure that the Managed ELAN IP address resource is in its
    original location, which is:

    •   directly before the Managed CLAN IP address on the Startup
        sequence

- directly after the Managed CLAN IP address on the Shutdown sequence

   a. Expand **[AutoStart_Domain] > Resource Groups > CallPilot**.

   b. Select the **Settings** tab.

   c. Under the Startup Sequence, select the Managed ELAN IP address and click **Edit**.

   d. Clear the **Failure Response Settings** check boxes.

   e. Click **Apply**.

   f. Under the Startup Sequence, select the Managed ELAN IP address and move it directly above the Managed CLAN IP address.

   g. Under the Shutdown Sequence, select the Managed ELAN IP address and move it directly below the Managed CLAN IP address.

   h. Click **Apply**.

7 Attach drive E to one of the High Availability servers.

   a. In the AutoStart Console, select the **[AutoStart_Domain] > Data Sources**.

   b. Right-click drive E.

   c. Select **Attach Data Source**.

8 Replace the old Managed ELAN IP address with the new Managed ELAN IP address in the AutoStart_Configuration.ini file that is in the E:\Nortel\HA folder.

9 Detach drive E.

   a. In the AutoStart Console, select the **[AutoStart_Domain] > Data Sources**.

   b. Right-click drive E.

   c. Select **Detach Data Source**.

10 Bring the resource group online. For more information, see "Bringing the CallPilot resource group online" (page 209).

11 Enable the AutoStart Monitoring. For more information, see "Enabling automatic failovers (start monitoring)" (page 214).

—End—

Change the administrator account password for the Utility Processes

The administrator passwords must be the same on both High Availability servers.

On the active server, you can use either the Windows utility or the Configuration Wizard to change the administrator password after the AutoStart Monitoring is disabled. However, on the standby server, you must use the Windows utility to change the administrator passwords.

When the administrator password is changed on both servers, you must also update the administrator password used by the AutoStart utilities in the AutoStart Console as described in the following procedure.

Changing the Utility Processes administrator password

Step	Action
1	On the AutoStart Console, expand **[AutoStart_Domain] > Utility Processes**.

Result: The Utility Processes are displayed:

- DisableAOS
- KillServices
- LoadDN
- LoadTSP
- UnloadTSP
- UnloadTSPOnStandbyServer

| 2 | Click one of the utilities to open the utility. |

Result: The **Settings** tab for that utility appears.

| 3 | In the **Login Info** area, enter the new the administrator password in the **Password** and **Confirm** fields. |

Figure 93
Change the administrator password
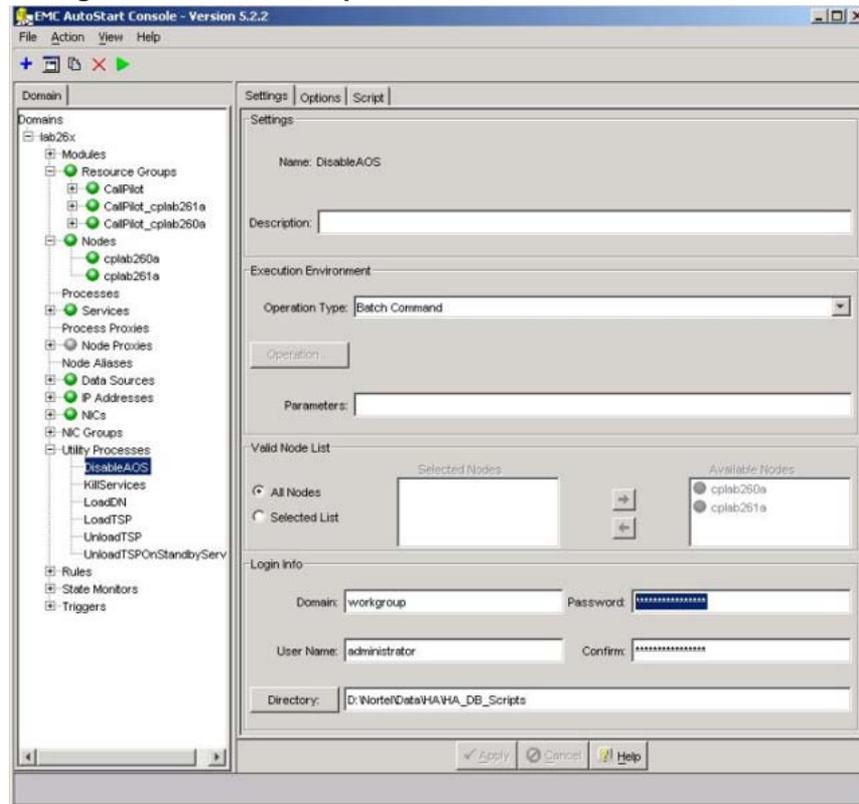
4 Click **Apply**.

5 Repeat the preceding steps for each of the remaining utilities in the Utility Processes list.

—End—

Increase software licenses

The following procedure provides the steps for adding additional seats (using a new keycode) to a pair of High Availability servers.

Only one server in the pair is in service at a time, and therefore, both servers share one dongle. As a result, they both have the same serial number and share the same keycode. The information in the keycode is stored in the CallPilot database so it is automatically mirrored to the standby server.

Increasing software licenses on a pair of CallPilot 5.0 1005r High Availability servers

Step	Action

1   Use the AutoStart Console to stop monitoring (to disable automatic failovers).

For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

2   On the active CallPilot server (CP1), log on to CallPilot Manager.

    a. Launch Internet Explorer.

    b. Enter **http://<Active Server Name (CP1) or IP address>/cpmgr** in the URL address box.

        Result: The CallPilot Manager Logon Web page appears.

    c. Log on using your existing CallPilot logon information. Enter information into the following:

        • **Mailbox Number**—Enter your existing mailbox number.

        • **Password**—Enter your password.

        • **Server**—Specify the name or the IP address of the CallPilot server that you want to configure. (The server name may have changed during the upgrade or platform migration.)

        Note: When you launch Internet Explorer, you may see a dialog box that says "M/S IE Enhanced Security config is currently enabled on your server. This advanced level of security reduces risk." Nortel recommends that you do not lower the security level. Nortel also recommends that you do not select the check box to not show the message again. If you do lower the security level and you try to access a Web site off the server, it may be blocked by the security setting. You do not receive a warning, but a blank screen appears.

    d. Click **Login**.

3   Run the Configuration Wizard and enter the new keycode.

    a. On the main CallPilot Manager screen, click the **Configuration Wizard** icon.

        Tip: You can also start the Configuration Wizard by clicking Tools > Configuration Wizard.

        Result: A dialog box appears, prompting you to choose either an Express or Standard setup.

b. Select **OK** to dismiss the dialog box.

    Result: The Configuration Wizard: Configuration Mode screen appears.

c. Select the **CallPilot System Configuration (Standard Mode)** option and then click **Next**.

    Result: The Configuration Wizard: Welcome screen appears.

d. On the Welcome screen, click **Next**.

    Result: The Keycode and serial number screen appears.

e. Enter your **Serial number** and the new **Keycode**. This new keycode includes the increased licenses.

f. Ensure that the Serial number and Keycode are correct, and then click **Next**.

    Result: The Feature Verification screen appears.

g. Ensure that the details on the Feature Verification screen match your expectations and click **Next**.

    Note: If a feature is missing or is not what you expected, acquire a new keycode from your Nortel distributor.

    Result: The Server Information screen appears.

h. Verify the information on the Server Information screen, modify it if necessary, and then click **Next**.

    Result: The Password Information screen appears.

i. Select the **Leave the password unchanged** option. (If prompted, change the default password. Store the password in a safe location.)

j. Click **Next**.

    Result: The Multimedia Allocation screen appears.

k. Verify the number of MPB boards and, if applicable, DSP cards, and ensure that they match the hardware installed in the CallPilot server. Verify the Port Allocations.

l. Click **Next**.

    Result: The Switch Information screen appears.

m. Ensure that the following settings are correct on the Switch Information screen and click **Next**.

    Result: The CDN Information screen appears.

n. Verify the CDN configuration and click **Next**.

Result: The Language Source Directory screen appears.

o. Select the **Skip Language Installation** option.

p. Click **Next**.

Result: The CallPilot Local Area Network Interface screen appears.

q. Verify the settings on the CallPilot Local Area Network Interface page. Do not change any settings. Ensure that the **High Availability mode** check box is selected and the HB1, HB2, and MIRROR information is correct.

r. Click **Next**.

Result: The Ready to Configure screen appears.

s. Click **Finish**.

Result: A dialog box prompts you to confirm the configuration.

t. Click **OK** to configure CallPilot.

Result: The configuration is applied to the server. This task can take from 5 to 10 minutes to complete. The Configuration Wizard displays progress information.

After the configuration is applied to the server, a dialog box reminds you to restart the server for the configuration to take effect.

u. Click **OK** to dismiss the dialog box.

Result: The system returns you to the main CallPilot Manager screen.

v. Log off CallPilot Manager and close the Web browser.

4 If prompted, restart the server after the Configuration Wizard is complete.

5 Use the AutoStart Console to start monitoring (to enable automatic failovers). For more information, see "Enabling automatic failovers (start monitoring)" (page 214).

6 Ensure that the CallPilot resource group is online. If it is not online, bring the resource group online (which starts up CallPilot). For more information, see "Bring a resource group online" (page 209).

—End—

Increase CallPilot channel capacity by adding MPB96 boards

If the pair of 1005r servers each have one MPB96 board installed, the servers can be upgraded to have three MPB96 boards. This hardware expansion is required if the servers each have one MPB96 board installed and you want to increase capacity to a value greater than 96 MPUs or 96 channels. Three MPB96 boards have 192 channels and 288 MPUs.

Increasing channel capacity by adding MPB96 boards in a pair of CallPilot 5.0 1005r High Availability servers

Step	Action
1	Disable AutoStart Monitoring. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).
2	Take the CallPilot resource group offline. For more information, see "Take a resource group offline" (page 210).
3	Disable the DisableAOS rule on the AutoStart Console.
4	Power down both servers.
5	Install the two additional MPB96 boards in each server in the High Availability pair on the field.
6	Connect all the required cables.
7	Power on both servers.
8	On CP1, open Windows Explorer.
9	Navigate to the D:\Nortel\HA\Toolkit Installer 2.0 folder.
10	Run the command HighAvailabilityConfigurationWizard.exe. **Result:** The High Availability Configuration Wizard appears.
11	In the **Number of MPB96 boards** field, select **3**.
12	Fill the remaining fields on the High Availability Configuration Wizard using Step 3 in "Running Stage 1 of the High Availability Configuration Wizard to check CP1 and CP2 configuration" (page 75).
13	On CP1, attach drive E and drive F to the High Availability server. Perform the following steps for both drive E and drive F. a. In the AutoStart Console, select the **[AutoStart_Domain] > Data Sources**. b. Right-click the drive you want to connect. c. Select **Attach Data Source**.

14 Perform step 4 of the High Availability Configuration Wizard. For more information, see "Running Stage 1 of the High Availability Configuration Wizard to check CP1 and CP2 configuration" (page 75).

15 Import the new definition file on the AutoStart Console.

For more information, see "Importing the AutoStart Definition file" (page 196).

16 Update the AutoStart Utilities logon information (that is, update the passwords for each utility as a result of reimporting the new definition file).

17 On CP1, use the Windows Service utility to manually start the following CallPilot services individually and in the following order:

- Adaptive Server Anywhere - DB_SQLANY
- CallPilot HAL Monitor
- CallPilot LDAP
- CallPilot AOS (Enable the CallPilot AOS service first)
- CallPilot Multimedia Volume 1
- CallPilot Multimedia Volume 102
- CallPilot Multimedia Volume 103
- CallPilot Multimedia Cache

18 Move the dongle to the CP1 server (if the dongle is not already on the server).

19 Run the CallPilot Configuration Wizard to change the switch configuration to match the switch settings.

Result: The Configuration Wizard unloads the CallPilot Database tables again (which were previously unloaded).

a. On the main CallPilot Manager screen, click the **Configuration Wizard** icon.

Tip: You can also start the Configuration Wizard by clicking **Tools > Configuration Wizard**.

Result: A dialog box appears, prompting you to choose either an Express or Standard setup.

b. Select **OK** to dismiss the dialog box.

Result: The Configuration Wizard: Configuration Mode screen appears.

c. Select the **CallPilot System Configuration (Standard Mode)**
    option and then click **Next**.

    Result: The Configuration Wizard: Welcome screen appears.

d. On the Welcome screen, click **Next**.

    Result: The Keycode and serial number screen appears.

e. Verify your **Serial number** and **Keycode** and then click **Next**.

    Result: The Feature Verification screen appears.

f. Ensure that the details on the Feature Verification screen match
    your expectations and click **Next**.

    Note: If a feature is missing or is not what you expected,
    acquire a new keycode from your Nortel distributor.

    Result: The Server Information screen appears.

g. Verify the information on the Server Information screen, modify it
    if necessary, and then click **Next**.

    Result: The Password Information screen appears.

h. Select the **Leave the password unchanged** option. (If
    prompted, change the default passwords. Store passwords in a
    safe location.)

i. Click **Next**.

    Result: The Multimedia Allocation screen appears.

j. Verify the number of MPB boards and, if applicable, DSP cards,
    and ensure that they match the hardware installed in the CallPilot
    server.

k. Change the **Port Allocations** as required.

l. Click **Next**.

    Result: The Switch Information screen appears.

m. Ensure that the following settings are correct:

    *   Ensure the switch type and the switch IP addresses are
        correct.

    *   If you are expanding the number of channels, configure the
        new channels from this screen.

    *   After you configure the channels, click **Next**.

    Result: The CDN Information screen appears.

n. Verify the CDN configuration.

If you need to make changes, do the following:

i. Click **New** to add a new CDN.

Result: The system prompts you for the CDN and the name of the application to dedicate to the CDN.

ii. Specify the **CDN**, choose the application, and then click **OK**.

Result: The system returns you to the CDN Information page.

o. Click **Next**.

Result: The Language Source Directory screen appears.

p. Select the **Skip Language Installation** option.

q. Click **Next**.

Result: The CallPilot Local Area Network Interface screen appears.

r. Verify the information on the CallPilot Local Area Network Interface page. Do not change any settings. Ensure that the **High Availability mode** check box is selected and that the HB1, HB2, and MIRROR information is correct.

s. Click **Next**.

Result: The Ready to Configure screen appears.

t. Click **Finish**.

Result: A dialog box prompts you to confirm the configuration.

u. Click **OK** to configure CallPilot.

Result: The configuration is applied to the server. This task can take from 5 to 10 minutes to complete. The Configuration Wizard displays progress information.

After the configuration is applied to the server, a dialog box reminds you to restart the server for the configuration to take effect.

v. Click **OK** to dismiss the dialog box.

Result: The system returns you to the main CallPilot Manager screen.

w. Log off CallPilot Manager and close the Web browser.

20 Restart the CP1 server.

21 On CP2, attach drive E and drive F to CP2 from the AutoStart Console. Perform the following for both drive E and drive F:

a. In the AutoStart Console, select the **[AutoStart_Domain] > Data Sources**.

b. Right-click the drive you want to connect.

c. Select **Attach Data Source**.

22   On CP2, use the Windows Service utility to manually start the following CallPilot services individually and in the following order:

- Adaptive Server Anywhere - DB_SQLANY

- CallPilot HAL Monitor

- CallPilot LDAP

- CallPilot AOS (Enable the CallPilot AOS service first)

- CallPilot Multimedia Volume 1

- CallPilot Multimedia Volume 102

- CallPilot Multimedia Volume 103

- CallPilot Multimedia Cache

23   Move the dongle to CP2.

24   Run the CallPilot Configuration Wizard to change the switch configuration to match the switch settings.

Result: The Configuration Wizard unloads the CallPilot Database tables again (which were previously unloaded).

a. On the main CallPilot Manager screen, click the **Configuration Wizard** icon.

Tip: You can also start the Configuration Wizard by clicking **Tools > Configuration Wizard**.

Result: A dialog box appears, prompting you to choose either an Express or Standard setup.

b. Select **OK** to dismiss the dialog box.

Result: The Configuration Wizard: Configuration Mode screen appears.

c. Select the **CallPilot System Configuration (Standard Mode)** option and then click **Next**.

Result: The Configuration Wizard: Welcome screen appears.

d. On the Welcome screen, click **Next**.

Result: The Keycode and serial number screen appears.

e. Verify your **Serial number** and **Keycode**.

Result: The Feature Verification screen appears.

f. Ensure that the details on the Feature Verification screen match your expectations and click **Next**.

> *Note:* If a feature is missing or is not what you expected, acquire a new keycode from your Nortel distributor.

Result: The Server Information screen appears.

g. Verify the information on the Server Information screen, modify it if necessary, and then click **Next**.

Result: The Password Information screen appears.

h. Select the **Leave the password unchanged** option. (If prompted, change the default passwords. Save the password in a safe location.)

i. Click **Next**.

Result: The Multimedia Allocation screen appears.

j. Verify the number of MPB boards and, if applicable, DSP cards, and ensure that they match the hardware installed in the CallPilot server.

k. Change the **Port Allocations** as required.

l. Click **Next**.

Result: The Switch Information screen appears.

m. Ensure that the following settings are correct:

- Ensure the switch type and the switch IP addresses are correct.

- If you are expanding the number of channels, configure the new channels from this screen.

- After you configure the channels, click **Next**.

Result: The CDN Information screen appears.

n. Verify the CDN configuration.

If you need to make changes, do the following:

i. Click **New** to add a new CDN.

Result: The system prompts you for the CDN and the name of the application to dedicate to the CDN.

ii. Specify the **CDN**, choose the application, and then click **OK**.

Result: The system returns you to the CDN Information page.

o. Click **Next**.

Result: The Language Source Directory screen appears.

p. Select the **Skip Language Installation** option.

Result: The CallPilot Local Area Network Interface screen appears.

q. Verify the information on the CallPilot Local Area Network Interface page. Do not change any settings. Ensure that the **High Availability mode** check box is selected and that the HB1, HB2, and MIRROR information is correct.

r. Click **Next**.

Result: The Ready to Configure screen appears.

s. Click **Finish**.

Result: A dialog box prompts you to confirm the configuration.

t. Click **OK** to configure CallPilot.

Result: The configuration is applied to the server. This task can take from 5 to 10 minutes to complete. The Configuration Wizard displays progress information.

After the configuration is applied to the server, a dialog box reminds you to restart the server for the configuration to take effect.

u. Click **OK** to dismiss the dialog box.

Result: The system returns you to the main CallPilot Manager screen.

v. Log off CallPilot Manager and close the Web browser.

25 Restart the CP2 server.

26 Ensure that both servers are completely started.

27 Bring the CallPilot resource group online on either of the two High Availability servers. For more information, see "Bringing the CallPilot resource group online" (page 209).

—End—

Working with domains and workgroups

Use the procedures in this section to work with domains and workgroups.

Moving from a domain to a workgroup

If the CallPilot 5.0 High Availability system must be moved to a workgroup (from a domain), use the following procedure to join a workgroup.

Joining a workgroup

Step	Action

This procedure assumes that CP1 is the active server and CP2 is the standby server.

1 On CP1, launch the AutoStart Console and stop monitoring. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

2 Take the CallPilot resource group offline on CP1. For more information, see "Taking the CallPilot resource group offline" (page 211).

3 On CP1, do the following:

    a. Right-click **My Computer**.

    Result: The System Properties window appears.

    b. Select the **Computer Name** tab and click **Change**.

    Result: The Computer Name Changes window appears.

Figure 94
Computer Name Changes

c. In the **Member of** section, select the **Workgroup** option.

d. Enter the name of the workgroup and click **OK**.

   Result: The Domain Administrator Privileges window appears.

e. Enter the domain administrator and password.

   Contact your network administrator for this information.

   Result: The Welcome to Workgroup window appears.

f. Click **OK**.

   Result: A warning window appears prompting you to restart the computer in order for changes to take effect.

g. Click **OK**.

   Result: The System Properties window appears.

h. Click **OK**.

   Result: The System Settings Changes window appears prompting you to restart the computer.

i. Click **Yes** to restart CP1.

j. Log on to CP1 using the domain user account which is a member of the Workgroup Administrators group.

4 On CP2, do the following:

a. Right-click **My Computer**.

Result: The System Properties window appears.

b. Select the **Computer Name** tab and click **Change**.

Result: The Computer Name Changes window appears.

c. In the **Member of** section, select the **Workgroup** option.

d. Enter the name of the workgroup and click **OK**.

Result: The Workgroup Administrator Privileges window appears.

e. Enter the workgroup administrator and password.

Contact your network administrator for this information.

Result: The Welcome to Workgroup window appears.

f. Click **OK**.

Result: A warning window appears prompting you to restart the computer in order for changes to take effect.

g. Click **OK**.

Result: The System Properties window appears.

h. Click **OK**.

Result: The System Settings Changes window appears prompting you to restart the computer.

i. Click **Yes** to restart CP2.

j. Log on to CP2 using the domain user account which is a member of the Domain Administrators group.

5 On CP1, launch the **AutoStart Console** window.

6 Expand **Domains**.

7 Expand **[AutoStart_Domain]**. (This is the domain name created when the AutoStart agent was installed.)

8 Expand **Utility Processes**.

Result: The Utility Processes are displayed:

- DisableAOS

- KillServices

- LoadDN
- LoadTSP
- UnloadTSP
- UnloadTSPOnStandbyServer

9 Select the **DisableAOS** Utility Process.

10 Select the **Settings** tab and to the following:

a. Update the **Domain**, **User Name**, and **Directory** fields.

- Domain must be the Windows domain that the CallPilot servers are on (if applicable) or the Windows workgroup in which the servers are located.

- User name must be the domain administrator account for selected domain.

- The default directory is D:\Nortel\Data\HA\HA_DB_Scripts.

b. In the **Login Info** section, enter the password for the Windows administrator account in the **Password** and **Confirm** fields.

Figure 95
AutoStart Console - Utility Processes
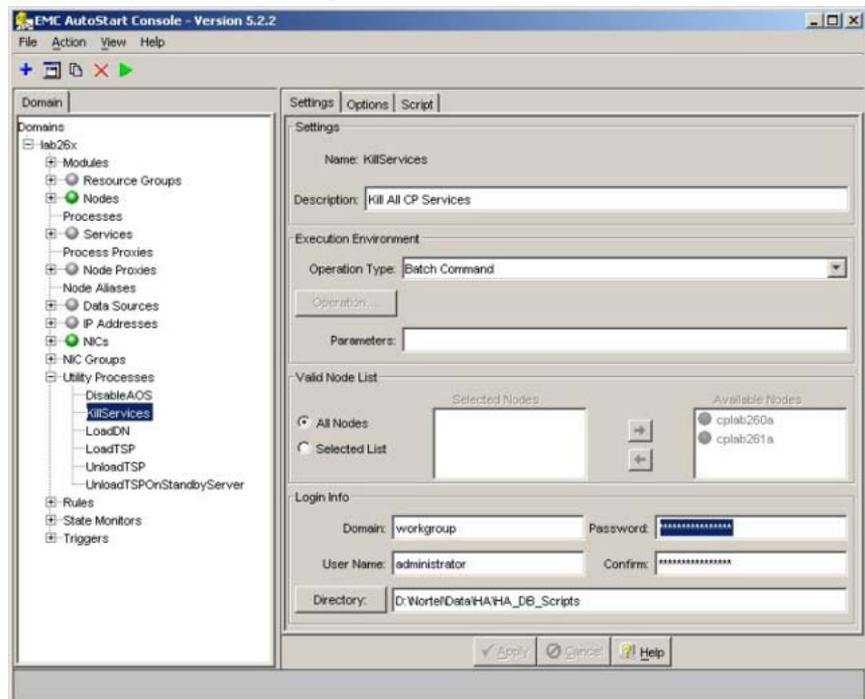
c. Click **Apply**.

11 Repeat Step 10 for each of the remaining Utility Processes.

12 On CP1, enable monitoring. For more information, see "Enabling automatic failovers (start monitoring)" (page 214).

13 Bring the CallPilot resource group online on CP1. For more information, see "Bringing the CallPilot resource group online" (page 209).

—End—

Manually change the administrator password

If you must change the password of the local administrator account or the password of the domain administrator account, the password must be changed on both High Availability servers.

