HP Client Automation Enterprise

Configuration Server

for the AIX; Enterprise Linux ES, AS; HP-UX; Solaris; SuSE Linux Enterprise Server; and Windows® operating systems

Portal and Enterprise Manager

for Windows operating systems

Software Version: 7.80

Getting Started Guide

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Documentation Updates

The title page of this document contains the following identifying information:

- Software Version number, which indicates the software version.
  - The number before the period identifies the major release number.
  - The first number after the period identifies the minor release number.
  - The second number after the period represents the minor-minor release number.
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You will also receive updated and new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

Table 1 below lists the changes that were made to this document.

Table 1   Documentation changes

Chapter	Version	Changes
All	5.00	Deleted unneeded screenshots; revised associated text.
All	5.10	The *HP Configuration Management Administrator Publisher Guide* and the *HP Configuration Management Administrator Configuration Server Database Editor Guide* were consolidated into a new guide, the *HP Configuration Management Administrator User Guide* (*CM Admin Guide*).
All	5.00	Changed all directory paths. The default directory paths for CM products have been changed to: • `Program Files\Hewlett-Packard\CM` (Windows) And… • `HP/CM` (UNIX)

Chapter	Version	Changes
All	5.10	The *HP Configuration Management Application Manager Installation and Configuration Guide* and the *HP Configuration Management Application Self-service Manager Installation and Configuration Guide* were consolidated into one guide for each platform (UNIX and Windows). The consolidated guide is the *HP Configuration Management Application Manager and Application Self-service Manager Installation and Configuration* (*CM Application Manager and Application Self-service Manager Guide*).
All	7.50	Deleted all references to the HPCA Portal user interface; administrative tasks are now performed in the Enterprise Manager user interface and CSDB Editor.
Chapter 1	5.00	In this release, one version of the HP Configuration Management Distributed Configuration Server (CM Distributed Configuration Server) is offered; some references to this product's media have been removed.
Chapter 1	5.00	Page 14, Table 4, updated the directory structure of the HP media.
Chapter 1	5.00	Page 14, Installation Media: removed references to the following products that are not supported in this release. • HP Configuration Management Adapter for SSL (CM Adapter for SSL) • HP Configuration Management Staging Server (CM Staging Server) • HP Configuration Management Adapter (CM Adapter) • HP Configuration Management Operations Adapter (CM Operations Adapter) Also, this release does not offer support for HP Configuration Management products on Mac OS X.
Chapter 1	5.10	Page 16, updated Table 5, Configuration Management library: revised the titles of some guides; removed references to guides that no longer exist.
Chapter 1	5.00	Page 21, added information for a new CM product, CM Enterprise Manager.

Chapter	Version	Changes
Chapter 1	5.10	Page 21, added a Note regarding administrative Configuration Management tasks being performed by either the CM Portal or the CM Enterprise Manager.
Chapter 1	5.10	Removed all references to the CM Configuration Baseline Auditor; this product has been retired.
Chapter 1	5.10	Added a new section, CM Portal and CM Enterprise Manager, which will guide a CM administrator as to which product to use (CM Portal vs. CM Enterprise Manager) to complete various CM tasks.
Chapter 2	5.00	Removed references to, and information about installing the HP Configuration Management Portal on UNIX operating systems; this installation is not available in this release.
Chapter 2	5.10	Page 29, the title of this chapter (CM Configuration Server Installation for UNIX) was revised from *UNIX Installations*.
Chapter 2	5.00	Page 34, in the section, UNIX Pre-Installation Notes, added information regarding the UNIX arp utility.
Chapter 2	7.20	Page 34, in the section, UNIX Pre-Installation Notes, added information regarding Locales, Regions, and Code Sets.
Chapter 3	5.10	Page 45, the CM Portal installation materials have been removed from this chapter, which is now limited to the installation of the CM Configuration Server. The installation of the CM Portal has been moved to a stand-alone chapter, CM Portal Installation for Windows.
Chapter 4	5.10	Page 61, the CM Portal installation is detailed in this chapter, CM Portal Installation for Windows.
Chapter 4	7.50	Page 61, several aspects of the HPCA Portal installation have been revised for this release.
Chapter 5	5.10	Page 69, the CM Enterprise Manager installation is detailed in this chapter, CM Enterprise Manager Installation for Windows.
Appendix B	7.20	Page 79, added a new appendix, UNIX Locales, Regions, and Code Sets, which provides information on setting language and region values to avoid problems when importing and exporting database classes.

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Contents

1 Introduction

At the end of this chapter, you will:

- Be familiar with the HP Client Automation (HPCA) product suite.
- Know which HPCA media contain the installation files for each HPCA component.
- Have a high-level understanding of the function of the various HPCA components.

HP Client Automation

HP Client Automation (HPCA) products manage the distribution of software packages via connections to the internet or an intranet. HP Client Automation administrators publish packages of software and assign users to the packages that they need.

> ▶ IMPORTANT NOTE:
>
> With the introduction of **Client Automation, version 7.20**, HP has simplified and streamlined the installation, configuration, and use of our product by introducing two new server components: the **Core** and the **Satellite**. These components provide an end-to-end experience that encompasses all of our product capabilities.
>
> The new **Core** and **Satellite** (see the *HPCA Core and Satellite Getting Started Guide* in the `Documentation` directory of the HPCA media) are available *only* to new customers who use **Windows Servers** as their primary infrastructure platforms.
>
> Existing customers, and new customers who require **UNIX** infrastructure support, should consult the *HP Client Automation Configuration Server, Portal, and Enterprise Manager Getting Started Guide* for information on alternative methods for installing, configuring, and using HP's **Client Automation** infrastructure.