Use the following procedure if you must change the password of the local administrator account or the password of the domain administrator account. The administrator password must be the same on both servers in the High Availability pair.

Manually changing the password of the local administrator account or the domain administrator account

Step	Action

1 On CP1 (the active High Availability server) do the following:

    a. Ensure the dongle is plugged into CP1. If the dongle is not on CP1, move it to CP1 and wait for 3 minutes.

       For more information about the dongle, see *1005r Server Hardware Installation* (NN44200-308).

    b. Launch the AutoStart Console.

    c. Stop monitoring on the CallPilot resource group. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

2 On CP1, press **Ctrl+Alt+Del** to display the Windows Security window.

3 Click **Change Password**.

Result: The Change Password window appears.

4 Enter the **User Name** of the administrator account.

5 From the **Log on to** field, select one of the following:

- If on a workgroup, select the local host name of the computer. For example, P1005r (this computer).

- If on a domain, select the domain name associated with the computer. For example, nortel.innlab.com

    Note: If you are on a domain, both the local host name and the domain name are available in the **Log on to** drop-down list. Select the name you want to change.

6   Enter the **Old Password**.

7   Enter the **New Password**.

8   Reenter the new password in the **Confirm New Password** field.

9   Click **OK**.

10   Perform a manual failover on CP1. For more information, see "Initiating a manual failover" (page 215).

   Result: The CallPilot resource group is automatically brought online on the standby High Availability server (CP2).

11   Restart CP1.

12   Move the dongle to CP2.

   For more information about the dongle, see *1005r Server Hardware Installation* (NN44200-308).

13   On CP2, do the following:

   a.   Launch the AutoStart Console.

   b.   Wait until node CP1 and both drvE and drvF are green/online in the AutoStart Console.

   c.   If required, disable monitoring for the CallPilot resource group. For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

14   On CP2, press **Ctrl+Alt+Del** to display the Windows Security window.

15   Click **Change Password**.

   Result: The Change Password window appears.

16   Enter the **User Name** of the administrator account.

17   From the **Log on to** field, select one of the following:

- If on a workgroup, select the local host name of the computer. For example, P1005r (this computer).

- If on a domain, select the domain name associated with the computer. For example, nortel.innlab.com

   Note: If you are on a domain, both the local host name and the domain name are available in the **Log on to** drop-down list. Select the name you want to change.

18 Enter the **Old Password**.

19 Enter the **New Password**.

20 Reenter the new password in the **Confirm New Password** field.

21 Click **OK**.

22 Change the administrator password for each of the Utility Processes. For more information, see "Changing the Utility Processes administrator password" (page 164).

23 Perform a manual failover on CP2. For more information, see "Initiating a manual failover" (page 215).

   Result: The CallPilot resource group is automatically brought online on the standby High Availability server (CP1).

24 After the CallPilot resource group is online on CP1, restart CP2.

25 On CP1, do the following:

   a. Launch the AutoStart Console.

   b. Wait until node CP2 and both drvE and drvF are online/green in the AutoStart Console.

   c. Enable monitoring for the CallPilot resource group. For more information, see "Enabling automatic failovers (start monitoring)" (page 214).

—End—

EMC AutoStart Agent and Console

The EMC AutoStart software is used to maintain a High Availability system. This section includes the following:

- "AutoStart maintenance" (page 183)
- "Work with resource groups" (page 208)
- "Software operations" (page 216)

AutoStart maintenance

Use the procedures in this section to perform maintenance tasks within the EMC AutoStart software.

- "Configure the AutoStart notification settings" (page 183)

- "Add e-mail addresses to the Managed_ELAN_IP_Failure_Notif rule" (page 186)

- "Configure failover on the Path Test failures of the Managed ELAN IP address" (page 189)

- "License administration" (page 191)

- "Check the status of the servers and failovers using AutoStart" (page 192)

- "Import and export of the AutoStart Definition file" (page 195)

- "Recreate the AutoStart definition file" (page 198)

- "Change the Switch IP address in AutoStart Console" (page 204)

Configure the AutoStart notification settings

The AutoStart software can provide e-mail notification for failovers and resource group state changes. The Simple Mail Transfer Protocol (SMTP) server domain must first be configured for recipients to receive notification that a failover or state change has occurred.

Configuring the SMTP Server for a domain

Step	Action
1	From the AutoStart Console, select **Domains > [AutoStart_Domain]** for the domain that you want to monitor.
2	Select the **Settings** tab.

Figure 96
Setting the SMTP server attribute value
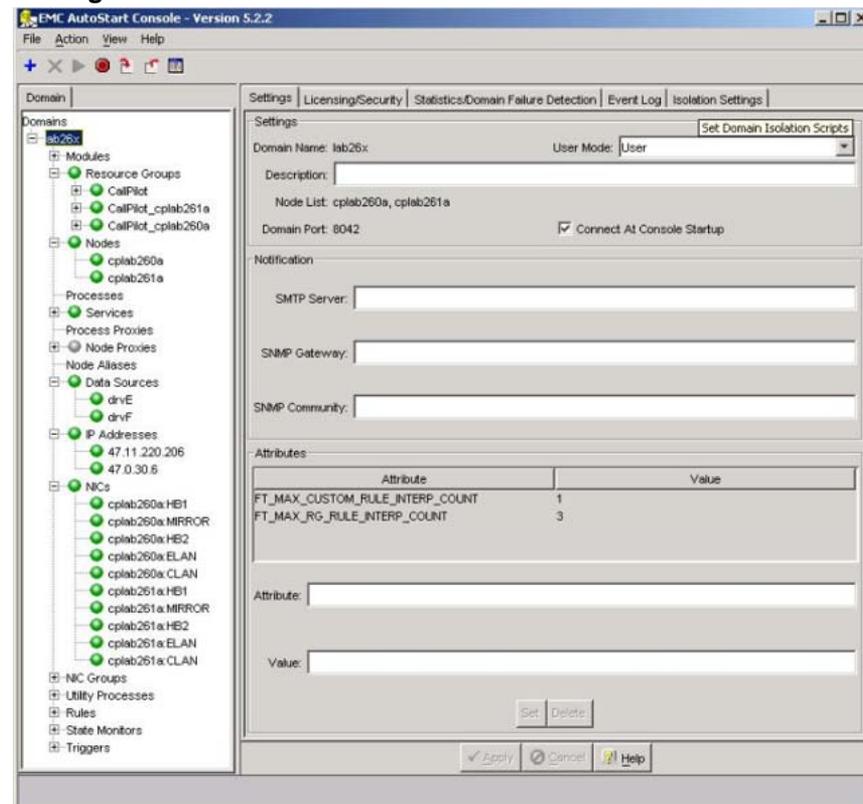
3   Under the **Notification** area, enter the **SMTP Server**, **SMTP
Gateway**, and **SMTP Community**.

4   Under the **Attributes** area, click the attribute to edit.

5   In the **Value** field, enter the name of the SMTP server.

For example, mail.servername.com.

6   Repeat for each attribute.

7   Click **Apply**.

Result: When the SMTP server is in the domain attributes, the
Send Email To text box (on the Options tab) becomes active (see
Options tab - User Notification Settings). However, this value does
not become active until the agents are restarted.

—End—

Configuring the User Notification Settings

Step	Action

1   Expand **Domains > [AutoStart_Domain] > Resource Groups >
        CallPilot**.

2   Select the **Options** tab.

Figure 97
Options tab - User Notification Settings

3   To receive a notification e-mail that the state of a resource group
        has changed, do the following:

a.   In the **Send Email to** field, enter the e-mail addresses of those
      who must receive notification that a failover has occurred.

b.   Under the **User Notification Settings**, select the **Notify on
      State Change** check box.

4   To receive a notification e-mail when a node group failover occurs,
        do the following:

a.   In the **Send Email to** field, enter the e-mail addresses of those
      who must receive notification that a failover has occurred.

      b. Under the **User Notification Settings**, select the **Notify on Node Group Failover** check box.

5   Click **Apply**.

6   Perform a manual failover to test if notification is received.

     See "Initiating a manual failover" (page 215).

—End—

Add e-mail addresses to the Managed_ELAN_IP_Failure_Notif rule

Use the following procedure to add e-mail addresses into the script of the Managed_ELAN_IP_Failure_Notif rule so that the AutoStart software can send out notification e-mail to the administrators when the Path Test failure of the Managed ELAN IP occurs.

Adding e-mail addresses to the Managed_ELAN_IP_Failure_Notif rule after the system is configured

Step	Action
1	Open the AutoStart Console.
2	Take the CallPilot resource group offline (if it is online). See "Taking the CallPilot resource group offline" (page 211).
3	On the left pane of the AutoStart Console, expand **Rules**.
4	Select **Managed_ELAN_IP_Failure_Notif**. **Result:** The Settings tab for the Managed_ELAN_IP_Failure_Notif rule appears.

Figure 98
Rules - Managed_ELAN_IP_Failure_Notif
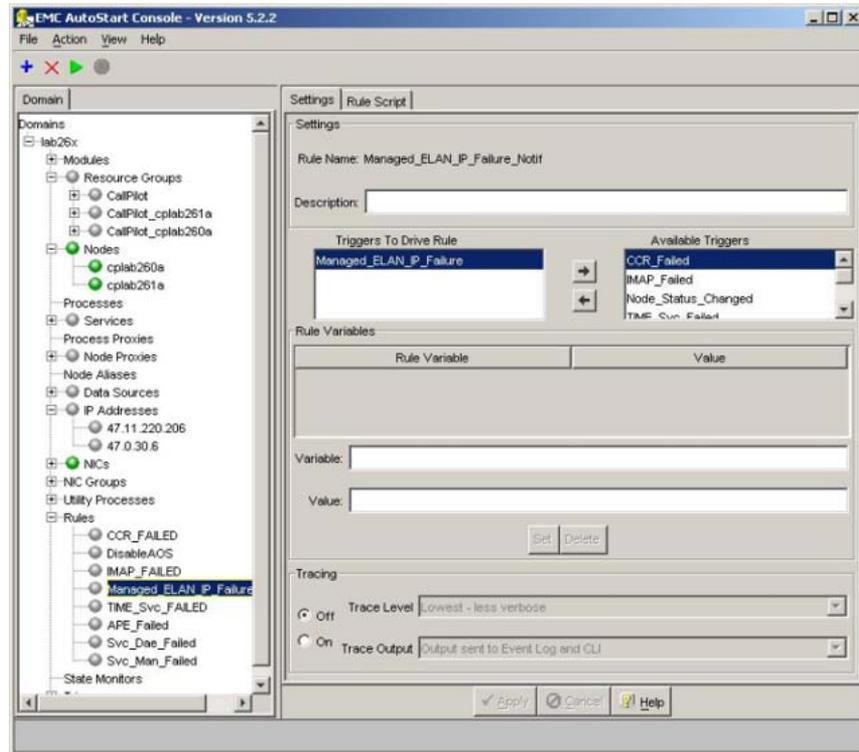
5   Select the **Rule Script** tab.

Result: The rule script appears in the right pane of the AutoStart
Console.

Figure 99
Rule Script tab for Managed_ELAN_IP_Failure_Notif rule
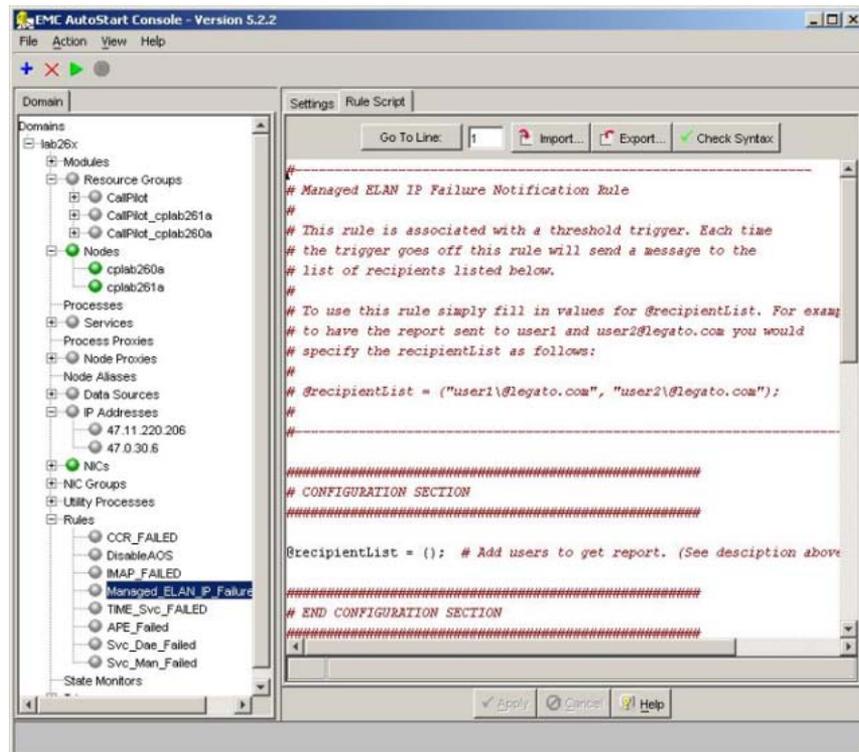
6   Look for the **@recipientList = ()** line in the rule script.

7   Add the recipient's e-mail address in the parenthesis () of the @recipientList line. You must add the backslash symbol (\) before the at symbol (@) in the e-mail address.

        If multiple e-mail addresses are added, separate each e-mail address by a comma (,).

8   Click **Apply**.

9   Bring the CallPilot resource group online (if it was taken offline at the beginning of this procedure). See "Bringing the CallPilot resource group online" (page 209).

10   Configure the Simple Mail Transfer Protocol (SMTP) server so that the AutoStart software can provide e-mail notification for failovers and resource group state changes. The SMTP server domain must first be configured for recipients to receive notification that a failover or state change has occurred. See "Configuring the SMTP Server for a domain" (page 183).

—End—

Configure failover on the Path Test failures of the Managed ELAN IP address

There is a small chance (less than 1%) that the Midnight Audit will trigger a failover because of the very short switch ELAN down time if the High Availability system connects to a Meridian 1 51/61/81 switch instead of Meridian 1 Option 11C. Use the following procedure to configure failovers on the Path Test failures of the Managed ELAN IP address.

Configuring failovers on the Path Test failures of the Managed ELAN IP address

Step	Action
1	Open the AutoStart Console.
2	Expand **Resource Groups**.
3	Take the CallPilot resource group offline. See "Taking the CallPilot resource group offline" (page 211).
4	For the CallPilot resource group, select the **Settings** tab.
5	Select the **Managed ELAN IP address**. For example, 47.0.30.6 (as shown in the following figure).

Figure 100
Settings tab - Managed ELAN IP address
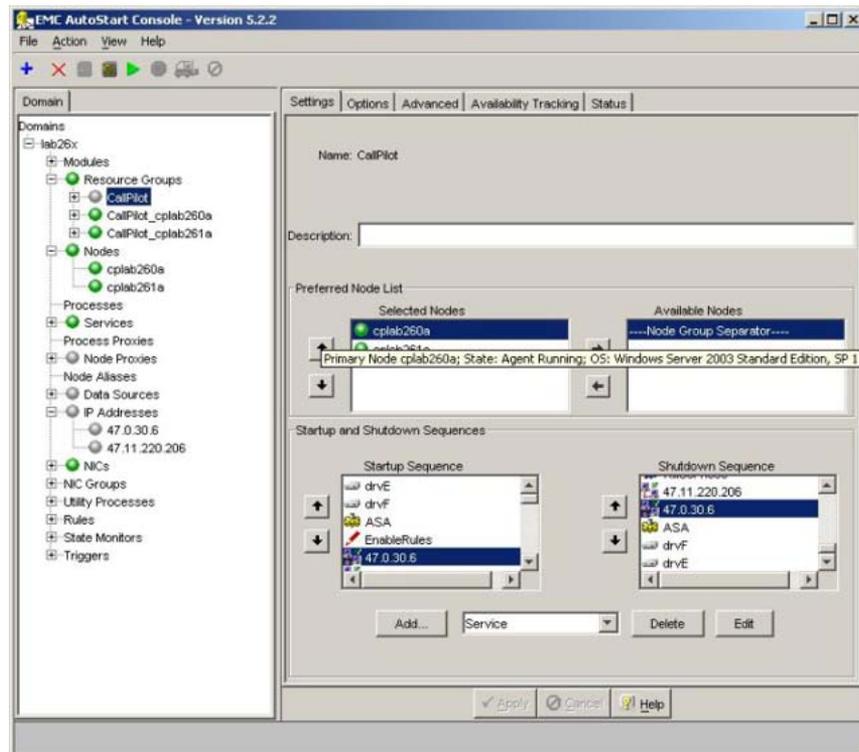
6 Click **Edit**.

Result: The IP Address Properties window appears.

Figure 101
IP Address Properties

7 Select the check boxes for both of the following options:

- **Relocate Resource Group on Path Failed State**

  • **Relocate Resource Group on Unassigned State**

8 Click **Apply**.

9 Click **Apply** again on the Settings tab.

—End—

License administration

During the installation process, the AutoStart software is configured to use an AutoStart license key that is provided by Nortel with the CallPilot software. Use the following procedure to update the license key.

Updating the license key

Step	Action

1 On the CallPilot server, click **Start > Programs > EMC AutoStart Console > EMC AutoStart Console 5.2** to start the AutoStart Console.

Result: The AutoStart Console appears.

2 On the AutoStart Console window, click **Domains > [AutoStart_Domain]**.

3 Select the **Licensing/Security** tab.

4 In the **New License Key** field, enter the new license key.

Figure 102
Licensing/Security tab - New License Key
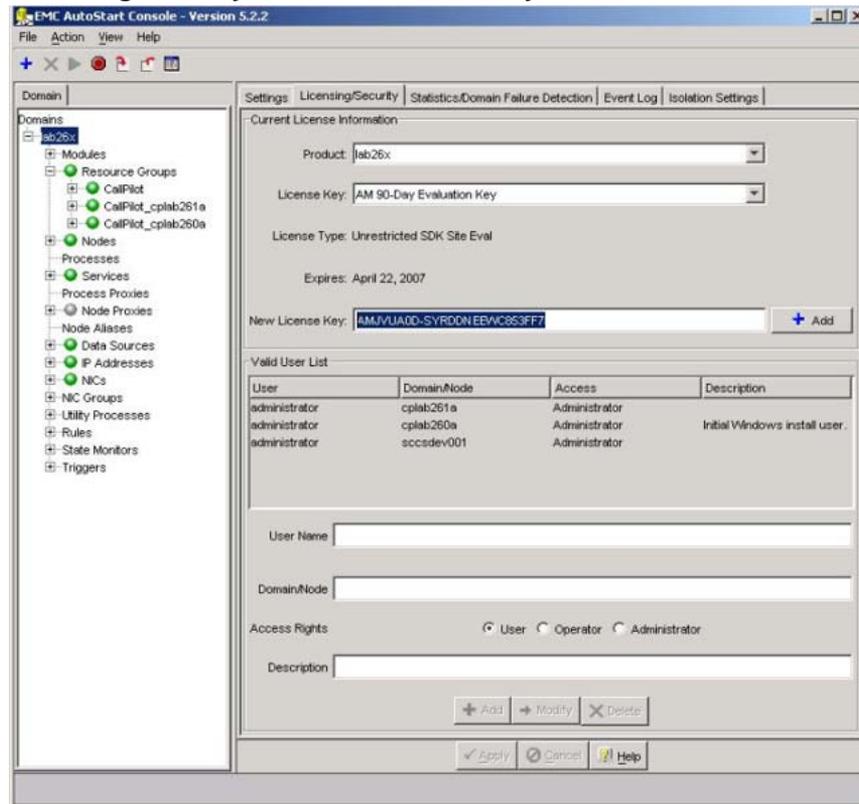
5 Click **Add**.

> **Result:** The new license key is added to the list in the License Key field.

6 From the **License Key** list, select the newly entered license key.

7 Click **Apply**.

—End—

Check the status of the servers and failovers using AutoStart

Use the following procedures to check the status of the following:

- Server and failover status

- HB1, HB2, and Mirroring link status

Checking the status of the servers and failovers

Step	Action
1	On the Console window, expand **Domains > [AutoStart_Domain] > Resource Groups > CallPilot**.
2	Select the **Status** tab.

Figure 103
Status tab
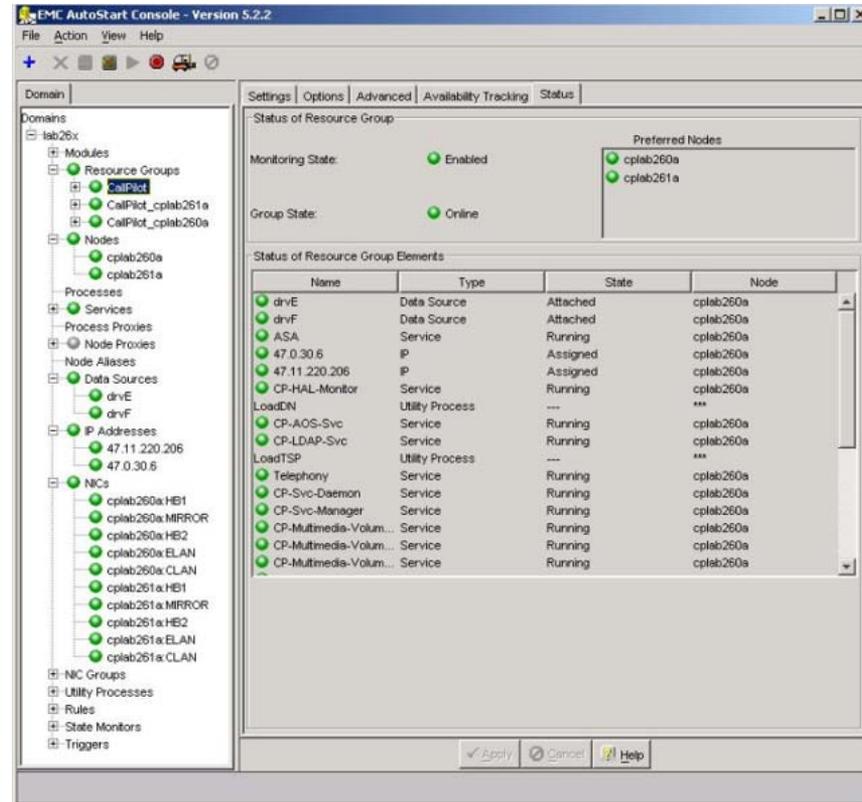
Result: The fields in the Status of Resource Group area show the status of the system. The AutoStart Console users both icons and text to show system status (as described in the following two tables).

Table 8
Status of Resource Group fields

Field name	Status	Description
Monitoring State	Enabled	Automatic failover is enabled.
	Disabled	Automatic failover is disabled.
	Unknown	AutoStart is unable to determine the failover status.

Field name	Status	Description
Group State	Online	All resources under the current group on the current active server are up and working.
	Offline	All resources under the current group on the current active server are down.
	Online pending	Some resources under the current group on the current active server are up; however, some services are in either starting or stopping status.
Preferred Nodes		This area shows all the CallPilot servers and their overall status.

Status icons are displayed for each object to indicate the status of the object. The color of the icon describes the state of the object.

Table 9
Light status

Light	Status
Green	The object is online and in a working state.
Blue	The object is in a starting state.
Yellow	The object is in a warning state.
Yellow with a question mark	The object is entering warning state.
Red	The object has failed.
Red with a question mark	The object is failing.
Gray	The object is offline.

In the **Status of Resource Group Elements** area, the **Node** column shows on which server the CallPilot services are up and working. Usually this column shows one CallPilot server node name (active CallPilot server name) for all the resource group elements (although the node names do not have to be the same).

—End—

Checking the status of the HB1, HB2, and Mirroring links

Step	Action

1 On the AutoStart Console, expand **Domain > [AutoStart_Domain] > NICs**.

Figure 104
NICs

2 View the information in the right pane to check the status of the HB1, HB2, and Mirroring links. The status of the CLAN and ELAN is also displayed.

—End—

Import and export of the AutoStart Definition file

As part of the AutoStart configuration, the administrator imports the customized AutoStart Definition file on the AutoStart Console. It is also possible to export the AutoStart configuration data into a definition file as a backup after the AutoStart configuration. This section describes the procedures for importing and exporting the AutoStart Definition file.

Importing the AutoStart Definition file

Step	Action

1 On the AutoStart Console window, expand **Domains**.

2 Right-click the **[AutoStart_Domain]** and select **Import Domain Information** from the shortcut menu.

Figure 105
Import Domain Information
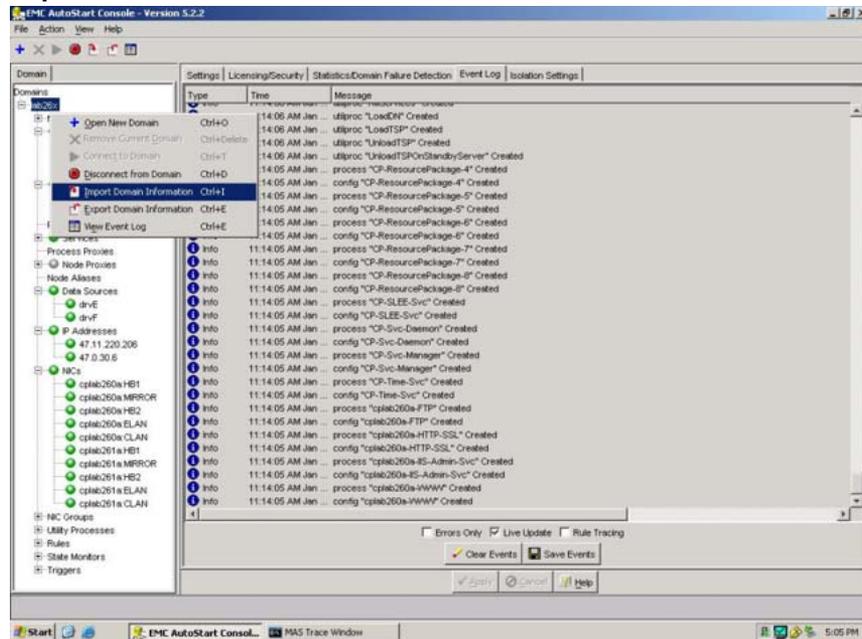
Result: The Import dialog box appears.

Figure 106
Import dialog box
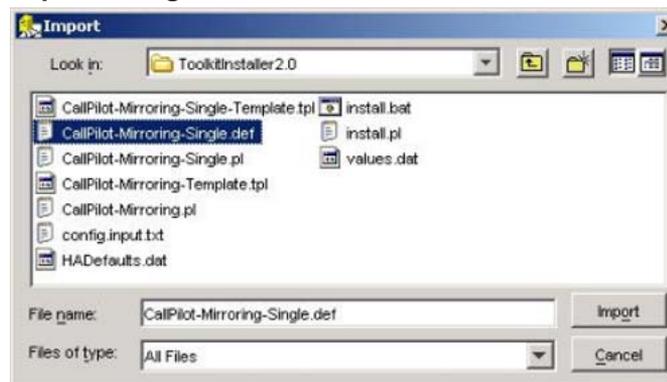
3 Navigate to the **D:\Nortel\HA\ToolkitInstaller2.0** folder (if that folder is not already open by default).

4   Select one of the following AutoStart definition files:

- **CallPilot-Mirroring-Single.def** (for systems with one MPB96 board)

- **CallPilot-Mirroring.def** (for systems with three MPB96 boards)

5   Click **Import**.

Result: The import process takes up to one minute to complete.

—End—

Exporting the AutoStart Definition file

Step   Action

---

1   On the AutoStart Console window, expand **Domains**.

2   Right-click your **[AutoStart_Domain]** and select **Export Domain Information** from the shortcut menu.

Figure 107
Export Domain Information
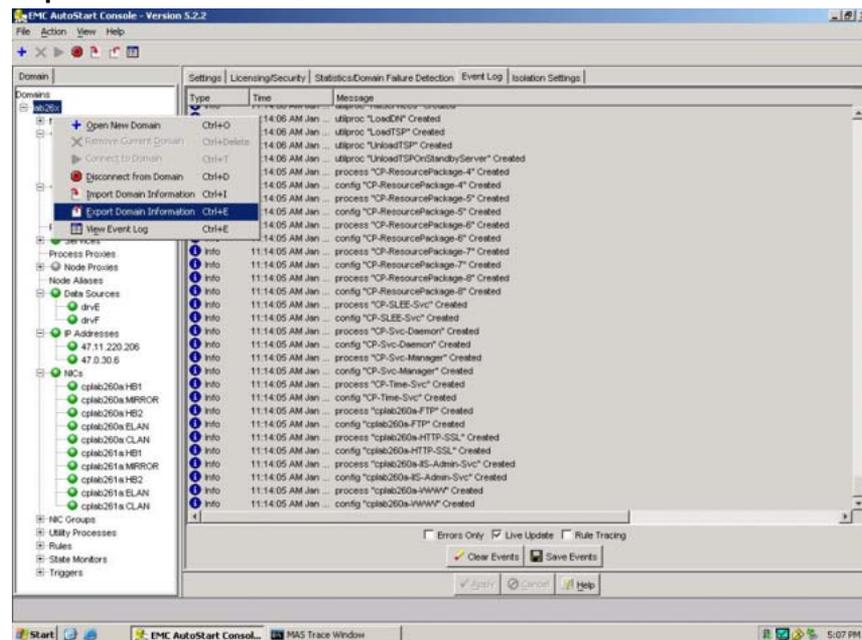
Result: The Export dialog box appears.

Figure 108
Export dialog box

3 Select the location and file name for the new definition file to be
created.

4 Click **Export** to export the AutoStart configuration data into the
new definition file.

—End—

Recreate the AutoStart definition file

Use the following procedure to recreate the AutoStart Definition file. To do
this, you must do the following on the fully configured and running CallPilot
5.0 High Availability system:

- run the High Availability Wizard (HighAvailabilityConfigurationWizard.exe
  under D:\Nortel\HA)

- reimport the new definition file into AutoStart Console (*.def under
  D:\Nortel\HA\ToolkitInstaller2.0)

For example, you must use this procedure after installing the CallPilot 5.0
PEP, which replaces the AutoStart definition template files used to generate
the definition file on the working CallPilot 5.0 High Availability systems.

Recreating the AutoStart definition file

Step	Action
1	Open the AutoStart Console on the High Availability server which had the original definition file previously imported into AutoStart.
2	Take the CallPilot resource group offline (if it is online). See "Taking the CallPilot resource group offline" (page 211).

3   In the left pane of the AutoStart Console, expand **Resource Groups**, right click the **CallPilot** resource group, and then click **Delete Current Resource Group**.

Figure 109
Delete CallPilot resource group
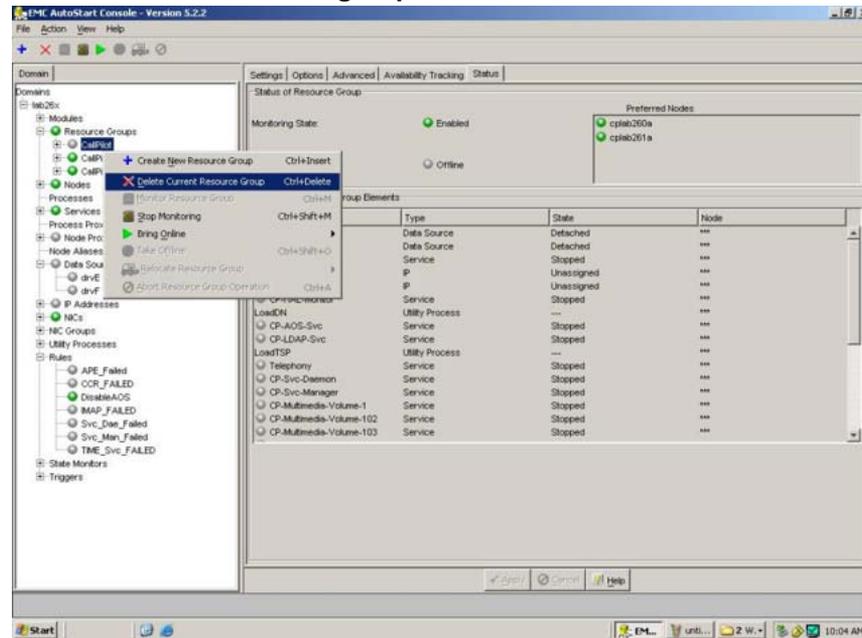
Result: The Confirm Delete of Resource Group window appears.

4   Click **Yes** to confirm the deletion of the CallPilot resource group.

5   In the left pane of the AutoStart Console, expand **Data Sources**, right click **drvE**, and then click **Delete Current Data Source**.

Figure 110
Delete drvE
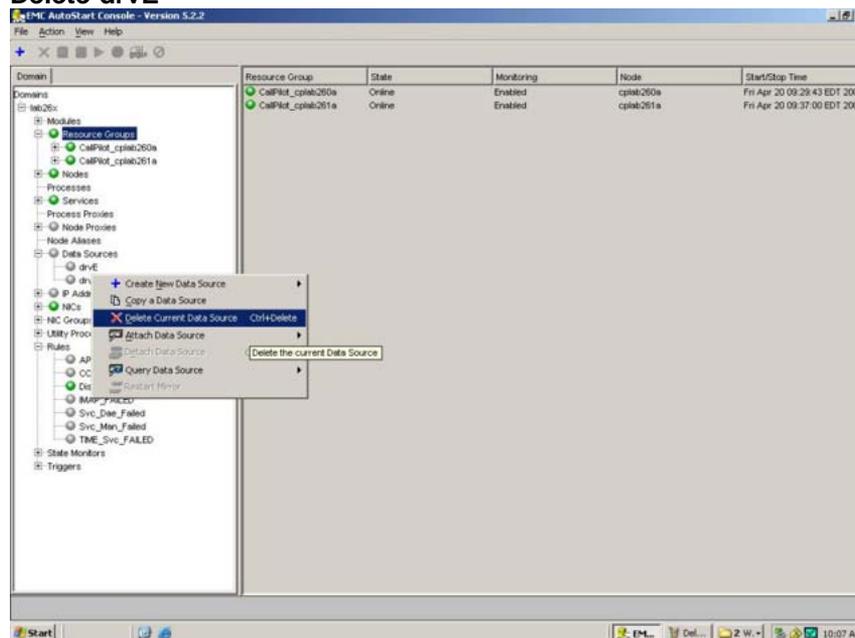
Result: The Confirm Delete of Datasource window appears.

6 Click **Yes** to confirm the deletion of drvE.

7 In the left pane of the AutoStart Console, expand **Data Sources**, right click **drvF**, and then click **Delete Current Data Source**.

Result: The Confirm Delete of Datasource window appears.

8 Click **Yes** to confirm the deletion of drvF.

9 In the left pane of the AutoStart Console, expand **Rules**, right click **DisableAOS**, and then click **Disable Rule** if the rule Disable Rule is enabled (in green).

Figure 111
Disable Rule
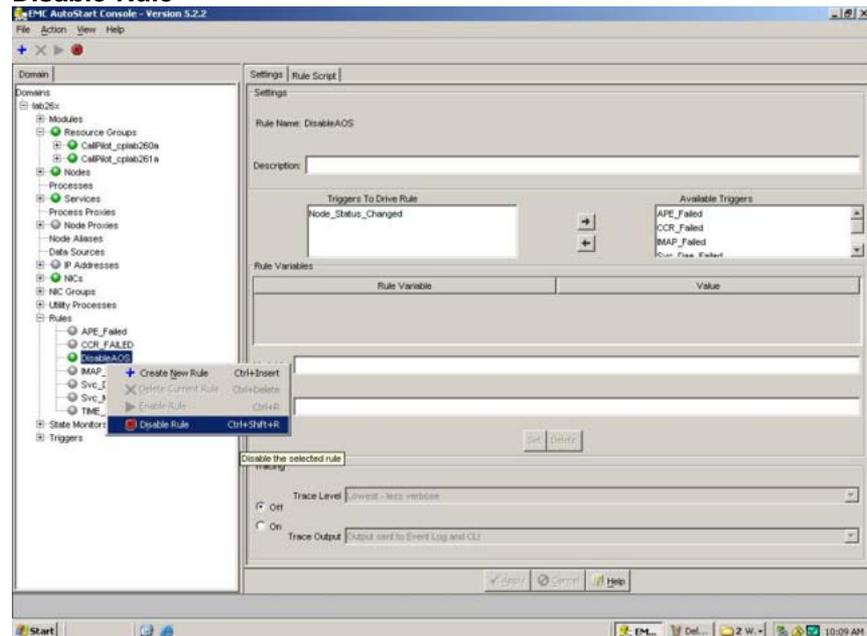
Result: The Confirm Disable of Rule window appears.

10   Click **Yes** to confirm the disabling of the rule.

11   Navigate to D:\Nortel\HA folder.

12   Launch HighavailabilityConfigurationWizard.exe.

Result: The High Availability Configuration Wizard appears.

13   Click the **Reset** button in the High Availability Configuration Wizard.

Note: Do not close High Availability Configuration Wizard at this time. If you close High Availability Configuration Wizard, you must reenter the data requested by the High Availability Configuration Wizard.

14   Click **Step 1: Get Node Information**.

15   Click **Step 2: Validate Node Information**.

Result: The Stage 1 Complete window appears if there are errors.

16   On the Stage 1 Complete window, click **OK**.

17   Close the High Availability Configuration Wizard.

Result: The Confirm Exit Request window appears.

18   Click **Yes**.

19 Navigate to D:\Nortel\HA folder.

20 Launch HighavailabilityConfigurationWizard.exe.

Result: The High Availability Configuration Wizard appears.

21 Click **Step 3: Generate Definition File**.

Result: The Phase 2 Complete window appears when the definition file has been successfully generated.

22 Click **OK**.

23 Close the High Availability Configuration Wizard.

Result: The Confirm Exit Request window appears.

24 Click **Yes**.

25 In the AutoStart Console, right click the **[AutoStart_Domain] name** and then click **Import Domain Information**.

Figure 112
Import Domain Information
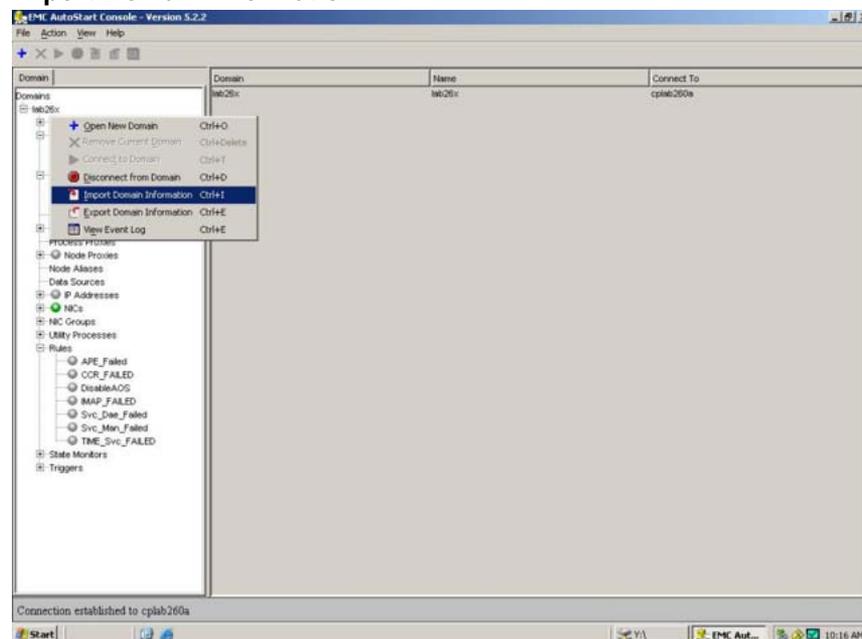
Result: The Import dialog box appears.

26 Under the **D:\Nortel\HA\ToolkitInstaller2.0** folder, select the new definition file, and then click **Import**.

Figure 113
Import dialog box
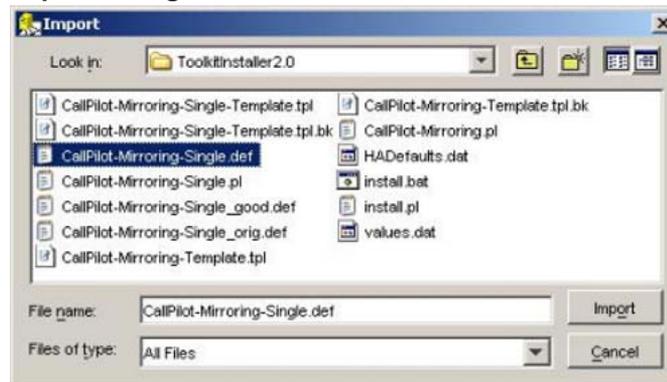
27   Wait for approximately one minute.

28   Verify that the import was successful:

- the drvE and drvF data sources are created.

- the CallPilot resource group is created

- no error message or warning message appears in the information bar at the bottom of the AutoStart Console

Also check that any new items or new settings introduced by the new definition file are created. For example, the new trigger Managed_ELAN_IP_Failure and the new rule Managed_ELAN_IP_Failure_Notif.

Figure 114
Successful import
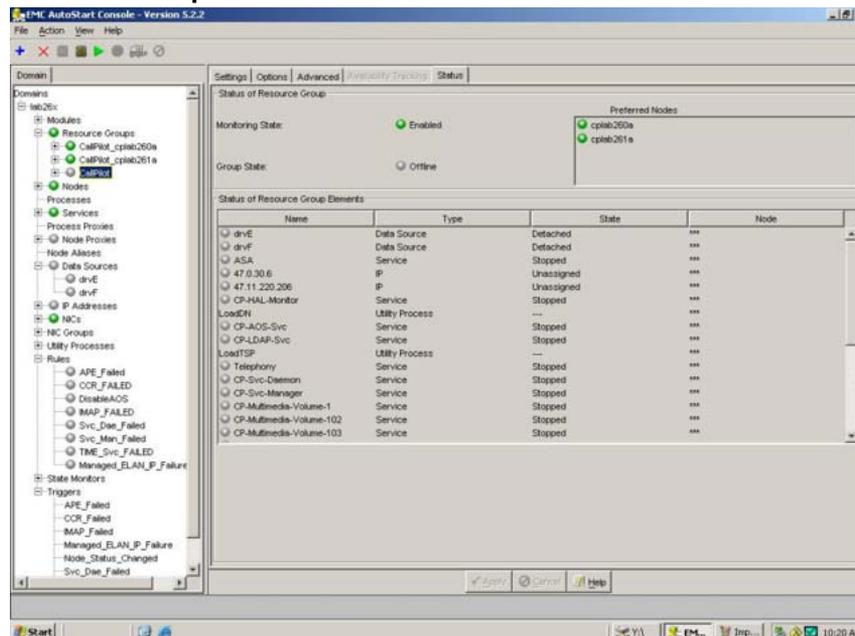
29   In the left pane of the AutoStart Console, expand **Utility Processes**,
and update the **Login Information** (Password, Domain name,
and User name) on the Settings tab of each utility process under
Utility Processes (DisableAOS, KillServices, LoadDN, LoadTSP,
UnloadTSP, and UnloadTSPOnSandbyServer). See "Adding the
Windows administrator account password for the AutoStart Utility
Processes" (page 118).

30   Bring the CallPilot resource group online. See "Bringing the CallPilot
resource group online" (page 209).

—End—

Change the Switch IP address in AutoStart Console

If the switch IP address is changed, you must update the switch IP address
in multiple locations:

- The switch IP address used in NIC Group Test IP on the Testing Options
page of the ELAN NIC group.

- The switch IP address used on the Network Isolation Addresses list on
the Isolation Settings page of the AutoStart domain.

- The switch IP address used in the list IP Addresses to Test on the Network Path Testing page of the Virtual ELAN IP Address (Managed ELAN IP Address) on AutoStart Console.

If the switch IP has to be changed, you must use the following procedure to update the switch IP on a CallPilot 5.0 High Availability system.

Changing the switch IP address

Step	Action

1 Disable the monitoring on the AutoStart Console.

For more information, see "Disabling automatic failovers (stop monitoring)" (page 213).

2 Change the ELAN IP address on the switch.

3 Expand **NIC Groups** on the left pane of the AutoStart Console.

4 Select the NIC group with the ELAN subnet IP address.

5 Click the **Testing Options** tab.

Result: The Testing Options page appears.

6 In the **NIC Group Test IPs** area, select the NIC Group Test IP address that has the old switch IP address.

Figure 115
Testing Option tab
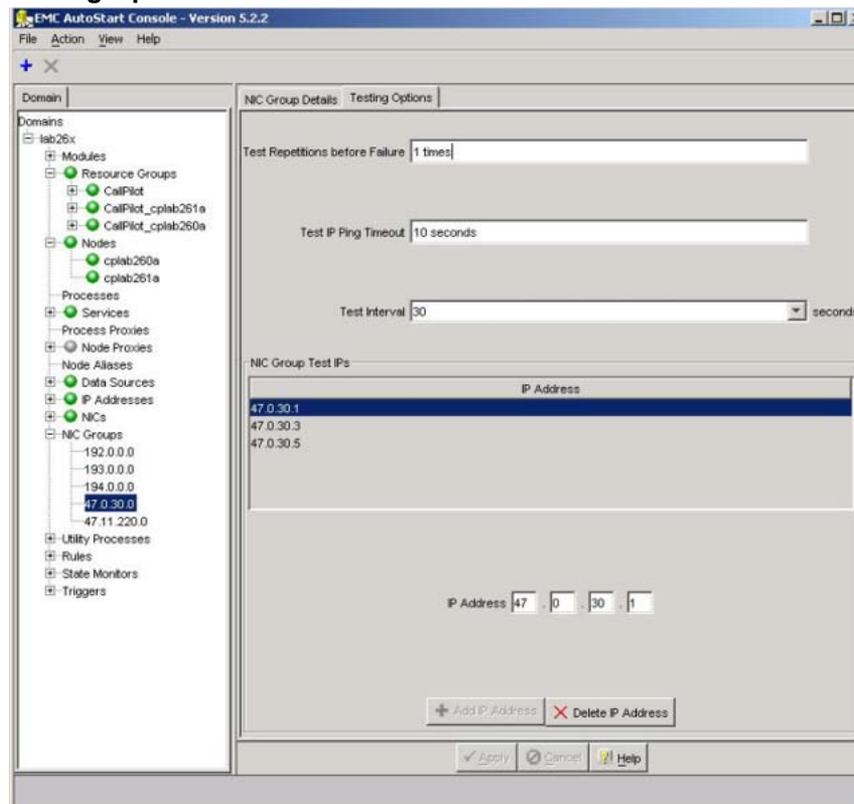
7   Click **Delete IP Address** to delete the old IP address.

8   Enter the new switch **IP Address**.

9   Click **Add IP Address**.

10   Click **Apply**.

11   In the AutoStart Console, select the [AutoStart_Domain].

12   Click the **Isolation Settings** tab.

         Result: The Isolation Settings page appears.

13   In the **Network Isolation Addresses** area, select the old switch IP address from the IP Address list.

Figure 116
Isolation Settings tab
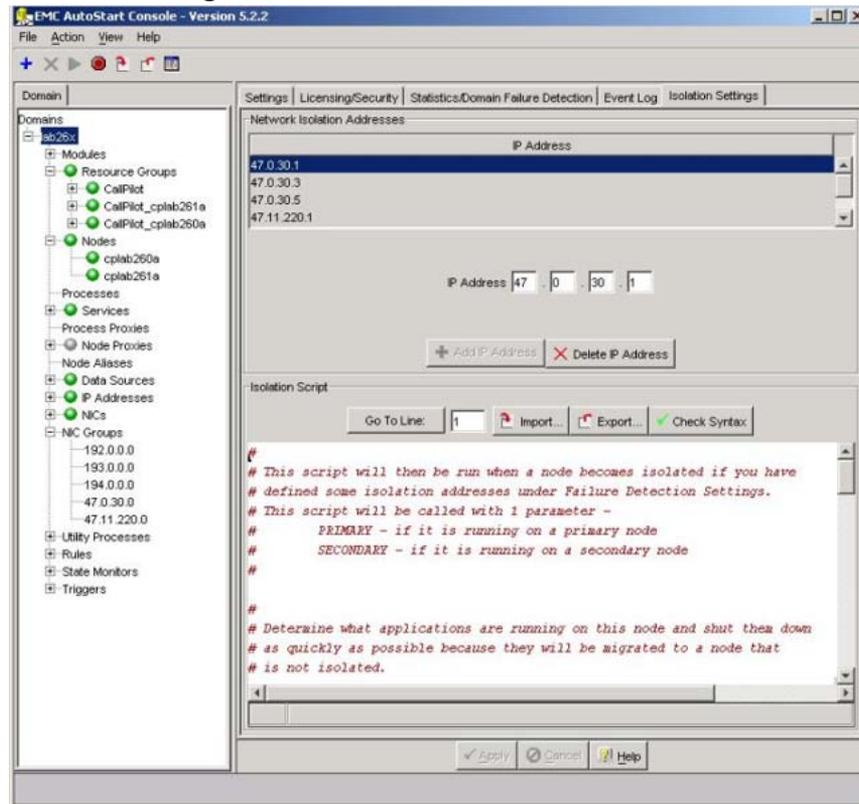
14   Click **Delete IP Address**.