Overview of this Guide

The *HPCA Configuration Server, Portal, and Enterprise Manager Getting Started Guide* (*Getting Started Guide*) gives HPCA administrators quick access to:

- The organization of the HP Client Automation installation media

- The logical grouping and functionality of all the HP Client Automation components

This guide also documents the installation of the principal HP Client Automation infrastructure products:

- HP Client Automation Configuration Server (Configuration Server)

- HP Client Automation Portal (Portal)

- HP Client Automation Enterprise Manager (Enterprise Manager)

These installations enable HP Client Automation administrators to quickly set up and begin using an HP Client Automation environment. You can also install the HP Client Automation publications library to make it available for referencing during other installations—in accordance with product licensing.

> For more information on other components of the HP Client Automation product suite, refer to the guides that are referenced later in this chapter.

Document Map

This section provides an overview of this book to help you locate specific information about the Configuration Server, Portal, and Enterprise Manager.

Table 2   Document Map

Chapter	Contents
Chapter 1: Introduction	The contents of this guide, including: an overview of the HPCA installation media; and an overview of the various HPCA components.
Chapter 2: Configuration Server Installation for UNIX	Installing the Configuration Server in a UNIX environment.
Chapter 3: Configuration Server Installation for Windows	Installing the Configuration Server in a Windows environment.
Chapter 4: Portal Installation for Windows	Installing the Portal in a Windows environment.
Chapter 5: Enterprise Manager Installation for Windows	Installing the Enterprise Manager in a Windows environment.
Appendix A: UNIX Kernel Tuning	UNIX Kernel resource allowances in relation to the Configuration Server, including: parameters on the different UNIX operating systems; and Configuration Server configuration based on concurrent tasks and cache management.

HP Client Automation Supporting Documentation

This section presents a list of HP Client Automation publications that are associated with the Configuration Server, Portal, and Enterprise Manager.

Table 3   HPCA supporting documentation

Product	Publication
Configuration Server	*HP Client Automation Configuration Server User Guide*
	HP Client Automation Configuration Server Messages Guide
	HP Client Automation Configuration Server Database Reference Guide
	HP Configuration Management REXX Programming Guide
Portal	*HP Client Automation Portal Installation and Configuration Guide*
Enterprise Manager	*HP Client Automation Enterprise Manager User Guide*

For a list of all manuals in the HPCA library, see Table 5 on page 16.

Installation Media

The HP Client Automation installation media are organized by product type and contain all of the products that are needed to set up an HP Client Automation infrastructure.

The HP Client Automation product installations are in the following directories of the media.

Table 4   HPCA media directory contents

Directory	Contents
Agents	The installation materials for the HPCA agents. See Agents Media, starting on page 24.

Directory	Contents
Configuration Server	The installation materials for the Configuration Server, as well some of the extended infrastructure and management infrastructure products. See Configuration Server Media, starting on page 18.
Documentation	The HPCA library. See HP Client Automation Documentation Media, starting on page 16.
Enterprise Manager	The installation materials for the Enterprise Manager. See Enterprise Manager Media, starting on page 21.
Infrastructure	The installation materials for the HPCA infrastructure, as well some of the extended infrastructure and management extensions products. See Infrastructure Media, starting on page 21.
OS Manager	The installation materials for the OS Manager. See OS Manager Media, starting on page 26.
Patch Manager	The installation materials for the Patch Manager. See Patch Manager Media, starting on page 26.
Usage Manager	The installation materials for the Application Usage Manager. See Application Usage Manager Media, starting on page 27.
AUTORUN.INF	The auto-run file for the HPCA library.
HPCAE_RN_750.pdf	The *Release Notes* document for this release.

> Before installing the HP Client Automation products, check the HP web site for updated product release information.
>
> Also, review any `readme` files, migration guides, and release notes that are included on the media—they might contain important product information.
>
> The installation media might contain products for which you are not licensed. Install only those products for which you purchased a license.

HP Client Automation Documentation Media

The HP Client Automation media's `Documentation` directory contains a list of documentation in *Portable Document Format* (PDF).

Table 5 below offers an alphabetical list of the publications that are in the `Documentation` directory for this release.

Table 5   HP Client Automation library

HP Client Automation Administrator User Guide
HP Client Automation Application Management Profiles User Guide
HP Client Automation Application Manager and Application Self-service Manager Installation and Configuration Guide for UNIX
HP Client Automation Application Manager and Application Self-service Manager Installation and Configuration Guide for Windows
HP Configuration Management Application Usage Manager User Guide
HP Configuration Management Batch Publisher Installation and Configuration Guide
HP Client Automation Configuration Analyzer Installation and Configuration Guide
HP Client Automation Configuration Server, Portal, and Enterprise Manager Getting Started Guide
HP Client Automation Configuration Server Database Reference Guide
HP Client Automation Configuration Server Messages Guide
HP Client Automation Configuration Server User Guide
HP Client Automation Distributed Configuration Server Installation and Configuration Guide

HP Client Automation Enterprise Manager User Guide
HP Configuration Management Extensions for Windows Installer Getting Started Guide
HP Configuration Management Extensions for Windows Installer User Guide
HP Client Automation OS Manager Hardware Configuration Management Guide
HP Client Automation Inventory Manager Installation and Configuration Guide for UNIX
HP Client Automation Inventory Manager Installation and Configuration Guide for Windows
HP Configuration Management Knowledge Base Server Installation and Configuration Guide
HP Client Automation Management Applications Messages and Codes Guide
HP Client Automation Messaging Server Installation and Configuration Guide
HP Client Automation Multicast Server Installation and Configuration Guide
HP Client Automation OS Manager System Administrator Guide for UNIX
HP Client Automation OS Manager System Administrator Guide for Windows
HP Client Automation Patch Manager Installation and Configuration Guide
HP Client Automation Policy Server Installation and Configuration Guide
HP Client Automation Portal Installation and Configuration Guide
HP Client Automation Proxy Server Installation and Configuration Guide
HP Client Automation Reporting Server Installation and Configuration Guide
HP Configuration Management REXX Programming Guide
HP Configuration Management Service Desk Integration Guide
HP Configuration Management Solutions for Servers Windows Terminal Server and Citrix Support Guide

These publications will help an HPCA administrator prepare the data needed to manage all the computers in an enterprise.