15   Enter the new switch **IP Address**.

16   Click **Add IP Address**.

17   Click **Apply**.

18   In the AutoStart Console, expand **IP Addresses**.

19   Click the IP Address that is the Managed ELAN IP address.

20   Click the **Network Path Testing** tab.

   Result: The Network Path Testing page appears.

21   In the **IP Address to Test** area, select the old switch IP address
   from the IP Address list.

Figure 117
Network Path Testing tab
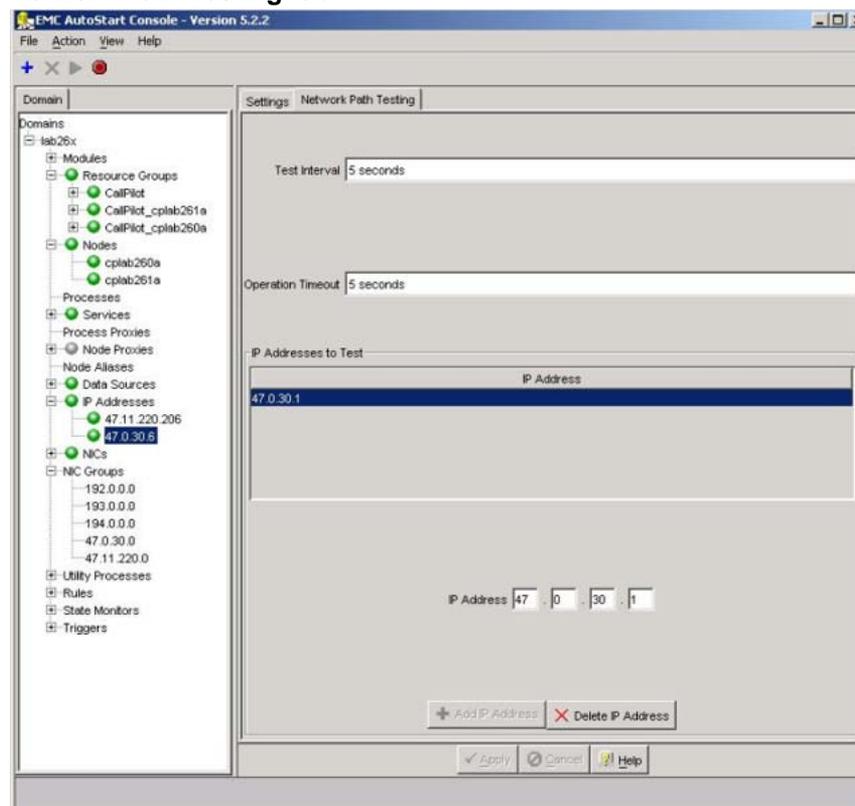
22   Click **Delete IP Address** to delete the old IP address.

23   Enter the new switch **IP Address**.

24   Click **Add IP Address**.

25   Click **Apply**.

—End—

Work with resource groups

A resource group is a collection of resources (such as CallPilot services, disks, scripts) that must be managed as a group.

This section includes the following procedures:

- "Bring a resource group online" (page 209)
- "Take a resource group offline" (page 210)
- "Perform failovers and monitoring" (page 212)

Bring a resource group online

You must bring all the AutoStart resource groups online to make the CallPilot 5.0 High Availability system work after importing the AutoStart definition file (which is imported to configure AutoStart environment).

Use the following procedure to bring a resource group online by bringing the CallPilot resource group online.

Bringing the CallPilot resource group online

Step	Action
1	On the AutoStart Console window, select **Domains > Resource Groups**.
2	Right-click the **CallPilot** resource group.
3	From the shortcut menu, select the **Bring Online** option, and then select the **node name** on which the CallPilot resource group will be brought up.

Figure 118
CallPilot resource group - Bring Online

4 Wait until the **Group State** turns green and shows Online. This can take a few minutes.

Figure 119
CallPilot resource group is online
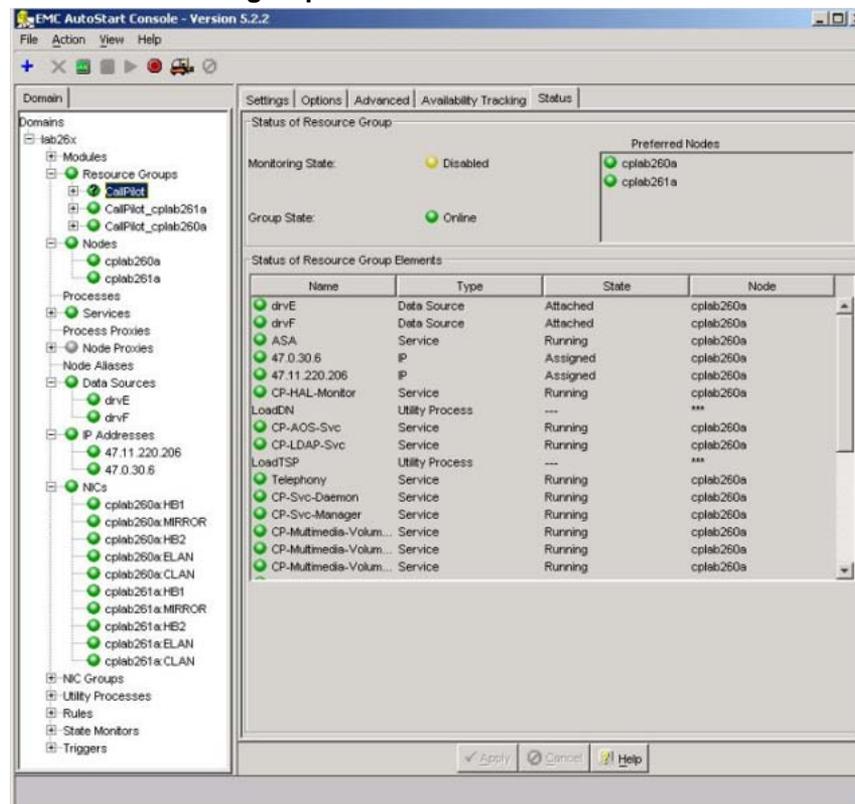
—**End**—

Take a resource group offline

The failover CallPilot resource group CallPilot is occasionally taken offline for maintenance. After the CallPilot resource group is taken offline, the following occurs:

* There is no access to the mirrored drives (that is, no access to the CallPilot database and MMFS volumes).

* All services are stopped.

* The Windows operating system continues to function (along with IIS and WWW).

Use the following procedure to take a resource group offline by taking the CallPilot resource group offline.

Taking the CallPilot resource group offline

Step	Action

1 On the AutoStart Console window, select **Domains > Resource Groups**.

2 Right-click the **CallPilot** resource group.

3 From the shortcut menu, select the **Take Offline** option.

Figure 120
CallPilot resource group - Take Offline

4 Wait until the Group State turns gray and shows Offline. This can take a few minutes.

Figure 121
CallPilot resource group is offline
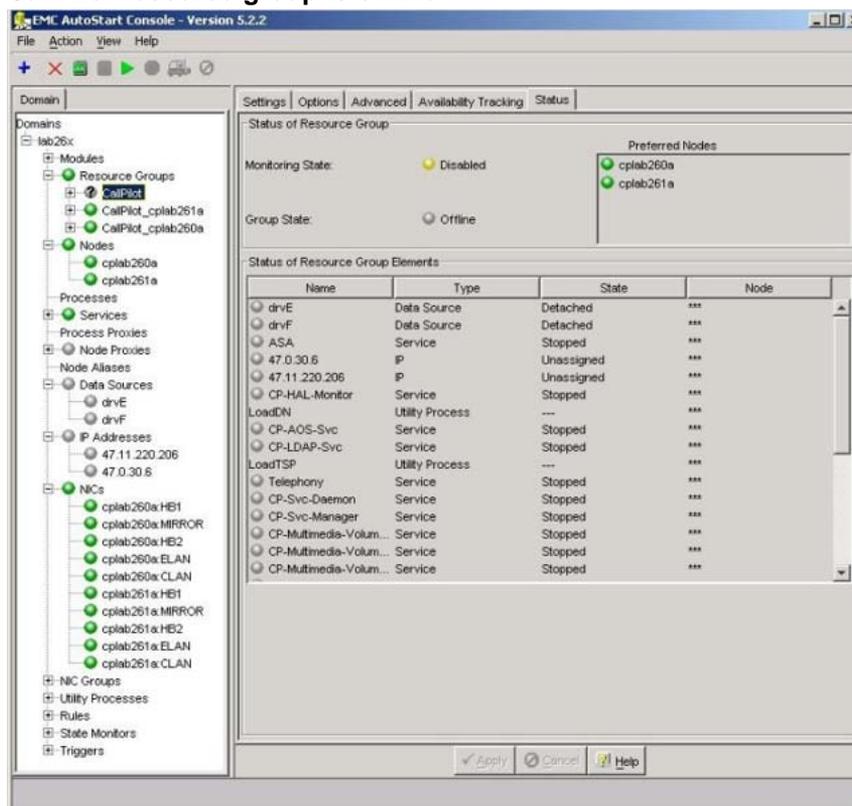
—End—

Perform failovers and monitoring

Use the procedures in this section to enable and disable automatic failovers, and to initiate a manual failover.

Automatic failovers

When performing maintenance on the active or standby server, it can be necessary to temporarily disable automatic failovers from the active to the standby CallPilot server. You can later enable the automatic failover.

Using the AutoStart console software, you can disable and enable automatic failovers by performing the following procedures.

Disabling an automatic failover is the same as stopping monitoring, and enabling an automatic failover is the same as starting monitoring.

Disabling automatic failovers (stop monitoring)

Step	Action

Assumption: This procedures assumes that automatic failovers are currently enabled.

1   On AutoStart Console window, expand **Domains > [AutoStart_Domain] > Resource Groups** and then select **CallPilot**.

2   Click the **Status** tab.

3   Right-click **Resource Groups > CallPilot**.

4   From the shortcut menu, select **Stop Monitoring**.

Figure 122
Stop Monitoring
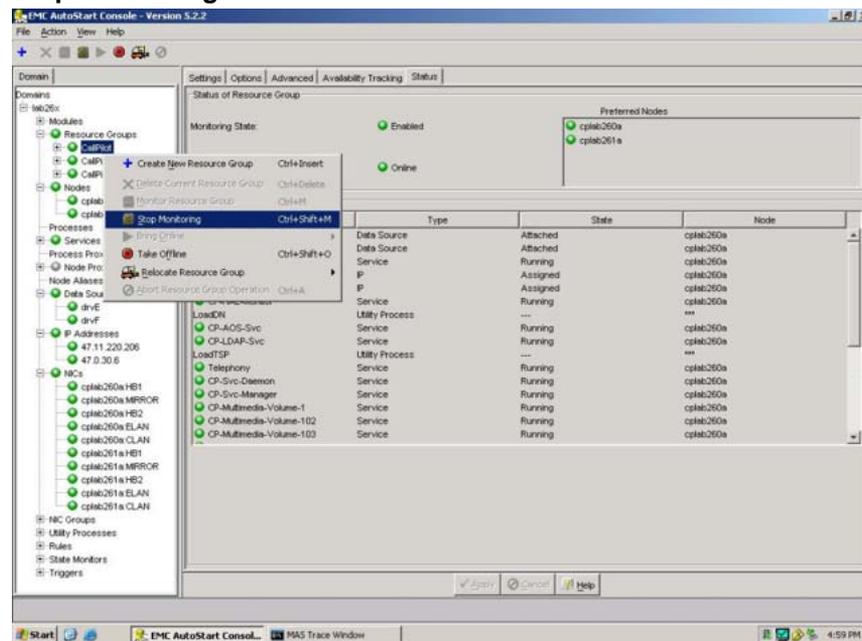
Result: On the Status tab, the **Monitoring State** turns to yellow and shows a status of Disabled. On the Domains pane, the **Resource Groups > CallPilot** changes to a green light with a black question mark. The automatic failover is disabled.

—**End**—

Enabling automatic failovers (start monitoring)

Step	Action

Assumption: This procedure assumes that automatic failovers are currently disabled.

1 On the AutoStart Console window, expand **Domains > [AutoStart_Domain] > Resource Groups** and then select **CallPilot**.

2 Click the **Status** tab.

3 Right-click **Resource Groups > CallPilot**.

4 From the shortcut menu, select **Monitor Resource Group**.

Figure 123
Monitor Resource Group

Result: On Status tab, the **Monitoring State** turns to green and shows a status of Enabled. On the Domains pane, the **Resource Groups > CallPilot** changes to green. The automatic failover is enabled.

—End—

Manual failovers

If you are the administrator, you can perform a manual failover if there is a problem on the active CallPilot server that is not detected by the automatic failover rules.

Initiating a manual failover

Step	Action

1   On the AutoStart Console window, expand **Domains > [AutoStart_Domain] > Resource Groups** and then select **CallPilot**.

2   Click the **Status** tab.

Result: The Status tab shows the status of the Resource Groups. For this procedure, the CallPilot server cplab261a is used as an example. Notice that this server is active (green and shows Online).

3   Right-click **Resource Groups > CallPilot**.

4   On the shortcut menu, select **Relocate Resource Group**, and then select the **<standby CallPilot server>**. (This server is the standby CallPilot server.)

Figure 124
Status tab
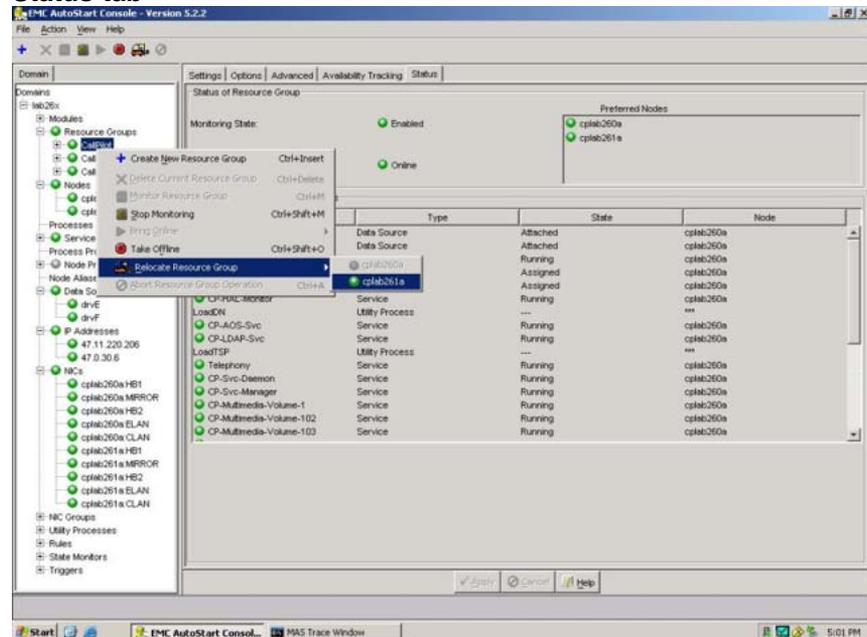
Note: This action stops the CallPilot services on the active server. This action also puts the standby server in service (that is, makes it the active server).

Result: The Confirm Relocated of Resource Group dialog box appears.

Figure 125
Confirm Relocate of Resource Group
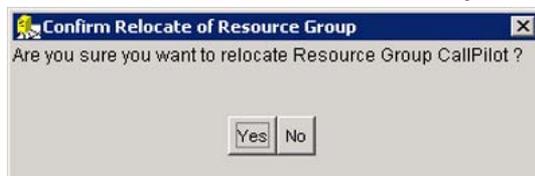
5 Click **Yes**.

Result: The failover starts in seconds. It takes more than 10 minutes to finish the failover to the standby server if the CallPilot Diagnostic Tools are enabled, or less than 5 minutes if the CallPilot Diagnostic Tools are disabled. (Start > Programs > CallPilot > System Utilities > Diagnostic Tools)

—End—

Software operations

Use the following procedures to install, uninstall, and reinstall the EMC AutoStart software.

- "Install the AutoStart Console on a stand-alone PC" (page 216)
- "Uninstall the AutoStart software" (page 228)
- "Reinstall the AutoStart software" (page 234)
- "EMC software updates (AutoStart Agent/Console)" (page 235)

Install the AutoStart Console on a stand-alone PC

The AutoStart Console is used to administer the AutoStart Agent that provides the mirroring and heartbeat signals between the active and standby CallPilot servers. The AutoStart Console also provides the managed (virtual) IP service that is used on the CLAN and ELAN to mask the fact that there are two different servers.

By default, the AutoStart Console software is installed on both CallPilot servers. However, it is possible to install the AutoStart Console software on a stand-alone PC.

After the AutoStart Console is installed on a stand-alone PC, it can be used to manage multiple pairs of CallPilot High Availability servers (that is, multiple AutoStart domains). Use the following procedure to install the AutoStart Console software on a stand-alone PC for administration of the Nortel server subnet (CLAN).

Installing the AutoStart Console on a stand-alone PC

Step	Action

1 Insert the **CallPilot Application CD**.

2 Navigate to the **Z:\EMC** folder on the CallPilot Application CD.

3 Double-click the **EAS522_WIN-x86.exe** file to start the installation.

Result: The InstallShield Wizard dialog box appears and informs you that the AutoStart 5.2.2 software requires that the Microsoft .NET Framework be installed before installing the AutoStart Software.

Figure 126
Pending install of Microsoft .NET Framework
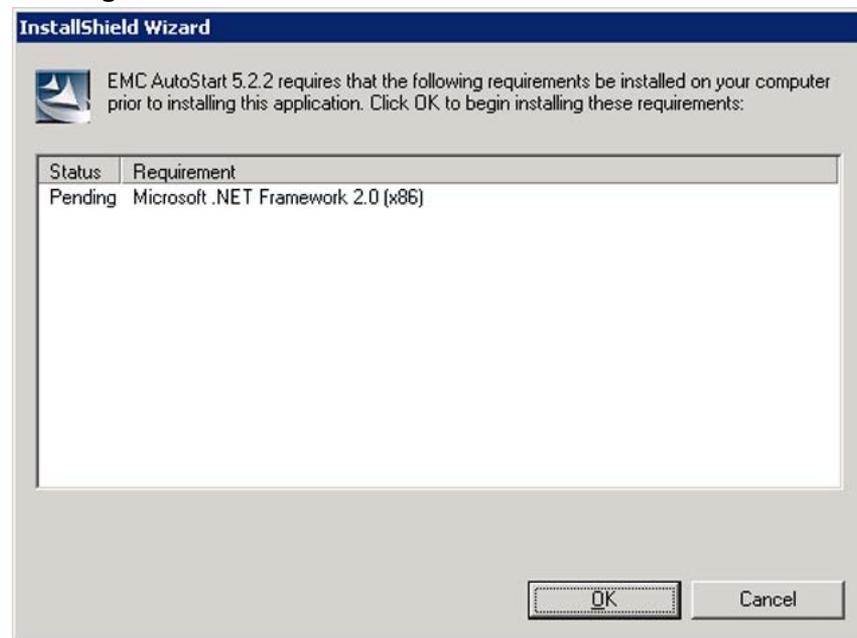
4 Click **OK**.

Result: The InstallShield Wizard extracts the files and then automatically installs the Microsoft .NET Framework.

Figure 127
Extracting Microsoft .NET Framework files
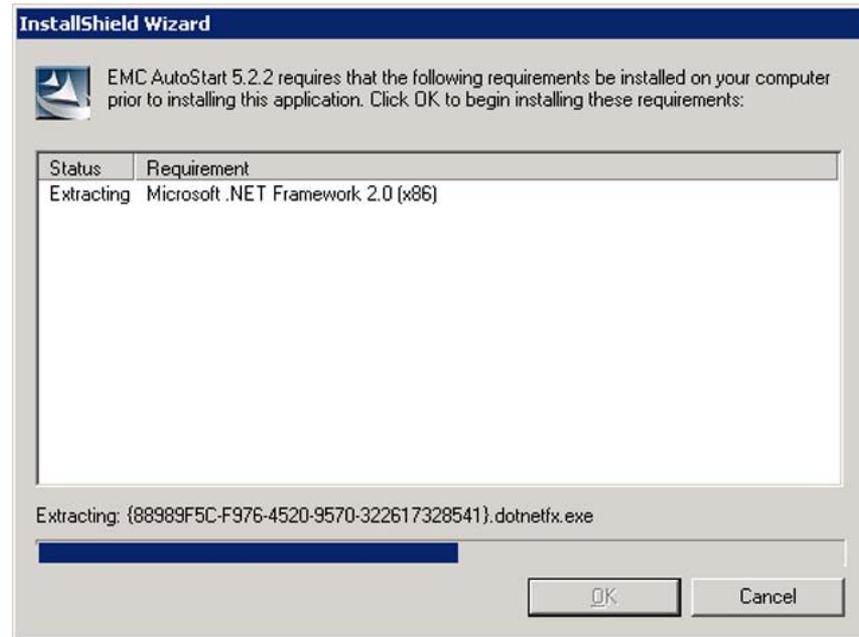
Figure 128
Installing Microsoft .NET Framework
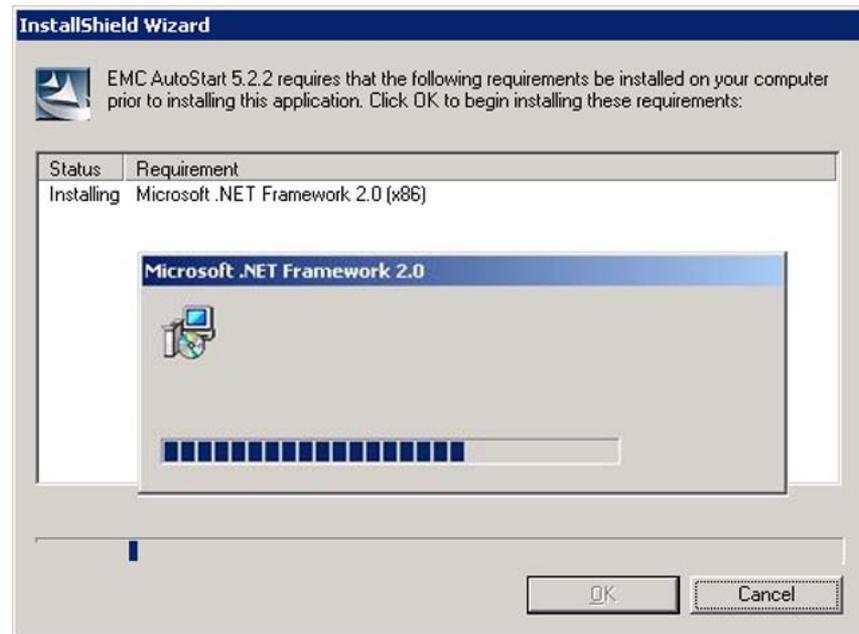
5   Wait while the InstallShield Wizard installs the Microsoft .NET
         Framework.

Result: The InstallShield Wizard informs you that the AutoStart 5.2.2 software is preparing to install. (This install preparation can take a few minutes.) The Setup Type window then appears.

Figure 129
InstallShield Wizard - Preparing to install the AutoStart 5.2.2 software

Figure 130
Setup Type
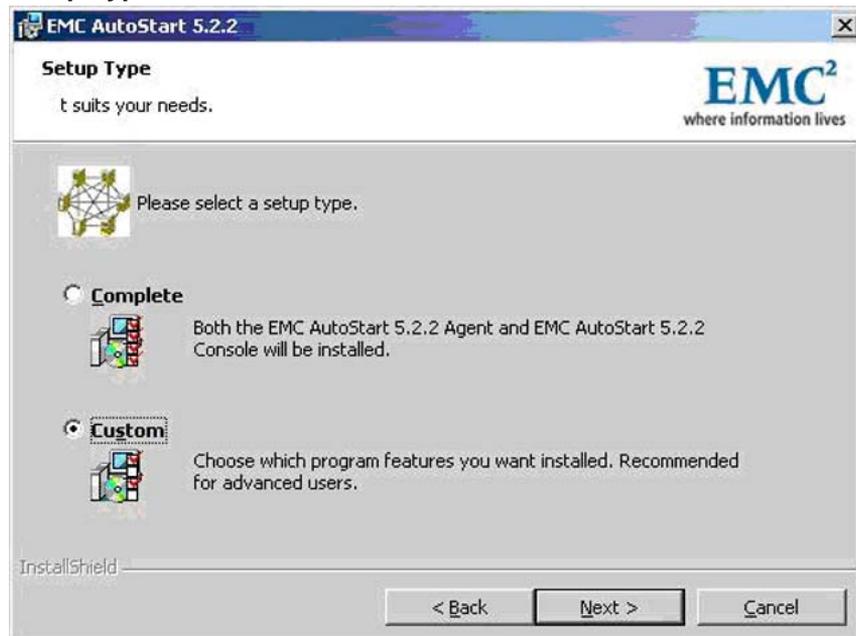
6   Select the **Custom** option.

7   Click **Next**.

Result: The Custom Setup window appears.

8   Click the **Agent** drop-down list and then select **This feature will not be available**.

Figure 131
Custom Setup
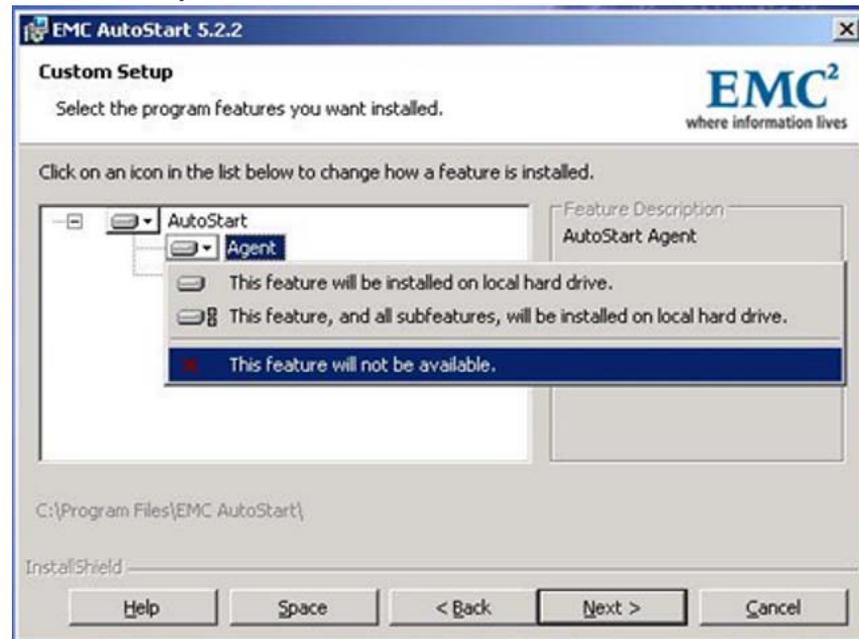
Result: The Custom Setup window shows a red X next to the Agent
option.

Figure 132
Agent will not be installed
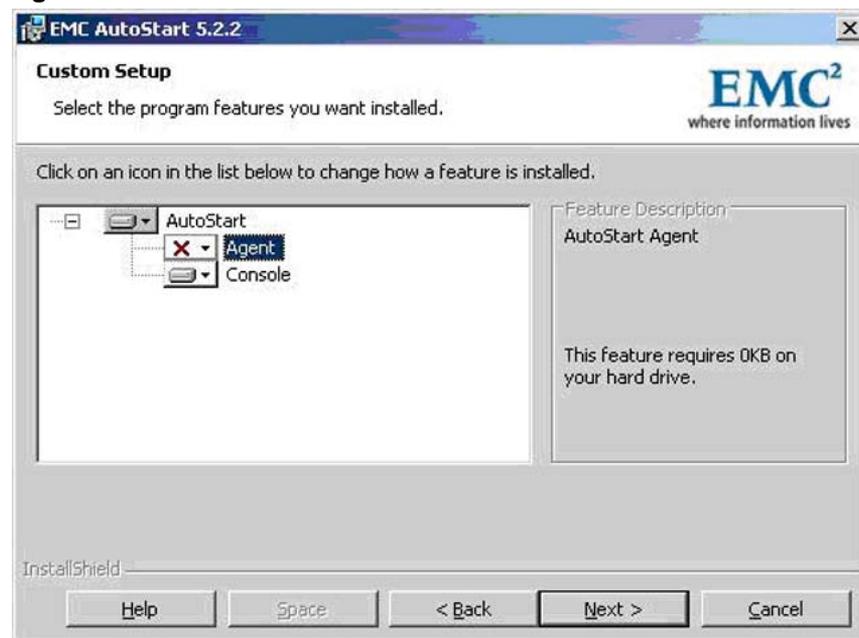
9 Click **Next**.

Result: The Destination Folder window appears.

Figure 133
Destination Folder

10   Click **Change** and change the drive letter from C to D (if required).

11   Click **Next**.

Result: The Confirm Settings window appears.

Figure 134
Confirm Settings
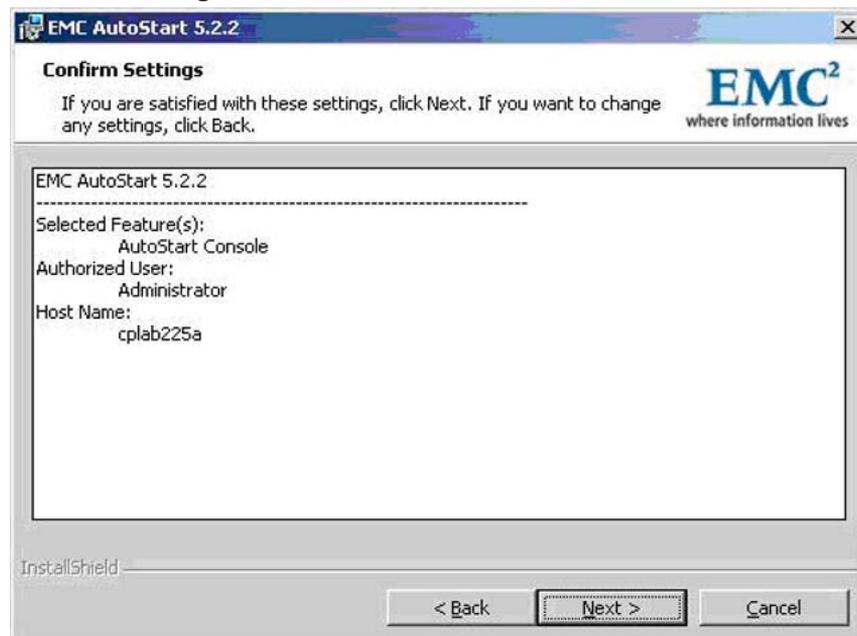
12 Click **Next**.

Result: The Ready to Install the Program window appears.

Figure 135
Ready to Install the Program
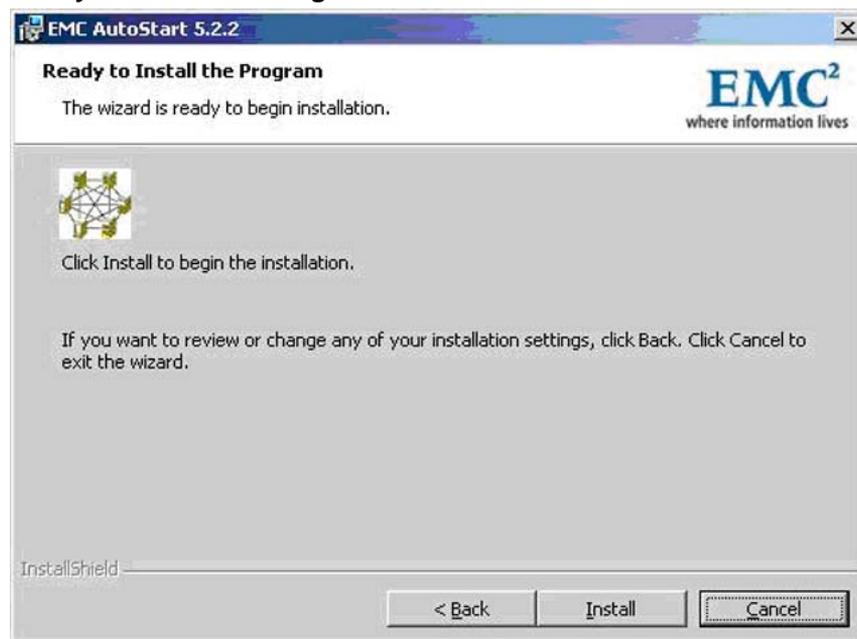
13   Click **Install**.

Result: The Installing EMC AutoStart 5.2.2 window appears.

Figure 136
Installing EMC AutoStart 5.2.2
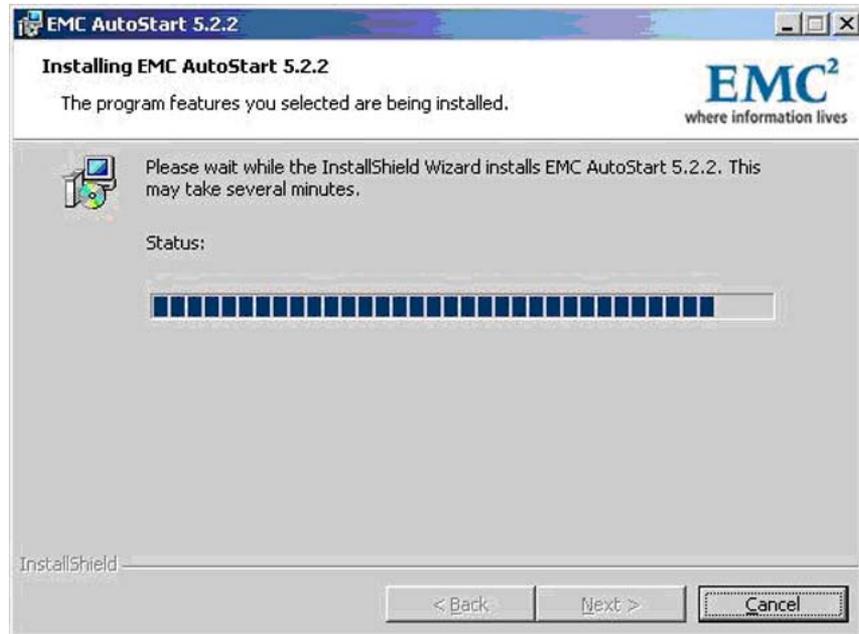
14   Wait for the installation to complete.

Result: The InstallShield Wizard Completed window appears.

Figure 137
InstallShield Wizard Completed with check box selected

15 Clear the **Check for program updates now** check box.

Figure 138
InstallShield Wizard Completed with check box cleared

16 Click **Finish**.

—**End**—

In order for the AutoStart Console (on the stand-alone PC) to manage an AutoStart domain (that is, a pair of CallPilot High Availability servers), the user ID used to log on to the stand-alone PC must be registered in the AutoStart domain that is to be managed. To do this, you must do the following:

1. Add the user ID into the Valid User List of the AutoStart domain on the AutoStart Console installed on one of the High Availability servers. For more information, see "Adding a user ID to the AutoStart domain" (page 225).

2. After the user ID is registered, create a connection to the pair of High Availability servers by launching the AutoStart Console on the stand-alone PC and enter the AutoStart domain name and node names. For more information, see "Adding a remote AutoStart domain to the AutoStart Console" (page 227).

Adding a user ID to the AutoStart domain

Step	Action
1	Launch the AutoStart Console on either of the two servers that are members of the AutoStart domain.
2	Expand **Domains**.
3	Select the **Licensing/Security** tab.

Figure 139
Licensing/Security tab
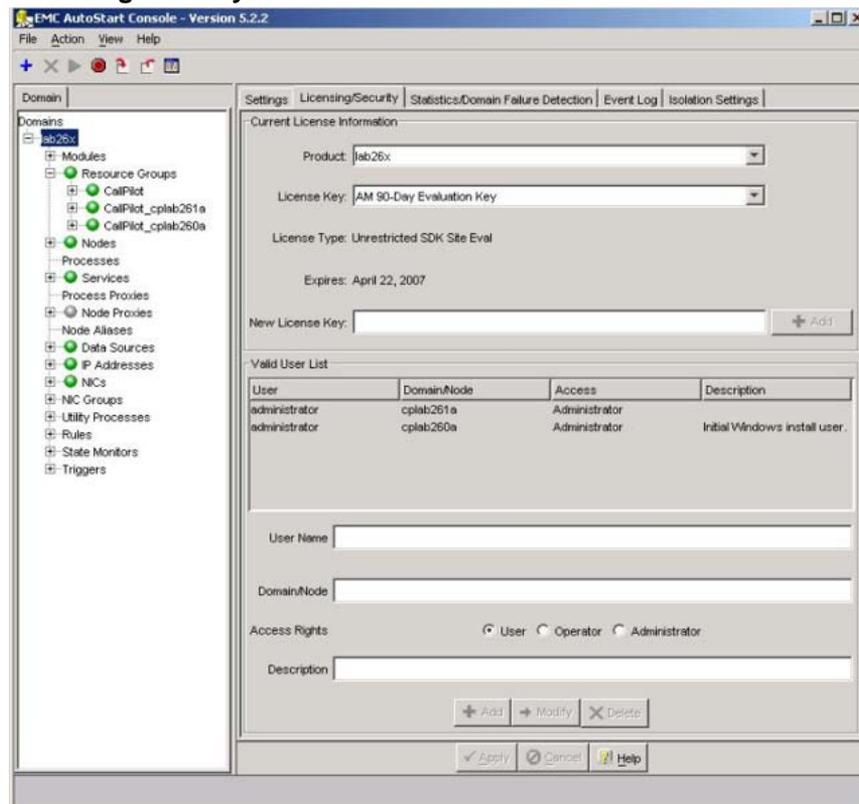
4   In the **User Name** field, enter the user ID of the user who must be given access to the AutoStart domain.

5   In the **Domain/Node** field, enter one of the following:

   •   The Windows domain name, if the user has a Windows domain user ID.

   •   The server name that the user ID is defined on, if the user is not a member of a Windows domain.

6   For the Access Rights field, select either the **User**, **Operator**, or **Administrator** option.

7   Click **Add**.

Figure 140
Add user
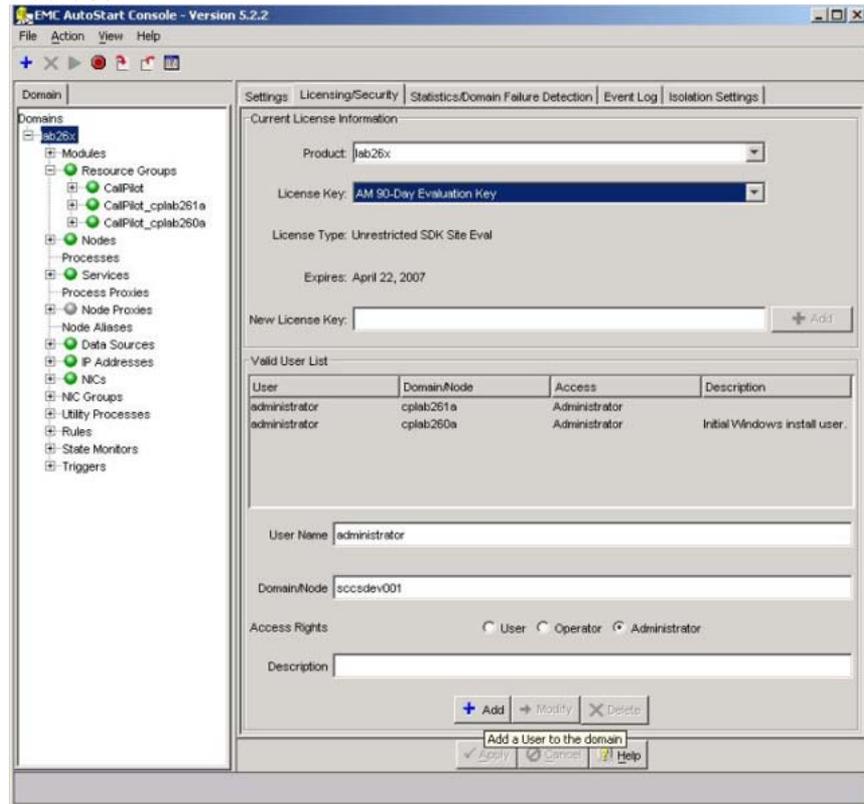
Result: The user is added to the Valid User List.

—End—

Adding a remote AutoStart domain to the AutoStart Console

Step	Action

1 Launch the AutoStart Console that is installed on the stand-alone PC.

Result: The New Domain dialog box appears.

Note: If the AutoStart Console does not launch automatically, select **Action > Open New Domain** to display the New Domain dialog.

Figure 141
New Domain

2 In the **Domain Name** field, enter the name of the AutoStart domain to which you want to connect.

3 In the **Node List** field, enter a comma-separated list of the two node names that are members of the AutoStart domain to which you want to connect.

4 Click **Apply**.

Result: The AutoStart Console window updates and the newly added AutoStart domain is connected using the user ID that is currently logged on to the stand-alone PC.

—End—

Uninstall the AutoStart software
Use the following procedure if you must uninstall the AutoStart software.

Uninstalling the AutoStart software

Step	Action

1   Launch the AutoStart Console.

2   In the AutoStart Console, take the CallPilot resource group offline.

        For more information, see "Take a resource group offline" (page 210).

3   Remove the CallPilot resource group by doing the following:

        a. Right-click the CallPilot Resource group.

        b. Select **Remove Current Resource Group**.

4   Delete the data sources (that is, drive E and drive F).

5   Close the AutoStart Console.

6   Click **Start > Settings > Control Panel**.

7   Double-click the **Add/Remove Programs** icon in the Control Panel.

        Result: The Add or Remove Programs window appears.

8   Scroll down and select **EMC AutoStart 5.2.2** from the list.

        Figure 142
        Add or Remove Programs - EMC AutoStart 5.2.2
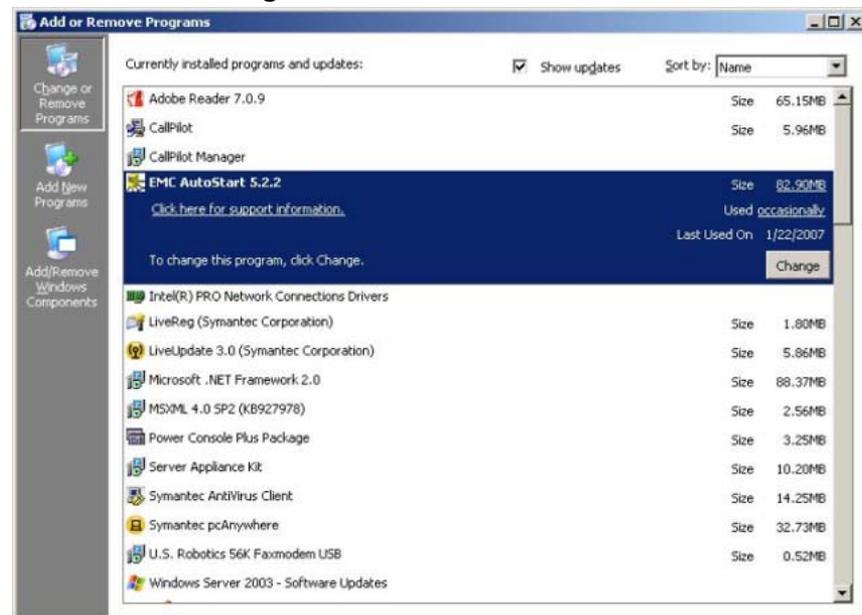
9   Click **Change**.

        The EMC AutoStart 5.2.2 Maintenance Installation window appears.

Figure 143
Welcome window

10 Click **Next**.

Result: The Removal Method window appears.

Figure 144
Removal Method window
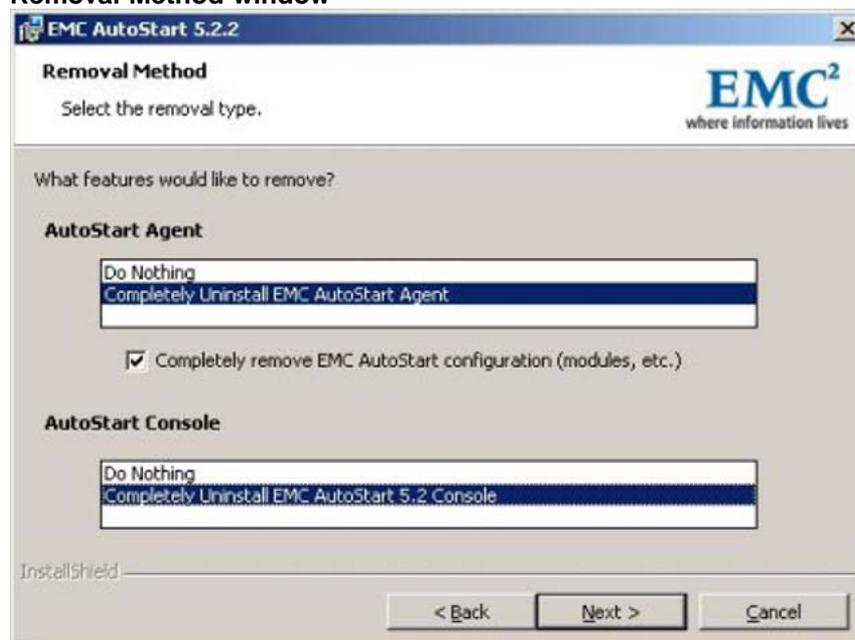
11   In the Removal Method window, select the following:

a. Under AutoStart Agent, select **Completely Uninstall EMC AutoStart Agent**.

Result: The Completely remove EMC AutoStart configuration (modules, etc.) check box appears.

b. Select **Completely remove EMC AutoStart configuration (modules, etc.)** check box.

c. Under AutoStart Console, select **Completely Uninstall EMC AutoStart 5.2 Console**.

d. Click **Next**.

If the AutoStart Console is in use, the following message appears. Click **OK** to dismiss the message.

Figure 145
AutoStart Console in use message

Result: The Remove the Program window appears.

Figure 146
Remove the Program

12 Click **Remove**.

Result: The Stop Services Now? window appears.

Figure 147
Stop Services Now?
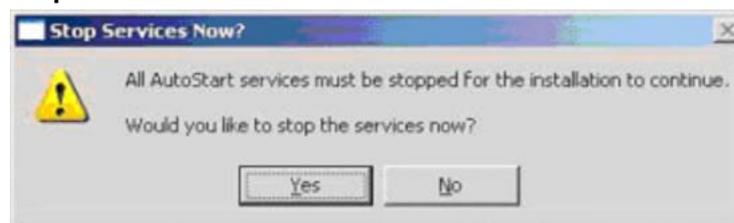
13 Click **Yes** to stop the AutoStart services.

Result: An EMC AutoStart dialog box appears and displays the status of the services being stopped.

Figure 148
Status of uninstallation
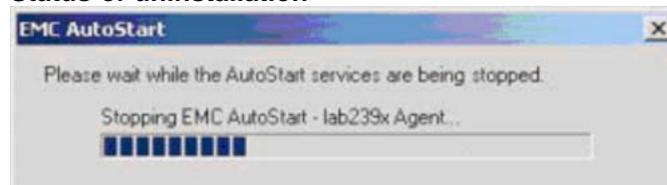
After the services are stopped, the Uninstalling EMC AutoStart window appears and displays the status of the uninstallation of the software.

Figure 149
Uninstalling EMC AutoStart 5.2.2

The InstallShield Wizard Completed window appears after the uninstall process is complete.