Be sure to periodically check the HP documentation web site, **http://h20230.www2.hp.com/selfsolve/manuals**, for new and updated publications; and for additional technical support articles, refer to the HP support web site, **www.hp.com/go/hpsoftwaresupport**.

Configuration Server Media

These media contain the installation files for the HPCA components that are listed in Table 6 below.

Table 6   Configuration Server media contents

Directory	HPCA Component
`extended_infrastructure`	Distributed Configuration Server
`management_infrastructure`	Administrator Workstation
	Configuration Server
	Extensions for Windows Installer

The sections that follow offer additional details on these components.

Configuration Server

The HP Client Automation Configuration Server (Configuration Server) resides on a single server, or several can be installed across a network of servers. Applications and information about the subscribers and HPCA agent computers are stored in the Configuration Server Database (CSDB) on the Configuration Server. The Configuration Server distributes application packages based on the policies that are established by an HPCA administrator. For more information, refer to the *HP Client Automation Configuration Server User Guide (Configuration Server Guide)*.

Administrator

The HP Client Automation Administrator (Administrator) contains a set of tools (shown in Figure 1 on page 19) for basic administrative functions. Use

these tools to manage the CSDB, prepare applications, view HPCA agent objects, and customize a computing environment.

Figure 1   Tools of the Administrator
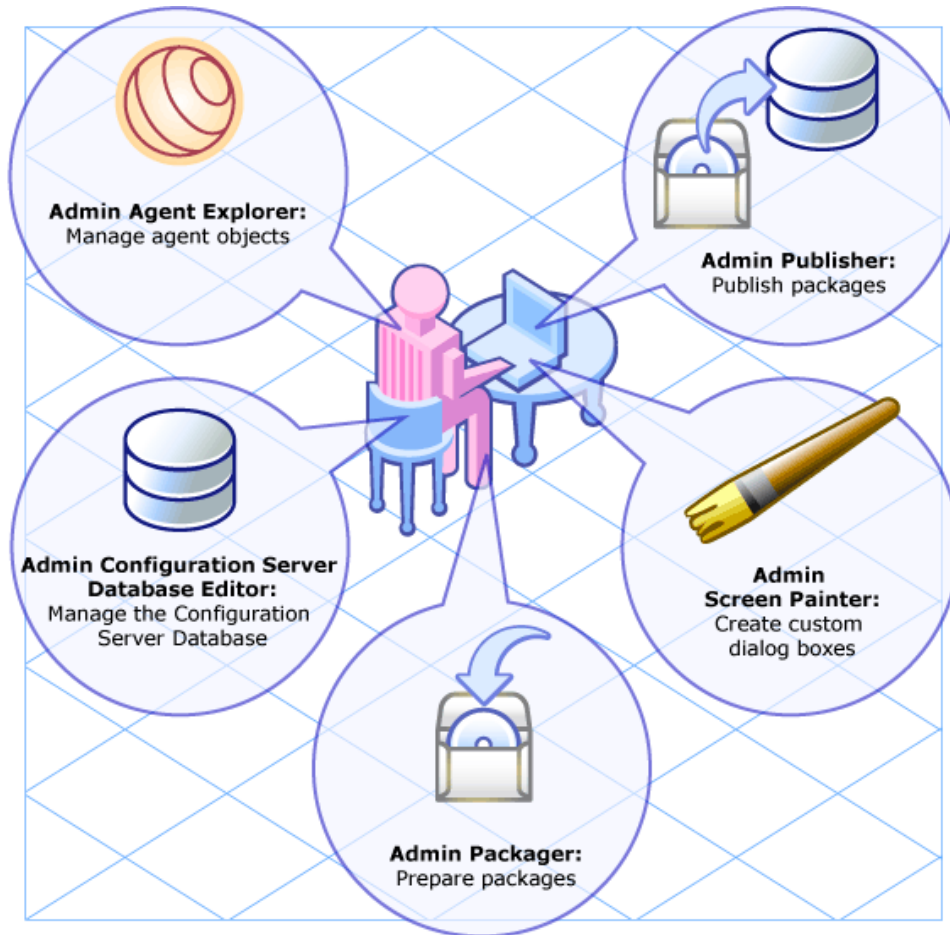
> For instructions on how to install the Administrator, refer to the *HP Client Automation Administrator User Guide* (*Admin Guide*).

The Administrator includes the following tools. Refer to the *Admin Guide*.

Administrator Packager (Admin Packager)

Use to create component groups called packages.

Administrator Publisher (Admin Publisher)

Use to publish packages to the Configuration Server.

Administrator Configuration Server Database Editor (Administrator Configuration Server Database Editor, Admin CSDB Editor)

Use to create new users and groups of users, assign users to groups, and assign users and groups to application packages.

Administrator Agent Explorer (Admin Agent Explorer)

Use to manipulate local HPCA objects.

Administrator Screen Painter (Admin Screen Painter)

Use to create custom dialog boxes.

AMP Editor

Use to create and modify Application Profiles. Refer to the *HP Client Automation Application Management Profiles User Guide (AMP Guide)*.

Extensions for Windows Installer

The HP Configuration Management Extensions for Windows Installer (Extension for WI) is a management system that automates and simplifies the enterprise application integration laboratory process. Use it to build, test, maintain, deploy, and troubleshoot Windows Installer applications and installation packages. For more information, refer to the *HP Configuration Management Extensions for Windows Installer User Guide (Extension for WI User Guide)* and *HP Configuration Management Extensions for Windows Installer Getting Started Guide (Extensions for WI GSG)*.

Distributed Configuration Server

The HP Client Automation Distributed Configuration Server (Distributed Configuration Server) is a database replication tool with which an HPCA administrator can copy the contents (all or part) of one CSDB to another, and perform subsequent source-to-destination synchronizations in order to replicate database changes. For more information, refer to the *HP Client Automation Distributed Configuration Server Installation and Configuration Guide (Distributed Configuration Server Guide)*.