Figure 150
InstallShield Wizard Completed

14 Click **Finish**.

Result: The EMC AutoStart 5.2.2 Installer Information dialog box appears.

Figure 151
EMC AutoStart 5.2.2 Installer Information

15 Click **Yes** to restart the node.

—End—

Reinstall the AutoStart software

Use the following procedure if you must uninstall and then reinstall the AutoStart software. This procedure must be completed on both servers in the High Availability pair.

Reinstalling the AutoStart software

Step	Action

This procedure must be used on each node of a CallPilot High Availability pair.

1   Uninstall the AutoStart patches by doing the following:

     a. Rerun each patch.

     b. Select the **Remove** option.

2   Uninstall the AutoStart Console by following the procedure "Uninstalling the AutoStart software" (page 229), which first deletes the AutoStart Data Sources.

3   Reinstall the AutoStart Agent and Console, including their patches. For more information, see "Install the AutoStart Agent and Console software " (page 79).

4   Restart the server.

—End—

EMC software updates (AutoStart Agent/Console)
Nortel must approve all EMC AutoStart updates. Do not apply any software updates unless the update is provided by Nortel. Contact your support organization for more information.

All of the required EMC software is included on the CallPilot 5.0 Applications CD. This version of the EMC software is tested and verified to work correctly with the CallPilot 5.0 High Availability feature. The EMC software on the CallPilot server must not be updated or patched unless the new software or patch is tested and validated by Nortel.

Support
Install PEPs
To ensure that the pair of CallPilot servers functions correctly, both CallPilot servers must be running the same PEPs and Service Updates (SUs). Due to the mirroring software, the mirrored drives cannot be accessed on the standby server. As a result, PEPs that impact the database or MMFS must be installed on the active CallPilot server.

This section includes the procedure for installing PEPs.

Installing PEPs

Step	Action

In this procedure, CP1 is the active server and CP2 is the standby server. This process causes the servers to go out of service while the PEPs are installed.

1   On CP1, do the following:

     a.   Launch the AutoStart Console.

     b.   Stop monitoring.

        For more information, see .

     c.   Take the resource group offline (shutting down CallPilot).

        For more information, see .

     d.   Wait for the CallPilot resource group to go offline.

     e.   Attach the mirror drives (drive E and drive F) to CP1 so that the disks can be accessed from CP1.

        Note: Attaching and detaching drives can take a few minutes.

        i.   In the AutoStart Console, select the **[AutoStart_Domain] > Data Sources**.

        ii.   Right-click the drive you want to connect.

        iii.   Select **Attach Data Source**.

     f.   Install the PEPs.

        Note: The PEP code is enhanced so that it starts any CallPilot services that it needs to have running (for example, the database).

     g.   Detach the data source.

        i.   In the AutoStart Console, select the **[AutoStart_Domain] > Data Sources**.

        ii.   Right-click the drive/data source.

        iii.   Select **Detach Data Source**.

     h.   Restart the server (if required).

Result: CP1 now has the new software, registry settings, and database updates. Because the resource group is offline and monitoring is disabled, CallPilot does not automatically restart after the restart.

2 On CP2, do the following:

a. Launch the AutoStart Console.

b. Attach the mirror drives (drive E and drive F) to CP2 so the disks can be accessed from CP2.

Note: Attaching and detaching drives can take a few minutes.

i. In the AutoStart Console, select the **[AutoStart_Domain] > Data Sources**.

ii. Right-click the drive you want to connect.

iii. Select **Attach Data Source**.

c. Install the PEPs.

Note: The PEP code is enhanced so that it starts any CallPilot services that it needs to have running (for example, the database).

d. Restart the server (if required).

Result: CP2 now has the new software, registry settings, and database updates. Because the resource group is offline and monitoring is disabled, CallPilot does not automatically restart after the restart.

3 On CP1, do the following:

a. Launch the AutoStart Console.

b. Start monitoring (to enable automatic failovers).

For more information, see "Enabling automatic failovers (start monitoring)" (page 214).

c. Bring the resource group online (starting up CallPilot).

For more information, see "Bringing the CallPilot resource group online" (page 209).

Result: Both servers are updated with the PEPs.

—End—

Microsoft Hotfixes

Microsoft Hotfixes generally affect only the base operating system. Hotfixes may or may not require a restart.

- If the hotfix does not require a restart, the hotfix can be installed in parallel on the active and the standby CallPilot servers.

- If the hotfix does require a restart, the installation process requires a failover, which temporarily takes the CallPilot server out of service.

Remote support

USB modem dial-in

CallPilot 5.0 High Availability systems support the PCAnywhere Remote Modem-to-Modem dial-in connection without field assistance. CallPilot 5.0 High Availability systems do not support PCAnywhere Remote TCP/IP because the Routing and Remote Access Services (RRAS) are stopped and their Startup Type is set to Disabled and Manual.

The following diagram shows the remote support setup for High Availability systems.

Figure 152
Remote support setup for High Availability
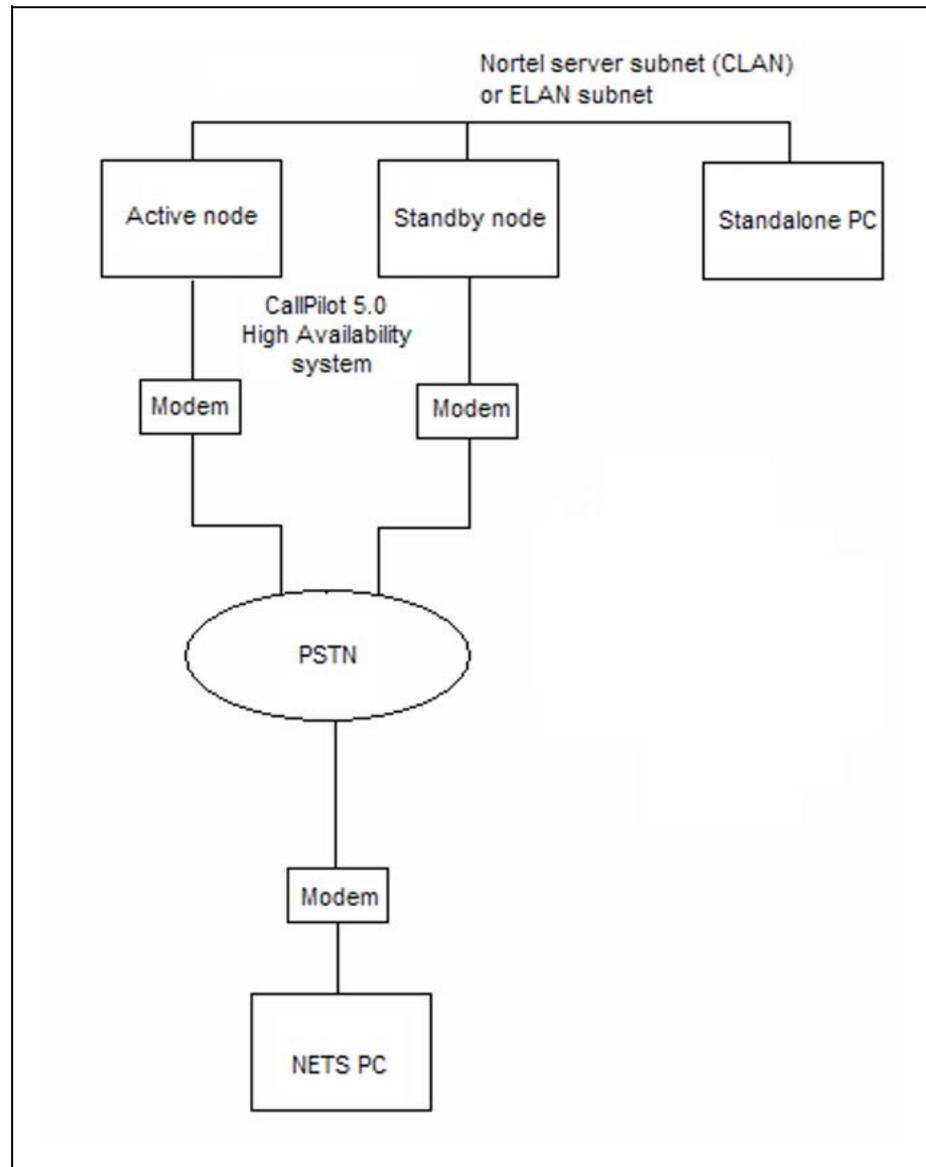
You can dial directly into the active High Availability server (through the USB modem) using PCAnywhere Remote Modem on the remote PC. The PCAnywhere Host on the active High Availability server is launched and is waiting for the incoming modem calls.

However, to dial into the standby High Availability server, you must use the following procedure.

Dialing into the standby High Availability server

Step	Action
1	Dial into the active High Availability server using PCAnywhere Remote Modem.
2	Launch the AutoStart Console.
3	Select **Domains > [AutoStart_Domain] > Utility Processes > UnloadTSPOnStandbyServer**.
4	Right-click **UnloadTSPOnStandbyServer** and then select **Start Utility Process** from the shortcut menu.
5	Select the host name of the standby High Availability server. This utility does the following on the standby High Availability server: • unloads the TSP • stops the PCAnywhere Host • starts the telephony server (TAPI) • restarts the PCAnywhere Host
6	Wait approximately 5 minutes for the script to complete running on the standby High Availability server.
7	Dial into the standby High Availability server using the PCAnywhere Remote Modem.
8	After the dial-in session finishes, the server must be restarted so that the Standby HA server is clean and ready to accept the coming failover.

—End—

If you have to connect or reconnect the USB modem to the active High Availability server after the High Availability system is running (that is, CallPilot is in service [the CallPilot resource group is online]), you must follow one of the following methods to make the PCAnywhere Host launch properly:

Method 1:

1. Take the CallPilot resource group offline. For more information, see "Taking the CallPilot resource group offline" (page 211).

2. Connect the USB modem.

3. Bring the CallPilot resource group online. For more information, see "Bringing the CallPilot resource group online" (page 209).

4. Using **Windows Device Manger**, right click **Modems** and then select **Scan for hardware changes**.

Method 2:

1. Manually trigger a failover by shutting down the server. For more information, see "Initiating a manual failover" (page 215).

2. Using **Windows Device Manger**, right click **Modems** and then select **Scan for hardware changes**.

Remote Access tools
The following tools can be used to access the servers in the CallPilot 5.0 High Availability system:

- WebEx (Customer assistance is required. An Internet Explorer browser security setting must be changed.)

- VPN (Access permission is required.)

- Remote Desktop (Normally blocked by enterprise gateways. Nortel does not recommend this tool to access the active High Availability server.)

- PCAnywhere (Normally blocked by enterprise gateways.)

Backup and restore
For the High Availability system, the backup device must be defined on both the active and the standby servers. If the backup device is not defined and a failover occurs, scheduled backups do not run on the standby server.

If you must remotely connect to CallPilot Manager to perform a backup, Nortel recommends that you use the Managed CLAN host name or the Managed CLAN IP address to connect to a server in the High Availability pair.

On a CallPilot 5.0 High Availability system, use the following procedures to:

- create a backup device

- schedule an archive backup

- perform a full system backup

  Note: The following procedure is not required if you must create a full-system backup to a tape on a CallPilot 5.0 High Availability system. Backing up to tape requires that a tape drive must be physically attached to each High Availability server to ensure that scheduled backups can run after a failover.

Creating a backup device (network disk)

Step	Action

For this procedure, CP1 is the active server and CP2 is the standby server.

1   Ensure that the dongle is on CP1 (which is the active server of the High Availability pair).

2   On CP1, log on to CallPilot Manager.

3   Select **System > Backup/Restore**.

     Result: The Backup/Restore window appears.

4   From the **Select a task** drop-down list, select **Maintain and configure backup devices**.

5   Under Backup Devices, click **Add Device**.

     Result: The Backup Device window appears.

6   On the Backup Device window, do the following:

     a.   Enter a unique **Device Name**.

     b.   Enter the **Path** to the backup device.

     c.   Verify that the **Type** field is set to **Disk**.

     d.   Under the **Connect to network folder as** area, enter the **User name** and **User Password**. Then reenter the password in the **Confirm Password** field.

        This is user name and password to access the path/folder where the backup is located.

     e.   Click **Save**.

        Result: The <Device Name>.dev file is created in the D:\Nortel\Data\backup\Devices folder.

7   On CP1 (the active server), navigate to folder **D:\Nortel\Data\backup**.

8   Right-click the **Devices** folder and select **Sharing and Security**.

     Result: The Devices Properties window opens.

9   Select the **Sharing** tab.

10   Select the **Share this folder** option.

11   Click **Permissions**.

     Result: The Permission for Devices window opens.

12 Enter a **Share name** for the shared folder.

Write down the name of this shared folder as it is used in a later step.

13 Under **Groups or User Names**, select **Everyone**.

14 Under **Permissions for Everyone**, select the **Allow** check box for the **Read** row.

15 Click **OK**.

Result: The Permission for Devices window closes and the Properties window for the Devices folder appears.

16 Click **OK**.

Result: The Devices Properties window closes.

17 On CP2 (the standby server), right-click **My Computer** and select **Map Network Drive**.

Result: The Map Network Drive window opens.

18 Select an available **Drive** letter.

19 In the **Folder** field, map the shared folder (D:\Nortel\Data\backup\Devices) on CP1 by entering the following:

\\<Computer name of CP1>\<Share name of D:\Nortel\Data\backup\Devices on CP1>

20 Click **OK**.

21 On CP2, from the mapped drive that was just created, copy the new <Device Name>.dev file you just created on CP1 to D:\Nortel\Data\backup\Devices folder on CP2 (the standby server).

22 On CP2 (the standby server), right-click **My Computer** and select **Disconnect Network Drive**.

Result: The Disconnect Network Drives window opens.

23 Select mapped network drive and click **OK**.

—End—

Use the following procedure to create a scheduled archive backup.

Scheduling an archive backup

Step	Action
1	Ensure that a backup device exists. For more information, see "Creating a backup device (network disk)" (page 242).
2	On CP1, log on to CallPilot Manager.
3	Select **System > Backup/Restore**. **Result:** The Backup/Restore window appears.
4	From the **Select a task** drop-down list, select **Review and schedule backup**.
5	Under **Scheduled Backups**, click **Add Backup**. **Result:** The Add New Backup Schedule window appears.
6	From the **Backup Type** drop-down list, select the type of archive backup.
7	Under **Device Name**, select the backup device.
8	If applicable, select the **Additional Options**.
9	Click **Next**.
10	Select the **backup frequency**.
11	Select the **Month**, **Date** and **Time** for the scheduled backup.
12	Enter a **Description** for the backup.
13	Click **Next**. **Result:** The Confirm Backup Schedule window appears.
14	Click **Finish**. **Result:** The Backup/Restore window appears and shows the newly scheduled backup under Scheduled Backups.
15	On CP1 (the active server), navigate to folder **D:\Nortel\Data\backup**.
16	Right-click the **Definitions** folder and select **Sharing and Security**. **Result:** The Definitions Properties window opens.
17	Select the **Sharing** tab.
18	Select the **Share this folder** option.

19 Click **Permissions**.

Result: The Permission for Definitions window opens.

20 Enter a **Share name** for the shared folder.

Write down the name of this shared folder as it is used in a later step.

21 Under **Groups or User Names**, select **Everyone**.

22 Under **Permissions for Everyone**, select the **Allow** check box for the **Read** row.

23 Click **OK**.

Result: The Permission for Definitions window closes and the Properties window for the Definitions folder appears.

24 Click **OK**.

Result: The Definitions Properties window closes.

25 On CP2 (the standby server), right-click **My Computer** and select **Map Network Drive**.

Result: The Map Network Drive window opens.

26 Select an available **Drive** letter.

27 In the **Folder** field, map the shared folder (D:\Nortel\Data\backup\Definitions) on CP1 by entering the following:

\\<Computer name of CP1>\<Share name of D:\Nortel\Data\backup\Definitions on CP1>

28 Click **OK**.

29 On CP2, from the mapped drive that was just created, copy the new <backup_options>.bsp files you just created on CP1 to D:\Nortel\Data\backup\Definitions folder on CP2 (the standby server).

The .bsp files created depend on the type of backup that you selected.

30 On CP2 (the standby server), right-click **My Computer** and select **Disconnect Network Drive**.

Result: The Disconnect Network Drives window opens.

31 Select mapped network drive and click **OK**.

—End—

Use the following procedure to perform a full system backup on the active High Availability server. This single backup is used to restore both High Availability servers. For more information on restoring, see "Restoring the High Availability system" (page 247).

> **ATTENTION**
> If your system is backed up to tape, the backup is saved only on the tape drive for the active High Availability server. Since both High Availability servers have physical tape drives attached, you must track which server was active when the backup occurred. When you perform the restore from tape, this ensures that you are using the most current backup.

Performing a full system backup of the High Availability system

Step	Action

CP1 is the active is the active server and CP2 is the standby server.

1   Ensure that a backup device exists for CP1 and CP2. For more information, see "Creating a backup device (network disk)" (page 242).

2   On CP1, log on to CallPilot Manager.

3   Select **System > Backup/Restore**.

       Result: The Backup/Restore window appears.

4   From the **Select a task** drop-down list, select **Review and schedule backup**.

5   Under **Scheduled Backups**, click **Add Backup**.

       Result: The Add New Backup Schedule window appears.

6   From the **Backup Type** drop-down list, select **Full System Backup**.

7   Under **Device Name**, select the backup device for CP1.

8   If applicable, select the **Additional Options**.

9   Click **Next**.

10   Under **Select the backup frequency**, select how often you want the backup to occur.

11   Select the current **Month**, **Date** and **Time** for the full system backup.

12   Enter a **Description** for the backup.

13   Click **Next**.

       Result: The Confirm Backup Schedule window appears.

14   Click **Finish**.

Result: The Backup/Restore window appears and shows the newly scheduled backup for CP1 under Scheduled Backups.

15   If you want to perform the backup immediately, complete the following steps. Otherwise, the backup occurs at the scheduled date and time.

a. Select the check box adjacent to the name of the backup.

b. Click **Backup Now**.

Result: A message appears asking you to start the backup.

c. Click **OK** to start the full system backup.

—End—

Restoring the High Availability system

If your High Availability system fails due to database corruption or an unforeseen disaster (causing both CP1 and CP2 to be unavailable), you must use the following guidelines to restore your system:

*   If the existing CP1 and CP2 servers are being reused, then load the CallPilot 1005r image onto each server. For more information, see the *Software Administration and Maintenance Guide* (NN44200-600) for information on recovering system software.

*   If you are replacing the CP1 and CP2 servers with new servers, see the *1005r Server Hardware Installation* (NN44200-308). A new 1005r server comes with the CallPilot 1005r image preinstalled from the factory.

*   If database corruption occurs, you must reimage both High Availability servers and then restore the two servers from a full system backup.

The following task list provides a high-level overview of restoring the High Availability system:

1. Run the Setup Wizard on CP1 and CP2.

*   On CP1, when prompted to perform a restore, select the full system backup.

*   On CP2, when prompted to perform a restore, select the full system backup.

2. Run the Configuration Wizard on CP1 and CP2. If required, update the switch information (such as TNs and CDNs).

3. Connect and verify the LAN connections.

4. Run Stage 1 of the High Availability Configuration Wizard to check the configuration of CP1 and CP2.

5. Install the AutoStart 5.2.2 on CP1.

6. Configure licensing and security on CP1.

7. Install the AutoStart 5.2.2 software on CP2.

8. Configure the AutoStart software.

9. Bring the Resource Groups online.

10. Test your configuration.

11. Create the CallPilot Reporter connections.

12. Add server to a Windows domain (if required).

Reimage or replace a server in the High Availability pair

Use the following procedure to reimage a server or to replace a server
in the High Availability pair.

> **WARNING**
>
> The server that is reimaged or replaced must maintain the same
> TCP/IP networking information (such as IP addresses and local
> host name) in order for the High Availability pair to operate
> correctly.
>
> When the reimaged or replaced server is running, you can change
> the local host name, local ELAN/CLAN parameters (such as IP
> address and host name), or HB1/HB2/Mirror parameters (such
> as IP addresses). For more information, see Local networking
> settings.

> **ATTENTION**
>
> In the following procedure, the active (working) server is referred to as CP1. The
> standby server that is being reimaged or replaced is referred to as CP2.

Reimaging or replacing one of the High Availability servers

Step   Action

1   Use the AutoStart Console on CP1 to disable monitoring. For more
information, see "Disabling automatic failovers (stop monitoring)"
(page 213).

2   Disconnect the network cables from CP2 (the server to be reimaged
or replaced).

3   If the existing CP2 server is being reused, load the CallPilot
1005r image onto the server. For more information, see the
Software Administration and Maintenance Guide (NN44200-600) for
information on recovering system software.

If you are replacing the CP2 server with a new server, see the *1005r Server Hardware Installation* (NN44200-308). A new 1005r server comes with the CallPilot 1005r image preinstalled from the factory.

4   Install the antivirus software on CP2.

   Note: For more information about the antivirus software packages that have been approved by Nortel for CallPilot, see the *P-2007-0101-Global : CallPilot Support for Anti-Virus Applications* bulletin.

5   On CP2, run the Setup Wizard and apply any CallPilot PEPs and SUs.

   SUs and PEPs are found in the Enterprise Solutions PEP Library (ESPL) at www.nortel.com/espl.

6   Log on to CallPilot Manager on CP2.

7   On CP2, run the Configuration Wizard to configure the server. For more information, see "Configuring CP2 using the CallPilot Configuration Wizard" (page 63).

8   Restart the CP2 server.

9   Connect all the network cables to CP2. For more information, see "Connecting and verifying LAN connections" (page 69).

10   On CP2, install the AutoStart Agent and Console software (including any required patches) by entering the node name of CP1 (the unchanged High Availability server). Follow the steps in "Installing the AutoStart software on CP2" (page 95).

   Note: You must enter the local host name of the active CallPilot server when installing the AutoStart software.

ATTENTION
The following step takes your CallPilot High Availability system offline. Your CallPilot system will not process calls.

---

11   Take the CallPilot resource group offline on CP1 (the unchanged High Availability server). For more information, see "Taking the CallPilot resource group offline" (page 211).

12   On CP1, use the AutoStart Console to select **Resource Groups > CallPilot** and then expand the CallPilot resource group.

Figure 153
Settings tab
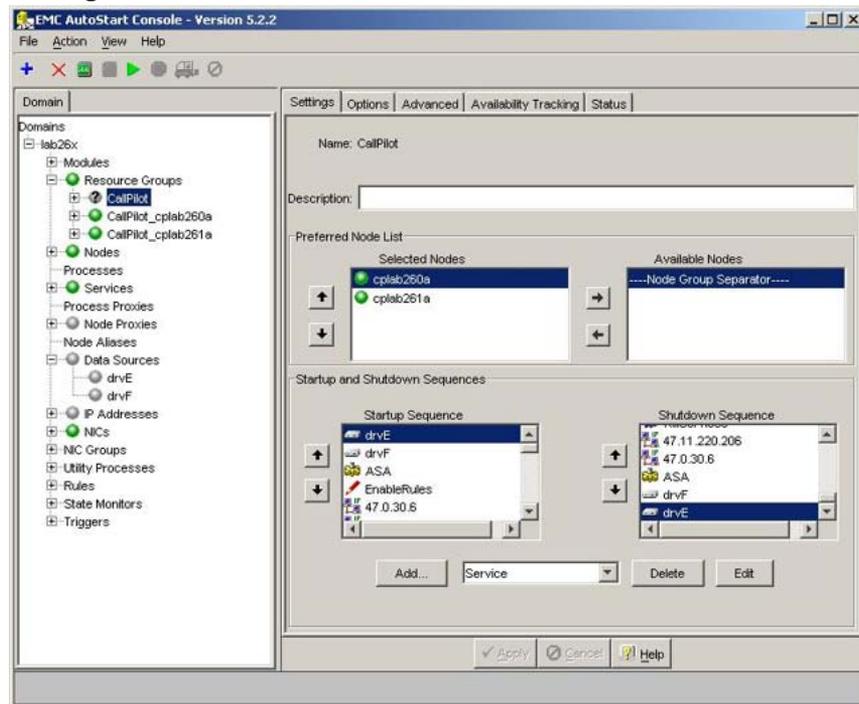
a. Click the **Settings** tab.

b. Under **Startup Sequence**, do the following:

   i.   Select drive E (**drvE**) and then click **Delete**.

   ii. Select drive F (**drvF**) and then click **Delete**.

c. Click **Apply**.

13   On CP1, use the AutoStart Console to expand **Data Sources**.

a. Right-click the **drvE** Data Resource and then click the **Delete Current Data Source** option to delete drive E.

b. Right-click the **drvF** Data Resource and then click the **Delete Current Data Source** option to delete drive F.

Figure 154
Delete Current Data Source
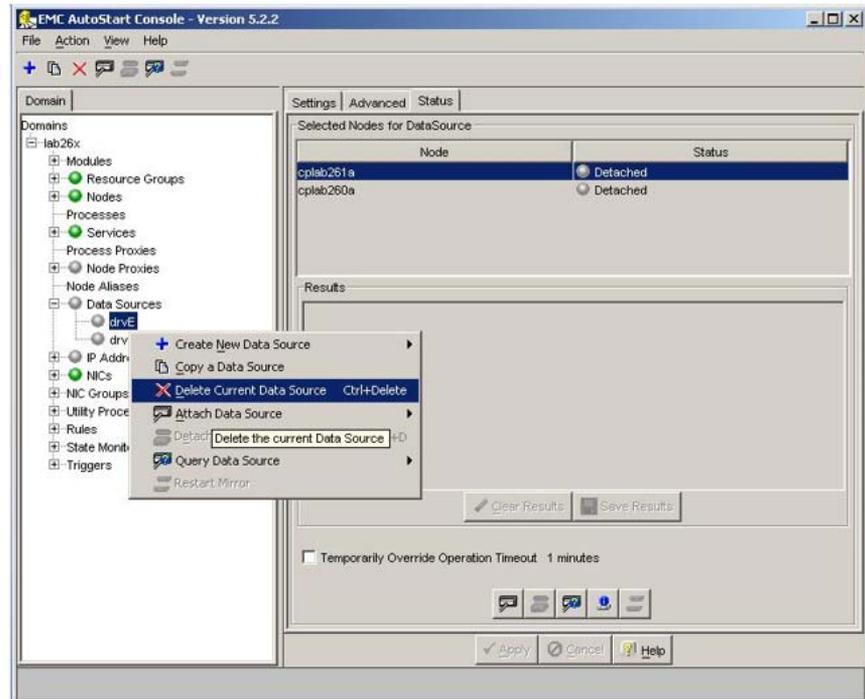
14   On CP1, use the AutoStart Console to select the first node (expand [AutoStart_Domain] > Nodes > CP1) and do the following:

   a. Select the **Failure Detection and Mirroring** tab.

   b. Under **Configure Mirror Settings**, change the **Remote Mirror Host** value to **None**.

   c. Click **Apply**.

15   On CP1, use the AutoStart Console to select the second node (expand [AutoStart_Domain] > Nodes > CP2) and do the following:

   a. Select the **Failure Detection and Mirroring** tab.

   b. Under **Configure Mirror Settings**, change the **Remote Mirror Host** value to **None**

   c. Click **Apply**.

16   Restart both servers.

17   On CP1, use the AutoStart Console to select the first node (expand [AutoStart_Domain] > Nodes > CP1) and do the following:

   a. Select the **Failure Detection and Mirroring** tab.

> b. Under **Configure Mirror Settings**, change the **Remote Mirror Host** value to **CP2**.
>
> c. Click **Apply**.

18 On CP1, use the AutoStart Console to select the second node (expand [AutoStart_Domain] > Nodes > CP2) and do the following:

> a. Select the **Failure Detection and Mirroring** tab.
>
> b. Under **Configure Mirror Settings**, change the **Remote Mirror Host** value to **CP1**
>
> c. Click **Apply**.

19 On CP1, recreate drive E (drvE) and drive F (drvF) and select the CP1 (the unchanged High Availability server) as the source node:

> a. Right-click **Data Sources** on AutoStart Console.
>
> b. Select **Create New Data Source > EMC Mirroring for Windows**.
>
> **Result:** The New EMC Mirroring for Windows Data Source appears.
>
> **Figure 155**
> **Create New Data Source - EMC Mirroring for Windows**
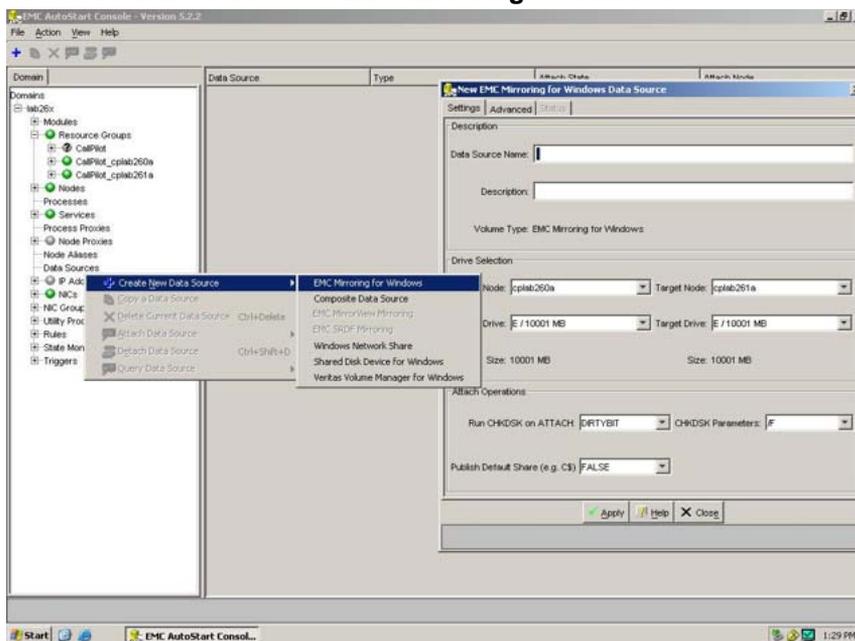
> c. In the New EMC Mirroring for Windows Data Source window, do the following:

    i.   Under the Description area, enter the **Data Source Name** (for example, drvE) and **Description** (for example, drive E).

    ii.   Under the Drive Selection area, select [Name_of_CP1] (unchanged server) from the **Source Node** drop-down list and drive E from the **Source Drive** drop-down list.

    iii.   Under the Drive Selection area, also select [Name_of_CP2] (new server) from the **Target Node** drop-down list and drive E from the **Target Drive** drop-down list.

    iv.   Click **Apply**.

    v.   Click **OK** to dismiss the warning message.

    d.   Repeat the previous three steps for drive F.

20   Select **Resource Groups > CallPilot**.

21   Select the **Settings** tab.

22   Under the **Startup and Shutdown Sequences** area, select **Data Source** from the drop-down list which adjacent to the Add button.

23   Click **Add**.

    Result: The Data Source Properties window appears.

    Figure 156
    Data Source Properties
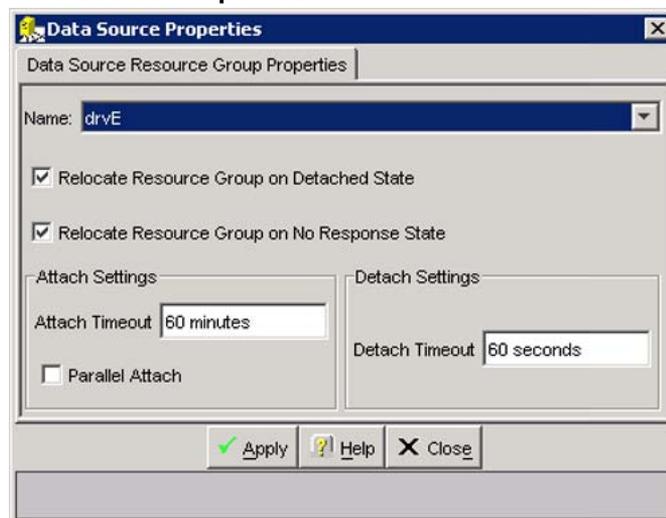
24   From the **Name** drop-down list, select **drvE** and leave all other fields with the default selections.

25   Click **Apply**.

26   Under the **Startup and Shutdown Sequences** area, select **Data Source** from the drop-down list which adjacent to the Add button.

27   Click **Add**.

       Result: The Data Source Properties window appears.

28   From the **Name** drop-down list, select **drvF** and leave all other fields with the default selections.

29   Click **Apply**.

30   Click **Apply** (on the Settings tab).

31   Under the **Startup and Shutdown Sequences** area, do the following:

       a.   Under **Startup Sequence**, use the Up arrow to move drvE and drvF to the top of the Startup Sequence list.

       b.   Under **Shutdown Sequence**, use the Down arrow to move drvE and drvF to the bottom of the Shutdown Sequence list.

32   On CP1, bring the CallPilot resource group online. For more information, see "Bringing the CallPilot Resource Group online on CP1" (page 122).

33   On CP1, bring the remaining resource groups online (if they are not already online). For more information, see "Bringing the Resource Groups CallPilot_[CP1] and CallPilot_[CP2] online" (page 125).

34   On CP1, enable AutoStart monitoring. For more information, see "Enabling automatic failovers (start monitoring)" (page 214).

35   If you have scheduled backups configured, do the following:

       a.   On CP2, browse to the shared D:\Nortel\Data\backup\Devices folder of CP1 and copy the contents of the Devices folder.

       b.   On CP2, paste the contents in to the Devices folder on CP2.

       c.   On CP2, browse to the shared D:\Nortel\Data\backup\Definitions folder of CP1 and copy the contents of the Definitions folder.

       d.   On CP2, paste the contents in to the Definitions folder on CP2.

—End—

Chapter 7
Upgrades, migrations, and feature expansion

In this chapter

Introduction

For the High Availability feature, there are minimal differences between the upgrade and platform migration procedures and the new system installation procedure. The main differences are:

- You must restore data from a backup as part of the upgrade or platform migration.

- You must restore data on both of the servers in the pair when performing the upgrade. Restoring the data is required to ensure that all of the registry settings in the backup (for example, the LDAP search base) are restored correctly.

- You must modify and add settings in Configuration Wizard (for example, NIC card settings).

Scenario 1: If you are upgrading or migrating to a CallPilot 5.0 1005r server and are adding the High Availability feature, do the following:

1. Follow the instructions in *CallPilot Upgrade and Platform Migration Guide* (NN44200-400) to upgrade or migrate your server to a CallPilot 1005r server running CallPilot 5.0.

    Note: Do not enable the High Availability feature when running the Configuration Wizard.

2. Follow the instructions outlined in "Feature Expansion: Adding the High Availability feature to an existing CallPilot 5.0 1005r server" (page 259)

to introduce a second 1005r server and to configure the two 1005r servers as a High Availability pair.

Scenario 2: If you have a CallPilot 5.0 1005r server and are adding the High Availability feature, follow the instructions outlined in "Feature Expansion: Adding the High Availability feature to an existing CallPilot 5.0 1005r server" (page 259) to introduce a second 1005r server and configure the two 1005r servers as a High Availability pair.

After you make any changes to a High Availability configuration, the changes must be transparent to the end users, including any existing CallPilot Reporter, CallPilot Manager, Desktop, My CallPilot and Application Builder installations, as well as the switch. To ensure this transparency, the ELAN IP address, CLAN IP address, and host name used by the original CallPilot server must be used as the new Managed (virtual) IP address for the pair of High Availability servers. Because the Managed IP addresses and host name are visible to the outside world, by reusing the current IP addresses and host name, the changes to the server configuration are invisible to the applications. New ELAN IP address, CLAN IP address, and host names are required for both the original CallPilot server and the new CallPilot server. All IP address and host name changes must be made before you import the AutoStart definition file in order for the software to work correctly.

If you have an existing CallPilot 5.0 1005r server (running in a non-High Availability configuration) you can perform a feature expansion to include the High Availability feature. No additional hardware is required to add the High Availability feature to a 1005r server, as all of the required hardware comes preinstalled from the factory.

The procedure is the same as the new system installation procedure documented in Chapter 5 "Install and configure the High Availability pair" (page 37), with the following exception.

ATTENTION

Before installing the AutoStart software on the existing server, new IP addresses (CLAN and ELAN) and a new host name must be assigned to the existing CallPilot 1005r server.

Providing a new host name and IP addresses is required to reuse the existing host name and IP addresses as the Managed host name and IP addresses. As a result, any existing users or applications can continue to access the 1005r server without requiring configuration changes.

Guidelines

This section provides a basic overview of the tasks required to perform an upgrade or migration. Read this list and then proceed to the *CallPilot Upgrade and Platform Migration Guide* (NN44200-400) for detailed procedures.

1. On your current system (pre-release 5.0) take note of all networking information: host name, CLAN IP address, ELAN IP address, installed PEPs/SU, and installed languages.

   The networking information (host name and IP addresses) is required when entering in the Managed CLAN host name, Managed CLAN IP address, and Managed ELAN IP. (Estimated time: 10 minutes)

2. Install the CallPilot 5.0 Upgrade Wizard on the pre-release 5.0 system, which will be upgraded or migrated. (Estimated time: 15 minutes)

3. Run the CallPilot Upgrade Wizard.

   During the Upgrade Wizard you are asked to perform a full backup. If a backup is done to disk (that is, backed up to a network location), then it is possible to restore both CP1 and CP2 at the same time, which saves time to be in service. (Estimated time: 40 to 160 minutes depending on system and database size)

4. Upgrade only—Once the Upgrade Wizard is completed and a full back up is performed, install the CallPilot 1005r Release 5 image on CP1. The second 1005r (CP2) comes preinstalled with Release 5.0 from the factory. Log on to the CP1 and CP2 servers using the default login user name and password (administrator / Bvw250). (Estimated time: 40 minutes)

   Migration and Upgrade—The CallPilot 1005r Release 5.0 image comes preinstalled at factory. Log on to both CP1 and CP2 system using default login user name and password (administrator / Bvw250) (Estimated time: 0 minutes)

5. On both CallPilot servers (CP1 and CP2), configure new computer names and IP addresses for the CLAN. The computer names and IP addresses are new as the current CLAN host names and IP addresses are reused as the Managed CLAN host name and IP address for the High Availability pair. Otherwise, proceed to next step. (This would be required in order to perform a system restore from disk [network drive]). (Estimated time: 10 minutes)

6. Run the CallPilot Setup Wizard on CP1 and CP2. (Estimated time: 30 minutes per server; includes PEP installation)

7. When prompted to perform a restore, select Yes. Both CP1 and CP2 can be restored at the same time if you are restoring from a disk (that is, a network location). Otherwise, CP1 must be completely restored before CP2 can be restored. (Estimated time: 180 minutes per server)

8. Run the Configuration Wizard on CP1. Do not enable High Availability during network configuration (ensure that the High Availability mode check box is not selected). Restart CP1 when prompted. (Estimated time: 40 minutes)

   If you are performing the restore from tape, CP2 can begin the restore at this point.

9. On CP1, you can begin testing to ensure voice services and channels are properly working. (Estimated time: 120 minutes)

10. Run the Configuration Wizard on CP2. Do not enable High Availability during network configuration (ensure that the High Availability mode check box is not selected). Restart CP2 when prompted. (Estimated time: 40 minutes)

11. If testing was satisfactory on CP1, run the Configuration Wizard again on CP1 and enable the High Availability feature, add the new network parameters, and restart when prompted. (Estimated time: 10 minutes)

    Note: To do this, you can use the CallPilot Individual Feature Configuration [Express Mode] and select Network Interface Card Configuration check box.

12. Run the Configuration Wizard again on CP2 and enable the High Availability feature, add the new network parameters, and restart when prompted. (Estimated time: 10 minutes)

    Note: To do this, you can use the CallPilot Individual Feature Configuration [Express Mode] and select Network Interface Card Configuration check box.

13. Run Stage 1 of the High Availability Configuration Wizard. For the Managed CLAN host name, Managed CLAN IP address, and Managed ELAN IP address, use the host name and IP addresses that you noted in item 1 (that is, the host name and IP addresses from the pre-release 5.0 system). (Estimated time: 5 minutes)

14. On CP1, install the EMC AutoStart software and add the administrator account of CP2. (Estimated time: 15 minutes)

15. Install the EMC AutoStart software on CP2. (Estimated time: 10 minutes)

16. Configure the EMC AutoStart software on CP1. All the configuration is done from CP1. (Estimated time: 30 minutes)

17. Run Stage 2 of the High Availability Configuration Wizard. (Estimated time: 5 minutes)

18. Complete the EMC AutoStart configuration. (Estimated time: 5 minutes)

19. Bring the CallPilot resource group online. (Estimated time: 10 minutes)

20. Bring the CP1 and CP2 resource groups online. (Estimated time: 5 minutes)

21. Test the system. (Estimated time: 120 minutes)

22. Create the CallPilot Report connections. (Estimated time: 20 minutes)

23. If required, join the Windows domain. (Estimated time: 30 minutes)

Feature Expansion: Adding the High Availability feature to an existing CallPilot 5.0 1005r server

A CallPilot High Availability system consists of two 1005r servers that work as peers. At any time, one server is active while the other server is in standby mode.

If you have a CallPilot 5.0 1005r server (running in a non-High Availability configuration), a feature expansion can be performed to add the High Availability feature to the server. However, a second 1005r server (running CallPilot 5.0 with the High Availability feature) is required to complete the High Availability system.

Use the procedures in this section to do the following:

- Add a second 1005r server running CallPilot 5.0 to an existing 1005r server running CallPilot 5.0.

- Configure the two servers as a High Availability pair.

For the purposes of this section, the servers are referred to as CallPilot server 1 (CP1) and CallPilot server 2 (CP2) where:

- CP1 is the existing 1005r server. (CP1 must be running CallPilot 5.0 or must have been upgraded or migrated to run CallPilot 5.0.)

- CP2 is the new 1005r server that is being added (a new server that has CallPilot 5.0 installed from the factory).

Feature expansion task list

The following table outlines the tasks and procedures that must be completed to add the High Availability feature. Ensure that you complete each task in the ordered presented.

Table 10
Task List: High Availability feature expansion

Task	Estimated time	Procedures
Prepare the switch	60 minutes	See "Preparing the switch" (page 260)
Install the new 1005r server (CP2)	210 minutes	See "Installing the new 1005r server (CP2)" (page 261)

Task	Estimated time	Procedures
Record the current server configuration from CP1	5 minutes	See "Recording the current 1005r server configuration (CP1)" (page 262)
Run the Upgrade Wizard on the existing 1005r server (CP1)	160 minutes depending on system and database size	See "Running the Upgrade Wizard on CP1" (page 263)
Prepare the new 1005r server (CP2)	10 minutes	See "Prepare the new 1005r server (CP2)" (page 266)
Run the Setup Wizard on the new 1005r server (CP2)	210 minutes (includes restore time)	See "Running the Setup Wizard on CP2" (page 267)
Configure CP1 using the CallPilot Configuration Wizard	40 minutes	See "Configuring CP1 using the Configuration Wizard" (page 271)
Configure CP2 using the CallPilot Configuration Wizard	40 minutes	See "Configuring CP2 using the Configuration Wizard" (page 275)
Complete the High Availability feature configuration	215 minutes	See "Completing the High Availability feature configuration" (page 279)

Prepare the switch

The switch configuration must be completed before the High Availability feature can be implemented.

Preparing the switch

Step	Action

1   Configure the Meridian 1 or CS 1000 switch.

For detailed information, see the following:

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

- *Communication Server 1000 and CallPilot Server Configuration* (NN44200-312)

Note 1: Both High Availability servers must use the same Control Directory Number (CDN).

Note 2: Server CP2 requires dedicated MGate cards in the switch to function correctly. Both the number of MGate cards and the switch configuration must be the same as for the existing CallPilot server CP1.

2   Prepare the switch by adding additional MGate cards as required.

3   Program the switch as necessary.

—End—

Install the new 1005r server (CP2)

A second 1005r server is required to complete the High Availability pair. The following procedure assumes that this 1005r server has come from the factory with CallPilot 5.0 and the High Availability feature installed.

Installing the new 1005r server (CP2)

Step	Action

1   Refer to the following documents to perform the steps outlined in this procedure.

- *1005r Server Hardware Installation* (NN44200-308).

- *Installation and Configuration Task List* (NN44200-306)

2   Unpack the server.

3   Install CP2 in the same rack as CP1.

Ensure that the two servers are close enough so that they can be connected by the crossover LAN cables for the HB1, HB2, and MIRROR connections. The cables must be long enough to connect the two 1005r servers.

> **ATTENTION**
> Do not connect the HB1, HB2, and MIRROR crossover LAN cables at this time.

4   Connect the peripheral equipment to both servers.

The peripheral equipment includes the monitor, keyboard, and mouse.

5   Power on the CP2 server.

Result: The server starts and the Windows 2003 Mini-Setup runs. During the Windows 2003 Mini-Setup, the server automatically restarts twice.

—End—

Record the current 1005r server configuration (CP1)

To ensure that end users can access the pair of High Availability servers and that they do not require any changes to their systems, the following information for the existing 1005r server (CP1) must be recorded and then reused as the managed networking parameters:

- existing computer name
- ELAN IP address
- CLAN IP address
- installed PEPs and SUs
- installed languages

Recording the current 1005r server configuration (CP1)

Step	Action
1	Record the current computer name.
	The computer name will be used as the Managed computer name of the High Availability pair.
2	Record the current ELAN IP address.
	The ELAN IP address will be used as the Managed ELAN IP address of the High Availability pair.
3	Record the current CLAN IP address.
	The CLAN IP address will be used as the Managed CLAN IP address of the High Availability pair.
4	Record the IDs of any PEPs and SUs that are installed on the current server.
	The same PEPs and SUs must be installed on both servers in the High Availability pair.
5	Record the languages that are installed on the current server.
	The same languages must be installed on both servers in the High Availability pair.

—End—

Run the Upgrade Wizard on the existing server (CP1)

The Upgrade Wizard must be run on the existing 1005r server (CP1) to generate a backup that can be restored on the new 1005r server CP2.

For Scenario 1, you do not have to perform the following procedure because a backup was created when you ran the Upgrade Wizard during your upgrade or migration process.

For Scenario 2, you must complete the following procedure.

Running the Upgrade Wizard on CP1

Step	Action

1   Launch the CallPilot 5.0 Upgrade Wizard by clicking **Start > Programs > CallPilot > Upgrade Wizard**.

> *Note:* While the CallPilot 5.0 Upgrade Wizard runs, all screen information is written to the log file in the following folder: D:\Nortel\Data\UpgradeWizard.log

> **Result:** The CallPilot 5.0 Upgrade Wizard - Welcome screen appears.

2   On the CallPilot 5.0 Upgrade Wizard - Welcome screen, click **Next**.

Result: The Platform Validity Check screen appears, which lists the software and hardware currently on the system, and evaluates the status of each item.

3   Click **Next** to continue.

Result: The CallPilot 5.0 Upgrade Wizard checks your software version.

4   Wait while the CallPilot 5.0 Upgrade Wizard analyzes your platform.

Result: The Platform Validation screen appears.

5   Click **Next**.

Result: The Checking Computer Name screen appears.

6   Click **Next**.

Result: The Checking Free Disk Space screen appears.

7   Click **Next** to determine if your data is valid and can be upgraded to CallPilot 5.0.

8   Click **Next** to validate your data.

Result: The Performing Data Validity Check screen appears. A process bar shows how much of the data has been validated.

9   Click **Next**.

Result: The Serial Number and Key Code screen appears.

You need your CallPilot 5.0 keycode, serial number, and image CDs or DVDs to proceed.

10 Click **Next** to verify your CallPilot keycode.

Result: The Feature Verification - Success screen appears.

11 Check your installed features against the screen list.

If a feature is missing from your new keycode, contact your distributor to obtain a new keycode.

12 Click **Next** to verify that your image CD or DVD matches your CallPilot platform.

Result: The Validate Image Media screen appears.

13 Insert the CallPilot 5.0 Image CD or DVD into the CD or DVD drive, enter **Z:** as the drive letter, and click **Next**.

14 Wait while the wizard checks that the inserted CD or DVD is valid for your platform.

> *Note:* If the CD or DVD is not valid, the wizard blocks the rest of the upgrade process and you must contact your distributor (channel partner) to obtain the correct CD or DVD.