Enterprise Manager Media

These media contain the installation files for the HPCA components that are listed in Table 7 below.

Table 7   Enterprise Manager media contents

Category	HPCA Component
N/A	Enterprise Manager

The section that follows provides a description of this component.

Enterprise Manager

The HP Client Automation Enterprise Manager (Enterprise Manager) is a web-based, agent-management tool that allows an HPCA administrator to quickly and easily manage software, patches, and inventory for devices in an HPCA environment. For more information, refer to the *HP Client Automation Enterprise Manager Guide* (*Enterprise Manager Guide*).

Infrastructure Media

These media contain the installation files for the HPCA components that are listed in Table 8 below.

Table 8   Infrastructure media contents

Directory	HPCA Component
extended_infrastructure	Configuration Analyzer
	Knowledge Base Server
	Portal
	Messaging Server
	Multicast Server
	Proxy Server
	Reporting Server
management_extensions	Policy Server
	Publishing Adapter (Batch Publisher)

Directory	HPCA Component
	Service Desk Adapter

These components are described in further detail in the sections that follow.

Policy Server

The HP Client Automation Policy Server (Policy Server) is a plug-in to the Integration Server. It can be used for administrative tasks such as mapping services to users, and it can be used to leverage LDAP-based directory services, like Active Directory and SQL-based databases. Refer to the *HP Client Automation Policy Server Installation and Configuration Guide (Policy Server Guide)*.

Batch Publisher

The HP Configuration Management Batch Publisher (Batch Publisher) is a command-line driven alternative to the Admin Publisher. It provides an automated, repeatable process, whereas the Publisher must be monitored from start to finish. Its focus is distributing updates rather than initial application packaging. The Batch Publisher can easily be integrated with third-party configuration-management and packaging products. Refer to the *HP Configuration Management Batch Publisher Installation and Configuration Guide (Batch Publisher Guide)*.

Portal

The Portal stores information about the target devices in your environment in its zone-based Directory Service, and provides the web-services to make these directory objects available for HPCA jobs and management functions. The Portal is part of the HPCA *extended infrastructure*. Refer to the *HP Client Automation Portal Installation and Configuration Guide* (*Portal Guide*).

Multicast Server

The HP Client Automation Multicast Server (Multicast Server) enhances and simplifies data-transmission by reducing the number of transmissions and maximizing the use of network bandwidth. Multicasting enables an HPCA administrator to simultaneously transmit one stream of data to multiple

recipients. Refer to the *HP Client Automation Multicast Server Installation and Configuration Guide* (*Multicast Server Guide*).

Proxy Server

The HP Client Automation Proxy Servers (Proxy Server) are beneficial when numerous HPCA agents are requesting the same resources from the same location. Data can be cached on a Proxy Server, thereby decreasing the demand on the Configuration Server, which in turn allows it to allocate more resources to other tasks. By placing Proxy Servers at strategic points in a network, the rate at which data is transferred increases. Refer to the *HP Client Automation Proxy Server Installation and Configuration Guide* (*Proxy Server Guide*).

Configuration Analyzer

The HP Client Automation Configuration Analyzer (Configuration Analyzer) simplifies application management. It is backed by a database, wherein imported **state files** keep a detailed history of all of the resources that are needed by an application. It performs integration- and management-analysis functions, and with it, HPCA administrators can profile applications, initiate application comparisons, and analyze applications. For more information, refer to the *HP Client Automation Configuration Analyzer Installation and Configuration Guide (Configuration Analyzer Guide)*.

Knowledge Base Server

The HP Configuration Management Knowledge Base Server (Knowledge Base Server) is used with the Configuration Analyzer. It populates the Knowledge Base with data in the form of state files, which consist of data that represent the current state of an application. For more information, refer to the *HP Configuration Management Knowledge Base Server Installation and Configuration Guide* (*Knowledge Base Server Guide*).

Reporting Server

The web-based HP Client Automation Reporting Server (Reporting Server) allows the querying of data in the Inventory Manager, Patch Manager, and Application Usage Manager databases, and the creation of detailed reports. It also provides a way to use Client Automation SQL data for reporting and overall environmental assessment. For more information, refer to the *HP*

Client Automation *Reporting Server Installation and Configuration* Guide
(*Reporting Server Guide*).

Messaging Server

The HP Client Automation Messaging Server (Messaging Server) is a generic
messaging service that can be used with several of the HPCA infrastructure
components. It continually monitors a pre-defined data queue, and
dynamically routes data objects to external destinations. On a Configuration
Server, the Messaging Server operates with the executable, QMSG, to
transfer reporting data from HPCA agents to the appropriate external HPCA
Integration Server, where it can then be mapped to the appropriate reporting
database. For more information, refer to the *HP Client Automation
Messaging Server Installation and Configuration Guide* (*Messaging Server
Guide*).

Agents Media

These media contain the installation files for the HPCA components that are
listed in Table 9 below.

> The Management Applications products that are listed in Table 9—
> and detailed in this section—comprise the HPCA agents.

Table 9   Applications media contents

Category	HPCA Component
Management Applications	Application Manager Agent
	Application Self-service Manager Agent
	Inventory Manager Agent
	Patch Manager Agent
	OS Manager Agent

The sections that follow provide descriptions of these components.

Application Manager

The HP Client Automation Application Manager (Application Manager)
Agent allows an HPCA administrator to control the distribution and
maintenance of mandatory applications throughout the enterprise. Refer to

the *HP Client Automation Application Manager and Application Self-service Manager Installation and Configuration Guide* (*Application Manager and Application Self-service Manager Guide*).

Application Self-service Manager

The HP Client Automation Application Self-service Manager Agent (Application Self-service Manager) allows end users to control the installation, removal, and updating of the optional applications that are available to them in a service list. Refer to the *Application Manager and Application Self-service Manager Guide*.