Result: The Optional Language CD validation screen appears.

15 Select the **Skip Language CD Validation** option.

ATTENTION
You must use a CallPilot 5.0 Language CD when configuring a CallPilot 5.0 system. An earlier release (pre-5.0 Language CD) cannot be used.

---

16 Click **Next**.

Result: The Select Backup Medium screen appears.

CAUTION
ANY MESSAGES RECEIVED AFTER BACKUP BEGINS ARE LOST
The backup takes from 1 to 3 hours to complete and consumes considerable CPU resources. Any messages that come in while the backup is running are not included in the backup. To avoid losing any user messages, Nortel recommends that you courtesy down the system prior to starting the backup.

---

17 Select the type of backup medium for your CallPilot data.

- If you choose to back up to tape:

> **ATTENTION**
> This process overwrites the existing data on the tape.

Insert the tape into the tape drive and click **Next** to start the backup immediately. Proceed to the next step.

- If you choose to back up to disk:

Click **Next** to choose the backup device. The Full System Backup - Select Backup Devices screen appears. Click **List Devices**.

Result: The screen displays the backup devices that are defined on your CallPilot server.

— If no devices are listed, log on to CallPilot Manager and define your backup devices (**System > Backup/Restore > Maintain and configure backup devices**). Click **List Devices** again. Select the backup device you want to use and click **Next** to start the backup.

— If the list is populated, select the appropriate backup device and click **Next** to start the backup.

18 When the **Perform System Backup** screen appears, click **Start Backup**.

19 After the progress bar shows the percentage complete and displays the status, do the following:

IF	THEN
errors occur	• follow the displayed link and examine the log file for errors.
	• contact your distributor (channel partner) if you need assistance to resolve the errors.
	• click the **Restart** button to restart the backup process.
no errors occur	• click **Next**.

20 After the backup is complete, eject the tape from the tape drive (if the data was backed up to a tape).

> **ATTENTION**
> Failure to remove the tape from the drive adds an hour or more to the restore process.

21 Click **Next**.

22 Click **Finish** to close the CallPilot 5.0 Upgrade Wizard.

23 Print or record the IP information in the file **D:\Nortel\Data\IPCON-FIGURATION.txt**.

> *Note:* You need the IP information if your backup is on a network drive, or if you are downloading PEPs from the network prior to the restore process. You also need this IP information to configure your Embedded LAN (ELAN) subnet and Nortel server subnet after the restore process. The IPCONFIGURATION.txt file is saved as part of your backup and is available after the restore.

24 Restart CP1.

—End—

Prepare the new 1005r server (CP2)

The following procedures may be required depending upon your setup configuration.

- Manually change the server name. (The CallPilot Configuration Wizard can also be used to change the server name.)

  For more information, see "Manually changing the server name" (page 41).

- Manually set the IP parameters. (The CallPilot Configuration Wizard can also be used to set the IP parameters.)

  For more information, see "Manually setting the IP parameters" (page 42).

  > *Note:* The procedures listed in the preceding bullets are performed under the following circumstances:
  >
  > 1. If you are restoring from a network location. In order to perform a restore the CLAN IP address must first be set.
  >
  > 2. If you are using a DNS as part of your network solution, then the DNS entries must be manually completed.

- Check the Primary DNS suffix.

- Install antivirus software on both servers. (optional)

  For more information about the antivirus software packages that are approved by Nortel for CallPilot, see the *P-2007-0101-Global : CallPilot Support for Anti-Virus Applications* bulletin.

Run the Setup Wizard on CP2

Run the Setup Wizard on the new 1005r server (CP2), restoring the data from the backup created by the Upgrade Wizard that was run on CP1.

> **CAUTION**
> **Ensure you use the backup created from the CallPilot 5.0 Upgrade Wizard for the following reasons:**
>
> 1. The backup provides the most current view of the system.
>
> 2. The CallPilot 5.0 Upgrade Wizard corrects the data prior to the backup.
>
> 3. Using an earlier backup can result in issues encountered during the restore process.
>
> 4. The backup from the CallPilot 5.0 Upgrade Wizard includes the CallPilot 5.0 Upgrade Wizard logs so that they can be brought forward to CallPilot 5.0. These logs can be used by Nortel Enterprise Technical Support (NETS) to troubleshoot the system.

Running the Setup Wizard on CP2

Step	Action
1	Log on to the new CallPilot 1005r server after the Windows Mini-Setup is complete. The default password for the Administrator account is **Bvw250**.
2	The Setup Wizard automatically launches if you log on to an unconfigured CallPilot server. A CallPilot server, freshly upgraded to CallPilot 5.0, is not configured. You can also launch the Setup Wizard manually by clicking **Start > Programs > CallPilot > Setup Wizard**.

Result: The CallPilot Setup Wizard welcome screen appears.

> *Note:* If you exit after a successful restore and before the Setup Wizard is finished, you can continue or restart the Setup Wizard.

If your backup is on a network drive or you are downloading PEPs from the network, you must restore your network settings:

a. Specify the **IP address** and **subnet mask** for the Nortel server subnet. Do not change your computer name unless necessary.

b. Specify the **gateway** for the Nortel server subnet (CLAN).

    c. Restart the system (if prompted by Windows).

    d. Log on to the CallPilot server. The default password for the Administrator account is set to Bvw250.

If your backup is on tape, continue to the next step.

3   Read the information displayed on the screen and click **Next**.

Result: The Service Update (SU) / PEP Installation screen appears.

> **ATTENTION**
> If you downloaded PEPs, close the wizard, install the PEPs, and restart if required. When the system is in service, restart the wizard and select **No** on the Installing SU/PEP screen. If your PEPs are on CD, continue with Step 4.

4   If Service Updates (SUs) or PEPs are available, you must install the same SUs and PEPs that are installed on CP1. Select **Yes** or **No** and click **Next**.

- If you choose Yes, install SU/PEPs:

  Result: The Installing SU/PEP screen appears.

  1. Install all the required SUs and PEPs.

     Note: After you install all the SUs and PEPs, restart (if required).

  2. If no restart was required, click **Next** to continue. Otherwise, restart the server.

- If you choose No, do not install SU/PEPs now:

  Result: The Platform Validity Check screen appears.

5   View the items on the Platform Validity Check screen and click **Next**.

Note: If your server does not meet the minimum hardware and software requirements for the upgrade, contact your support organization.

Result: The Telephony Board Validation screen appears.

6   If the system detects an error, an error message appears. You cannot continue with the Setup Wizard. Do the following:

    a. Power off the system.

    b. Install the boards in the correct locations.

c. Restart the system.

d. Log on to Windows and restart the Setup Wizard.

e. Continue to the next step.

If your board configuration is correct, click **Next** to continue to the next step.

> *Note:* The following synchronization and disk space checks only pause for display if the checks fail. Results of the checks are written to the setup log.

7 The Setup Wizard performs a disk space check. There must be enough free disk space to restore your backed up data.

IF the disk	THEN
does not have enough free space	• the Checking Free Disk Space screen appears. • free up space on drive D by removing unnecessary files. • follow the link on the screen and use the instructions to free up enough space, and then click **Next**. • the wizard performs another check and if there is still not enough space, the Checking Free Disk Space screen reappears. • If there still is not enough free disk space, exit the wizard and call your support organization.
has enough free space	• the Setup Wizard continues. *Note:* Results of the disk space check are written to the Setup Wizard log.

ATTENTION

The data restoration takes from 1 to 3 hours to complete.

Only use the backup created by the CallPilot 5.0 Upgrade Wizard.

---

8 On the **Selecting Upgrade of the CallPilot** screen, choose **Yes** to continue with the restore process. Do not choose No.

Result: The Restore Medium Selection screen appears.

9 Choose the medium on which your backup is stored.

• If you choose to restore from disk:

Result: The Choose Remote Disk screen appears.

1. Find the remote disk to restore from and click on it.

2. Click **Next** to continue.

- If you choose to restore from tape:

    1. Make sure the tape is firmly in the tape drive and click **Next**. (If a tape is already in the drive, remove it and reinsert it. Otherwise, a tape list can take up to two hours.)

        Result: The List Backups screen appears.

    2. Click **List Backups** to view a list of valid backups on your backup medium.

    3. The available backups appear in the List of Backups table.

    4. Select the backup that you want to use for the restore and click **Next**.

        Result: The Performing Restore screen appears. The CallPilot services are shut down and the Wizard automatically starts the restore operation. The progress bar shows the percentage complete and the number of errors.

10   Determine if the restoration was successful.

IF the restoration	THEN
was not successful	• review the log files. • Click **Retry** to start the restoration again. • If you are still not successful, contact your support organization.
was successful	• click **Next** to continue.

Result: The Ready to Upgrade Database screen appears.

11   Click **Next** to start the database upgrade.

The warning screens for the Unsupported SMTP authentication option and the Unsupported IMAP authentication option can appear (same screens as in the Upgrade Wizard). Click **Next** through those screens and the database upgrade starts.

Result: The database upgrade starts and the Upgrading Data screen appears.

IF the database upgrade is	THEN
not successful	• click **Upgrade Database** to try again. **Note:** If subsequent attempts to upgrade the database are not successful, contact your support organization.
successful	• the Setup Wizard continues.

12 Click **Next** to complete the Setup Wizard.

Result: The Finished screen appears.

13 Read the information displayed on the Finished screen and click **Finish**.

Result: A screen appears warning you that the system restarts automatically.

14 Click **OK**.

Result: The system restarts.

—End—

Configure CP1 using the Configuration Wizard

Configuring CP1 using the Configuration Wizard

Step	Action

1 On the existing CallPilot 1005r server (CP1), log on to CallPilot Manager:

a. After the Windows log on screen appears, log on with the current password.

b. Launch Internet Explorer.

c. Enter **http://<server name or IP address>/cpmgr** in the URL address box.

Result: The CallPilot Manager Logon Web page appears.

d. Log on using your existing CallPilot logon information. Enter information into the following:

- **Mailbox Number**—Enter your existing mailbox number (000000).

- **Password**—Enter your existing password for mailbox 000000.

- **Server**—Specify the name or the IP address of the CallPilot server that you want to configure. (The server name may have changed during the upgrade or platform migration.)

  Note: When you launch Internet Explorer, you may see a box that says "M/S IE Enhanced Security config is currently enabled on your server. This advanced level of security reduces risk." Nortel recommends that you do not lower the security level. Nortel also recommends that you do not select the check box to not show the message again. If you do lower the security level and you try to access a Web site off the server, it may be blocked by the security setting. You do not receive a warning but a blank screen appears.

  e. Click **Login**.

  Result: The system may prompt you to change the password for the Administrator mailbox.

  f. If prompted, do not change the password.

  Result: The main CallPilot Manager screen appears.

2   Click the **Configuration Wizard** icon.

    Result: A dialog box appears, prompting you to choose either an Express or Standard setup.

3   Select **CallPilot System Configuration (Standard Mode)**.

4   Click **OK**.

    Result: The Configuration Wizard: Welcome screen appears.

    Note: Because the CallPilot system is not yet configured, an error dialog box can appear while you run the Configuration Wizard. Disregard the error message by closing the dialog box, and continue the configuration procedure.

5   On the Welcome screen, click **Next**.

    Result: The Keycode and serial number screen appears.

6   If you have a new CallPilot 5.0 keycode with the High Availability feature included, enter the **serial number** and new **keycode**.

If your CallPilot 5.0 keycode includes the High Availability feature (but High Availability is not yet enabled), click **Next**.

Result: The Feature Verification screen appears.

7 Ensure that the details on the Feature Verification screen match your expectations and click **Next**.

> *Note:* If a feature is missing or is not what you expected, acquire a new keycode from your Nortel distributor.

Result: The Server Information screen appears.

8 On the Server Information screen, enter the new host name in the **Computer Name** field.

> ### ATTENTION
> The computer names of the High Availability servers must contain only alphanumeric characters. Nonalphanumeric characters (such as a hyphen [-]) are not supported.

> *Note:* You must change the computer name of CP1 so that the current name can be reused as the Managed computer name for the High Availability pair.

9 Click **Next**.

Result: The Password Information screen appears.

10 Select **Leave the Password Unchanged**.

11 Click **Next**.

Result: The Multimedia Allocation screen appears.

12 Verify the number of MPB boards and, if applicable, DSP cards, and ensure that they match the hardware installed in the CallPilot server.

13 Change the **Port Allocations** as required.

14 Click **Next**.

Result: The Switch Information screen appears.

15 Verify the CDN configuration.

If you need to make changes, do the following:

a. Click **New** to add a new CDN.

Result: The system prompts you for the CDN and the name of the application to dedicate to the CDN.

b. Specify the **CDN**, choose the application, and then click **OK**.

Result: The system returns you to the CDN Information page.

16 Click **Next**.

Result: The Language Source Directory screen appears.

17 Select the **Skip Language CD Validation** option.

18 Click **Next**.

Result: The CallPilot Local Area Network Interface screen appears.

19 On the CallPilot Local Area Network Interface screen, do the
       following:

   a. Make note of the current ELAN and CLAN IP addresses.

       Note: These ELAN and CLAN IP address values from the
       existing CallPilot 1005r server (CP1) will be reused as the
       Managed ELAN/CLAN IP address for the pair of server in the
       new High Availability configuration.

   b. Change the ELAN and CLAN IP address values to the new
       values.

   c. Select the **High Availability mode** check box.

       Note: To enable High Availability, a proper keycode is
       required and the High Availability Mode check box must be
       selected.

   d. Enter IP information for the **HB1**, **HB2**, and **MIRROR** network
       interface cards.

       The following table shows the suggested default values for HB1,
       HB2, and MIRROR on CP1. If you do not use these suggested
       values, ensure that you use your new values throughout the
       configuration.

Network Interface Card (NIC)	IP Address	Subnet Mask
Heartbeat 1 (HB1)	192.0.0.10	255.255.255.0
Heartbeat 2 (HB2)	194.0.0.10	255.255.255.0
MIRROR	193.0.0.10	255.255.255.0

20 Click **Next**.

Result: The Ready to Configure screen appears.

21 Click **Finish**.

Result: A dialog box prompts you to confirm the configuration.

22 Click **OK** to configure CallPilot.

Result: The configuration is applied to the server. This task can take from 5 to 10 minutes to complete, depending on the number of languages installed and the number of programmed DSP cards. The Configuration Wizard displays progress information.

After the configuration is applied to the server, a dialog box reminds you to restart the server for the configuration to take effect.

23 Click **OK** to dismiss the dialog box.

Result: The system returns you to the main CallPilot Manager screen.

24 Log off CallPilot Manager and close the Web browser.

25 Restart CP1.

—End—

Configure CP2 using the Configuration Wizard

Configuring CP2 using the Configuration Wizard

Step	Action

1 On the new CallPilot 1005r server (CP2), log on to CallPilot Manager:

a. When the Windows log on screen appears, log on with the current password.

b. Launch Internet Explorer.

c. Enter **http://<server name or IP address>/cpmgr** in the URL address box.

Result: The CallPilot Manager Logon Web page appears.

d. Log on using your existing CallPilot logon information. Enter information into the following:

- **Mailbox Number**—Enter your existing mailbox number (000000).

- **Password**—Enter your existing password for mailbox 000000.

- **Server**—Specify the name or the IP address of the CallPilot server that you want to configure. (The server name may have changed during the upgrade or platform migration.)

Note: When you launch Internet Explorer, you may see a box that says "M/S IE Enhanced Security config is currently enabled on your server. This advanced level of security reduces risk." Nortel recommends that you do not lower the security level. Nortel also recommends that you do not select the check box to not show the message again. If you do lower the security level and you try to access a Web site off the server, it may be blocked by the security setting. You do not receive a warning but a blank screen appears.

    e. Click **Login**.

      Result: The system may prompt you to change the password for the Administrator mailbox.

    f. If prompted, do not change the password.

      Result: The main CallPilot Manager screen appears.

2 Click the **Configuration Wizard** icon.

    Result: A dialog box appears, prompting you to choose either an Express or Standard setup.

3 Select **CallPilot System Configuration (Standard Mode)**.

4 Click **OK**.

    Result: The Configuration Wizard: Welcome screen appears.

    Note: Because the CallPilot system is not yet configured, an error dialog box can appear while you run the Configuration Wizard. Disregard the error message by closing the dialog box, and continue the configuration procedure.

5 On the Welcome screen, click **Next**.

    Result: The Keycode and serial number screen appears.

6 Enter the same **serial number** and **keycode** that was used for CP1.

7 Click **Next**.

    Result: The Feature Verification screen appears.

8 Ensure that the details on the Feature Verification screen match your expectations and click **Next**.

    Note: If a feature is missing or is not what you expected, acquire a new keycode from your Nortel distributor.

    Result: The Server Information screen appears.

9   On the Server Information screen, enter the new host name for CP2
    in the **Computer Name** field.

> **ATTENTION**
>
> The computer names of the High Availability servers must contain only
> alphanumeric characters. Nonalphanumeric characters (such as a
> hyphen [-]) are not supported.

> *Note:* You must change the computer name of CP2 so that the
> current name can be reused as the Managed computer name for
> the High Availability pair.

10 Click **Next**.

    Result: The Password Information screen appears.

11 If prompted, change the default password to the same password that
    is used on CP1. Store this password in a safe location.

12 Click **Next**.

    Result: The Multimedia Allocation screen appears.

13 Verify the number of MPB boards and, if applicable, DSP cards, and
    ensure that they match the hardware installed in the CallPilot server.

14 Change the **Port Allocations** as required.

15 Click **Next**.

    Result: The Switch Information screen appears.

16 Change the switch configuration so that it matches the TNs that are
    assigned to the MGate cards to which CP2 is connected.

17 Verify the CDN configuration.

    > *Note:* The CDN must be the same as the CDN used on CP1.

    If you need to make changes, do the following:

    a. Click **New** to add a new CDN.

        Result: The system prompts you for the CDN and the name of
        the application to dedicate to the CDN.

    b. Specify the **CDN**, choose the application, and then click **OK**.

        Result: The system returns you to the CDN Information page.

18 Click **Next**.

    Result: The Language Source Directory screen appears.

19   Select the **Skip Language CD Validation** option.

        Result: The CallPilot Local Area Network Interface screen appears.

20   Use the Language Prompts CD to reinstall languages. When the CallPilot 5.0 Image was installed on the server, all languages were removed.

> ### ATTENTION
> Ensure the language source directory contains CallPilot 5.0 Language Prompts. Voice prompts from a previous release of CallPilot do not work.

21   Put the CallPilot 5.0 Language Prompts CD in the CD or DVD drive and select the **Install Language** option button.

22   In the **Language CD Location** box, enter the path to the CallPilot 5.0 Language Prompts CD and click **Next**.

        Result: The Language Installation screen appears.

23   Choose the languages that you want to install for the Prompts option, the Automated Speech Recognition option, and the Primary and Secondary languages, and then click **Next**.

        Note: The same languages that are installed on CP1 must be installed on CP2. Ensure that the Primary and Secondary languages are the same as CP1.

        Result: The CallPilot Local Area Network Interface screen appears.

24   On the CallPilot Local Area Network Interface screen, do the following:

      a. Change the ELAN and CLAN IP address values to the new values.

          Note: The previous ELAN and CLAN IP address values from the existing CallPilot 1005r server will be reused as the Managed ELAN/CLAN IP address and host name for the pair of servers in the new High Availability configuration.

      b. Select the **High Availability mode** check box.

          Note: To enable High Availability, a proper keycode is required and the High Availability Mode check box must be selected.

      c. Enter IP information for the **HB1**, **HB2**, and **MIRROR** network interface cards.

The following table shows the suggested default values for HB1, HB2, and MIRROR on CP2. If you do not use these suggested values, ensure that you use your new values throughout the configuration.

Network Interface Card (NIC)	IP Address	Subnet Mask
Heartbeat 1 (HB1)	192.0.0.11	255.255.255.0
Heartbeat 2 (HB2)	194.0.0.11	255.255.255.0
MIRROR	193.0.0.11	255.255.255.0

25   Click **Next**.

Result: The Ready to Configure screen appears.

26   Click **Finish**.

Result: A dialog box prompts you to confirm the configuration.

27   Click **OK** to configure CallPilot.

Result: The configuration is applied to the server. This task can take from 10 to 40 minutes to complete, depending on the number of languages installed and the number of programmed DSP cards. The Configuration Wizard displays progress information.

After the configuration is applied to the server, a dialog box reminds you to restart the server for the configuration to take effect.

28   Click **OK** to dismiss the dialog box.

Result: The system returns you to the main CallPilot Manager screen.

29   Log off CallPilot Manager and close the Web browser.

30   Restart CP2.

—End—

Complete the High Availability configuration process

Use the following procedure to guide you through the remainder of the High Availability configuration process.

Completing the High Availability feature configuration

Step	Action
1	Connect the LAN.

For more information, see "Connect and verify LAN connections" (page 68) and complete the following procedures:

- "Connecting and verifying LAN connections" (page 69)
- "Modifying the hosts file" (page 72) (optional)
- "Testing the host name resolution" (page 74)

2 Check the configuration of CP1 and CP2.

For more information, see "Running Stage 1 of the High Availability Configuration Wizard to check CP1 and CP2 configuration" (page 75).

3 Install the AutoStart Software on CP1.

For more information, see "Installing the AutoStart Agent and Console software on CP1" (page 79).

4 Add the CP2 Administrator account to the AutoStart Console.

For more information, see "Add the node 2 administrator account to the AutoStart Console on node 1" (page 92).

5 Install the AutoStart software on CP2.

For more information, see "Installing the AutoStart software on CP2" (page 95).

6 To configure the AutoStart software, do the following:

a. Configure the AutoStart software.

For more information, see "Configure the AutoStart software" (page 109).

> **WARNING**
> You must wait for both servers under Domains > [AutoStart_Domain] > Nodes to appear green before making any changes in the AutoStart Console. Failure to do so can result in the loss of configured information for verification links upon the next restart.

i. Modify the AutoStart Domain and Verification links.

For more information, see "Modifying the AutoStart Domain and Verification links" (page 109).

ii. Add the Remote Mirroring Host for the new 1005r server (CP2).

For more information, see "Adding the Remote Mirroring Host for CP2" (page 112).

b. Generate the AutoStart Definition File.

For more information, see "Generating the AutoStart Definition File" (page 115).

c. Import the AutoStart Definition File.

For more information, see "Importing the AutoStart Definition file" (page 117).

d. Add the Windows administrator account password for the AutoStart Utility Processes.

For more information, see "Adding the Windows administrator account password for the AutoStart Utility Processes" (page 118).

7 Bring the Resource Groups online.

For more information, see "Bring the Resource Groups online" (page 122).

a. Bring the CallPilot Resource Group online on CP1.

For more information, see "Bringing the CallPilot Resource Group online on CP1" (page 122).

b. Bring the CallPilot_[CP1] and CallPilot_[CP2] Resources Groups online.

For more information, see "Bringing the Resource Groups CallPilot_[CP1] and CallPilot_[CP2] online" (page 125).

8 Create the CallPilot Reporter connections. For more information, see "Creating the CallPilot Reporter connection" (page 129).

9 If required, add the servers to a Windows domain. See "Joining a Windows domain" (page 130).

—End—

Index

A

automatic failover 34, 212
AutoStart software 16
    configuring 109
    definition file 117, 195
    installing 79
    licence administration 191
    maintaining 182
    notification settings 183
    reinstall 216, 234
    stand-alone PC 216
    uninstall 216, 228
    updates 216, 235
    Utility Processes 118

B

backup 241

C

CallPilot Reporter 128
channel capacity 169
Configuration Wizard 48
connections
    CLAN 68
    ELAN 68
    HB1 14, 23, 68
    HB2 14, 23, 68
    mirror 14, 23, 68
copyright 2

D

definition file
    export 195

import 195

F

failover 18, 33, 212
    automatic 212
    manual 215
    status 192
feature expansion 255, 259

H

High Availability
    Configuration Wizard 116
        Stage 1 75
        Stage 2 75
    feature expansion 255, 259
    installing 37
    maintaining 135
    planning 21
    system checklist 25

L

LAN connections 68

M

maintainence
    languages 147
    media allocation 143
    network interface cards 150
    network settings 150
    server information 135
    switch configuration 145
manual failover 35, 215
migration 255

NORTEL