> The Application Manager and Application Self-service Manager can be co-resident on a machine. In this situation, the HPCA administrator still determines:
>
> - Whether an application is mandatory or optional, and
> - By whom the installation will be controlled.

Inventory Manager

The HP Client Automation Inventory Manager Agent (Inventory Manager) allows an administrator to collect hardware information and send it to the Inventory Manager database for inventory reporting. Refer to the *HP Client Automation Inventory Manager Installation and Configuration Guide (Inventory Manager Guide)*.

Application Management Profiles

The HP Client Automation Application Management Profiles (Application Management Profiles) is a set of tools that is built on top of the Application Manager in order to enable the deployment and management of complex software products. It provides a set tools with which an HPCA administrator can analyze configuration control data for targeted products, deploy and configure software to targeted devices, and report on the success of the deployment. Refer to the *HP* Client Automation *Application Management Profiles User Guide (AMP Guide)*.

Windows Terminal Server

HP Configuration Management Windows Terminal Server and Citrix Support (Windows Terminal Server) works with Windows Terminal Services, a thin-client server that is available on some Windows operating systems,

and which moves the processing of applications off a user's desktop onto a centralized server. For more information, refer to the *HP Configuration Management Solutions for Servers Windows Terminal Server and Citrix Support Guide (Windows Terminal Server and Citrix Support Guide)*.

Patch Manager Media

These media contain the installation files for the HPCA components that are listed in Table 10 below.

Table 10   Patch Manager media contents

Category	HPCA Component
Extended Infrastructure	Patch Manager (Server component)

Patch Manager

The HP Client Automation Patch Manager (Patch Manager) automates the patch-management process (including patch acquisition, deployment, and maintenance) in order to identify and manage software security vulnerabilities, and ensure the proper configuration of managed devices. With it, an administrator can configure acquisition preferences in order to collect security patches from a vendor's web-based security-patch repository, as well as perform impact analysis and pilot testing in order to identify affected applications and devices. For more information, refer to the *HP Client Automation Patch Manager Installation and Configuration Guide (Patch Manager Guide)*.

OS Manager Media

These media contain the installation files for the HPCA components that are listed in Table 11 below.

Table 11   OS Manager media contents

Category	HPCA Component
Extended Infrastructure	OS Manager (OS Manager Server component)

Manager

The HP Client Automation OS Manager (OS Manager) is comprised of agent and server components which allow an HPCA administrator to provision operating systems on HPCA agent devices. The OS Manager can deploy operating systems based on policy assignments; and prompt the user to choose an operating system based on a set of criteria. For more information, refer to the *HP Client Automation Operating System Manager System Administrator Guide (OS Manager Guide)*.

Application Usage Manager Media

These media contain the installation files for the components that are listed in Table 12 below.

Table 12   Application Usage Manager media contents

Category	Component
Extended Infrastructure	Usage Manager

Application Usage Manager

The HP Configuration Management Application Usage Manager (Usage Manager) can assess patterns of application usage in an environment. This ability allows an administrator to ensure adherence to license agreements, re-provision licenses if needed, and monitor user productivity. Additionally, it can be used to enforce corporate standards by identifying non-standard software, and to view the actual use of application resources. Refer to the *HP Configuration Management Application Usage Manager User Guide (Application Usage Manager Guide)*.

HPCA Implementation Overview

This guide describes the installations of the:

- Configuration Server
- Portal
- Enterprise Manager

For a functional HPCA infrastructure, the Configuration Server, Portal, and Enterprise Manager *must* be installed.

After these products are installed, additional HPCA products can be installed—in accordance with license agreements. With the HPCA infrastructure in place, all of the digital assets in the enterprise can be managed by HPCA.

Figure 2 below provides an overview of a functional HPCA implementation.

Figure 2   HPCA environment
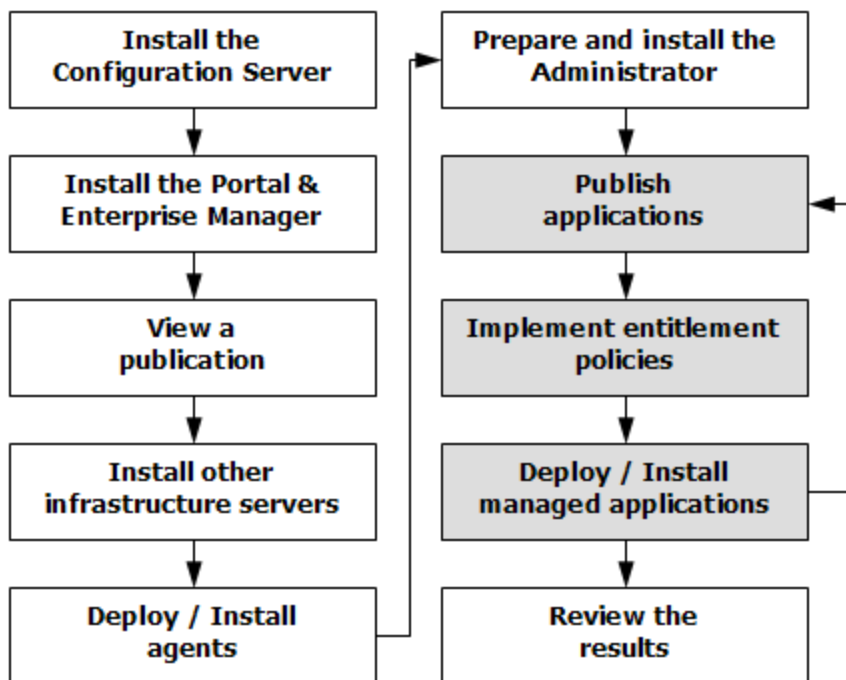
2 Configuration Server Installation for UNIX

At the end of this chapter, you will have:

- An understanding of the HP Client Automation Configuration Server (Configuration Server) system requirements for a UNIX environment.

- Installed the Configuration Server (either *silently* or via a *graphical user-interface* [GUI]) in a UNIX environment.

⚠️ If your environment uses Core and Satellite servers, first read the *Core and Satellite Servers Getting Started Guide* as the installation, configuration, and troubleshooting information in that guide may override the information in this guide.

Chapter Overview

This chapter details the installation of the Configuration Server for UNIX.

> IMPORTANT NOTE:
>
> With the introduction of **Client Automation, version 7.20**, HP has simplified and streamlined the installation, configuration, and use of our product by introducing two new server components: the **Core** and the **Satellite**. These components provide an end-to-end experience that encompasses all of our product capabilities.
>
> The new **Core** and **Satellite** (see the *HPCA Core and Satellite Getting Started and Concepts Guide* in the `Documentation` directory of the HPCA media) are available *only* to new customers who use **Windows Servers** as their primary infrastructure platforms.
>
> Existing customers, and new customers who require **UNIX** infrastructure support, should use this guide for information on alternative methods for installing, configuring, and using HP's **Client Automation** infrastructure.

Platform Support

For information about the platforms that are supported in this release, refer to the accompanying release notes.

Configuration Server Installation

This section provides instructions for installing the Configuration Server, as well as reviewing the system requirements for the various UNIX platforms.

Installation Types

There are two installation types, *Silent* and *User Interface*.

- **Silent**: A hands-off, command-line invoked installation that has pre-determined database-configuration parameters. It will install the Configuration Server Database (CSDB) and

  — The TCP/IP communications protocol, configured on port 3464

  — Three TCP/IP Notify Managers

  — Default caching and SNMP configurations

  — Default internet settings for the Configuration Server

- **User Interface (GUI)**: A graphical installation that requires an administrator of HP Client Automation (HPCA) to specify a variety of parameters in order to customize the HPCA environment. It has some pre-determined database configuration parameters, and will install the CSDB and the following configurable parameters:

  — The TCP/IP communications protocol and port

  — TCP/IP Notify Managers

  — Caching and SNMP configurations

  — Internet settings for the Configuration Server

Configuration Server Directories

Table 13 lists the directories that are automatically created during the Configuration Server installation.

Table 13   Configuration Server Directories

Directory	Contents
Bin	The shell scripts that enable you to start, stop, clean up, and query the Configuration Server.
DB	The CSDB files.
Exe	The Configuration Server methods and executable files.
internet	The internet HTML and graphics files.
lib	The files for proper Configuration Server operation. Note: Do not modify or delete these files.
Log	The Configuration Server log.

Directory	Contents
Rexx	This directory is for storing customized REXX methods.
	Note: Its sub-folder, NOVADIGM, contains the default Configuration Server REXX methods. See the caution that follows.

> ► Altering the Configuration Server methods that are in the
> ConfigurationServer\rexx\NOVADIGM directory could adversely
> effect HPCA processing.
>
> Therefore, it is recommended that a method be copied up one level,
> to the ConfigurationServer\rexx directory, before being
> modified.

System Requirements for UNIX

Table 14 below lists the amount of space that is required on the UNIX
platforms for the installation and operation of the Configuration Server and
its associated elements. It is recommended that these limits be allocated on
the system on which the Configuration Server is being installed.

> ► These recommendations represent typical, minimum operating
> system estimates. Adjust them based on the environment in which
> the CSDB is being installed.

Table 14   Space Requirements for the Configuration Server

Component	All Platforms
Memory	512 MB
Swap	2 GB
Configuration Server Directory Important Note: This space recommendation does not include estimates for additional applications that will be managed by the Configuration Server.	75 MB
Configuration Server Database *	see note *
Configuration Server Logs	50 MB

> ▶ * The size of the CSDB depends on the size and number of applications that the Configuration Server is going to manage. HP recommends this be estimated as roughly 50 percent of the size of the applications to be managed.
>
> Adjust these recommendations based on the environment in which the CSDB is being installed.

UNIX Pre-Installation Checklist

Prior to beginning the installation, make sure that:

- The user that is performing the installation has:
  — Adequate rights on the UNIX workstation to create and update the target installation directory.
  — A home directory on the UNIX workstation, and is not logged in as `root`.
- This installation program is run from within UNIX.
- If the SNMP process is running, stop it.
- Prior to starting the Configuration Server installation:
  — Close all other applications, including anti-virus programs.
  — Stop all other tasks and operations that are executing.

UNIX Pre-Installation Tips

- Have the license file easily accessible for the installation.
- Click **Cancel** in any window to exit the installation. If **Cancel** is clicked accidentally, a confirmatory prompt enables the return to the installation program.
- Click **Back** at any time to return to previous windows. All the information entered thus far will remain unchanged.
- Most windows have associated error messages. If specifications are invalid, an error message will appear. Click **OK** and enter the correct information.
- This installation program displays default values when applicable. It is recommended that all defaults be accepted; however, they can be overridden by specifying the parameters for your environment.

UNIX Pre-Installation Notes

All UNIX Platforms

Locales, Regions, and Code Sets

On UNIX systems, if the default **system locale**, including LC_CTYPE, is not set to the correct value for the language and region, problems can arise when extended or multi-byte character sets are used when importing and exporting database classes. The default locale, LC_CTYPE, on some UNIX systems could be C, which handles the basic ASCII character set only.

For more information on locale settings, see Appendix B, UNIX Locales, Regions, and Code Sets, on page 79.

arp Utility

The UNIX user who is installing the Configuration Server should have access to the UNIX utility, arp, which is usually located in /usr/sbin.

To prevent the Configuration Server installation from failing, the UNIX user who is installing the Configuration Server must have either:

- /usr/sbin in his default PATH variable, or

- A UNIX administrator copy/move the arp utility to a path that is available to the UNIX user who is installing the Configuration Server.

Directory Permissions

The user that is installing the Configuration Server must have:

- A /tmp directory under the root, and

- Write permissions for the directory.

HP-UX Notes

Sub-directories

There are two hprisc sub-directories in the /configuration_server directory of the Configuration Server media; be sure to navigate to the correct sub-directory.

- For PA-RISC 2.0 chipsets, the installation media is in /hprisc2.

- For PA-RISC 1.1 chipsets, the installation media is in /hprisc1.

Mounting the DVD

The HP Client Automation media must be mounted using `pfs_mount` on HP-UX platforms because the DVD is created using the Rock Ridge format. The HP-UX standard mount procedure is incompatible with the Rock Ridge file system type, so HP has made available the *Portable File System* (PFS) package that allows their workstations to recognize this format. Specific instructions are:

- Insert the DVD and mount it by typing **/usr/sbin/pfs_mount -v -x unix** *dvd***/mnt**.

- To un-mount, type **/usr/sbin/pfs_umount /mnt**.

When installing the Configuration Server on HP-UX platforms, the DVD drive must be mounted to display lowercase filenames, as in **mount -o cdcase /dev/<dvd_device> /cdrom**.

If the DVD drive is not mounted with the **cdcase** parameter, file names on the DVD will be displayed in uppercase and the installation will fail.

> ▶ For more information, consult your local UNIX systems administrator and UNIX *man* pages.
>
> After installing the Configuration Server, be sure to periodically check the HP product support web site for service packs, updates, and fixes associated with this version.

Linux Notes

There are two pre-installation considerations for Linux Enterprise Servers, as described in this section.

RedHat Enterprise Linux ES version 5.0: 32-bit, x86 operating system

Prior to starting the Configuration Server installation, be sure to install the file, `compat-libstdc++-8-3.3.4.2.i386.rpm`.

If this file is not installed, the Configuration Server installation will fail.

RedHat Enterprise Linux ES version 4.0: 64-bit, AMD operating system

Prior to starting the Configuration Server installation, be sure to install the files, `libgcc-4.0.2-8.fc4.i386.rpm` and `compat-libstdc++-8-3.3.4.2.i386.rpm` for X86_64 architecture.

If these files are not installed, the Configuration Server installation will fail.

UNIX Environment Variables

The LIBRARY PATH environment variable must include the current working directory, represented by the period (**.**) in the following example, followed by the path to the operating system's shared library files.

```
LD_LIBRARY_PATH=/lib:.:/usr/lib
```

Also, ensure that the PATH environment variable includes the absolute path to the directory that contains the operating system's Bourne shell executable (the executable, sh, is located in /usr/bin on most UNIX systems), as well as the current working directory, represented by the period (**.**) in the example that follows.

```
PATH=/bin:/usr/bin/:.:/usr/bin/X11
```

HP recommends that these environment variables be added to the log-on scripts of the UNIX user ID who installs, and will maintain, the Configuration Server.

Table 15 below presents examples of these environment variables being specified for the four platforms on which the Configuration Server can be installed.

In Table 15, the *current working directory* is represented by **$XXXXX** and **$YYYYY**. Be sure to specify your current working directory, rather than these sample fillers.

Table 15   Environment Variables

Platform	Example
AIX	LIBPATH = **/lib:$XXXXX:$YYYYY:$LIBPATH**
	PATH = **/bin:/usr/bin:$XXXXX:$YYYYY:$PATH**
HP-UX	SHLIB_PATH = **/lib:$XXXXX:$YYYYY:$SHLIB_PATH**
	PATH = **/bin:/usr/bin:$XXXXX:$YYYYY:$PATH**
Linux	LD_LIBRARY_PATH = **/lib:$XXXXX:$YYYYY:$LD_LIBRARY_PATH**
	PATH = **/bin:/usr/bin:$XXXXX:$YYYYY:$PATH**
Solaris	LD_LIBRARY_PATH = **/lib:$XXXXX:$YYYYY:$LD_LIBRARY_PATH**
	PATH = **/bin:/usr/bin:$XXXXX:$YYYYY:$PATH**

> The Configuration Server should always be started with the
> `startmgr` script because it dynamically adds the real path of the
> Configuration Server binaries to the user-path environment
> variable.

The Setup-Configuration File

The default parameters for the Configuration Server installation are
contained in the `setup.cfg` file. HP recommends viewing this file prior to
beginning the silent installation.

The following example code is an excerpt from the Configuration Server
`setup.cfg` file.

```
# $Revision:  1.3 $
#
source comprcsf.tcl
SelectComprcs patchmanager 1
SelectComprcs usagemanager 0
SelectComprcs osmanager    0
SelectComprcs mgr          1

############################################################
Variable    HP_product_name "HP Client Automation Configuration
Server"

Variable    PACKAGE "CS"

Variable    PKGNAME "Configuration Server"

# Windows {
Variable    INSTDIR "$::env(PROGRAMFILES)\\Hewlett-Packard\\CM\\
ConfigurationServer"
Variable    DESTDB  "$::env(PROGRAMFILES)\\Hewlett-Packard\\CM\\
ConfigurationServer\\DB"
Variable    LICENSEFILE "C:\\license.nvd"
}

UNIX {
Variable    INSTDIR "/opt/HP/CM/ConfigurationServer"
Variable    DESTDB  "/opt/HP/CM/ConfigurationServer/DB"
Variable    LICENSEFILE "~/.license.nvd"
}

Variable    MGRPORT "3464"
Variable    LICEMAIL ""
Variable    MGRID "001"
Variable    MGRNAME "CMCS"
Variable    PORTALUID "romadmin"
Variable    PORTALPASS "secret"
```

```
Variable   global_GUID 000
Variable   enable_debug 0

Variable   uninstalldata_numlines 0
Variable   WinShortcuts 1
Variable   DOBACKUP 1
Variable   startrcs 1
```

Installing the Configuration Server

This section contains instructions for installing the Configuration Server. Before starting this installation, be sure to review the sections UNIX Pre-Installation Checklist and UNIX Pre-Installation Tips on the preceding pages.

Silent Installation

> By default, this silent installation will back-up an existing CSDB. To turn off this feature, open the setup.cfg file and change the value of DOBACKUP to **0**.

To run the Configuration Server Silent installation

1 Open a UNIX shell window at the console, or through an X-Windows emulator, logged on as the UNIX user ID who will be running the installation program.

2 Insert the Configuration Server media into the optical drive.

3 Change the current directory to the directory on the media that contains the platform-specific installation program. For example, if installing the Configuration Server on a Solaris machine, navigate to:

```
cd /cdrom/cdrom0/Configuration Server/management_
infrastructure/configuration_server/solaris.
```

If installing the Configuration Server on an HP-UX platform, navigate to
```
cd /mnt/cdrom0/Configuration Server/management_
infrastructure/configuration_server/hprisc2.
```

4 Type **./setup -mode silent** and press **Enter**.

The Configuration Server will be automatically installed to the locations, and with the pre-defined parameters, that are contained in the setup.cfg file.

GUI Installation

1 Open a UNIX shell window at the console, or through an X-Windows emulator, logged on as the UNIX user ID who will be running the installation program.

2 Insert the Configuration Server media into the optical drive.

3 Change the current directory to the directory on the media in which the installation program is located. For example, if installing the Configuration Server on a Solaris machine, navigate to `cd /cdrom /cdrom0/Configuration Server/management_infrastructure /configuration_server/solaris`.

4 Type `./setup` and press **Enter**. The GUI installation begins with the HP Client Automation Configuration Server Installation Welcome window.

5 Click **Next**.

(At any time during the installation, click **Cancel** to exit the installation.)

The HP Client Automation Configuration Server Installation End User Licensing Agreement window opens.

6 Click **Accept**.

> If **Accept** is not selected, the Configuration Server installation program will terminate.

The HP Client Automation Configuration Server Installation Directory Specifications window opens.

7 Accept the default *root* installation directory that is displayed, or click **Browse** to navigate to a different repository for the Configuration Server's *executable*, *log*, *internet*, and *REXX* files.

Accept the default *database* installation directory that is displayed, or click **Browse** to navigate to a different repository for the CSDB files.

> If previous versions of the Configuration Server and CSDB are in the default directories, an HP Client Automation Configuration Server Installation Directory Update message will appear.
>
> Click **OK** to continue with the update, or click **Cancel** to specify a different location.

8 Click **Next**. The HP Client Automation Configuration Server Installation Backup Directory window opens. In this window:

— Accept the default (**Yes**) to backup the existing files during the installation, or

(This directory's name is determined by the default UNIX Shell command returning the date and time values of the machine's default time zone.)

— Select **No** to delete in the existing files during the installation.

9 Click **Next**. The HP Client Automation Configuration Server Installation Select Components to Install window opens. In this window:

— The Configuration Server option is selected and disabled—it will be installed.

— Select **HPCA Patch Manager**, **Application Usage Manager**, and/or **HPCA OS Manager** to automatically include those product installations.

> ▶ It is important to understand that if these additional products are selected, they do NOT get installed. The Configuration Server installation will install ONLY the database decks that are needed to support these products; *the products will still have to be installed via their own installation programs.*
>
> Additionally, if **HPCA Patch Manager**, **Application Usage Manager**, and/or **HPCA OS Manager** are selected, the Configuration Server installation will not be affected, nor will there be additional dialog boxes.

10 Click **Next**. The HP Client Automation Configuration Server Installation Post-Installation Start window opens. In this window:

— Accept the default (**Yes**) to automatically start the Configuration Server when the installation completes, or

— Select **No** to not have the Configuration Server automatically start when the installation completes.

> ▶ See Starting, Stopping, Identifying, and Cleaning up the Configuration Server on page 43.

11 Click **Next**. The HP Client Automation Configuration Server Installation Location of License File window opens. In this window:

— If the location that is displayed in the Input location of license file window reflects the location of the license file, click **Next**. Otherwise,

— Specify the correct location, or click **Browse** to navigate to the license file.

12 Click **Next**. The HP Client Automation Configuration Server Installation E-mail Address window opens.

This window offers the option of specifying an e-mail address to which license-expiration notifications will be sent.

13 Click **Next**. The HP Client Automation Configuration Server Installation Configuration Server ID window opens. In this window:

— Specify a three-character ID for the Configuration Server.

Valid values are within the hexadecimal (0-9 and A-F) range of 001 to EFF. (This ID is used as a prefix in the Configuration Server's log file.)

This field is required.

14 Click **Next**. The HP Client Automation Configuration Server Installation Configuration Server Name window opens. In this window:

— Specify a name (maximum of 32 characters) for the Configuration Server.

This field is required.

15 Click **Next**. The HP Client Automation Configuration Server Installation TCP/IP Port window opens. This window displays the communications port that the Configuration Server will use.

— Accept the default port (3464) that is specified in this window. (*Recommended*)

— Or specify a different port for Configuration Server communications.

16 Click **Next**. The HP Client Automation Configuration Server Installation HPCA Portal Zone Name window opens.

In this window, adhere to the following guidelines to specify a Zone Name that is associated with an instance of the Portal.

— Specify a maximum of 64 characters.

— Use only letters (a-z and A-Z), numerals (0-9), and the space character.

— Do not use special characters, such as an underscores, commas, and periods.

> For information on Portal Zone Names, refer to the *Portal Guide.*

17 Click **Next**. The HP Client Automation Configuration Server Installation Portal Credentials window opens.

— In this window, specify valid user ID and password credentials for the Portal.

18 Click **Next**. The HP Client Automation Configuration Server Installation Summary of Installation Input window opens.

This window presents all the information that you specified during the Configuration Server installation. This is the final opportunity to review and modify the specified settings.

— If you discover any errors, or wish to modify any of the entries, click **Back** until you reach the appropriate windows, and make the necessary changes.

The information that you entered in the other windows will not be affected. After making the changes, click **Next** repeatedly, until you arrive back at the Summary of Input window.

19 Click **Install**. The HP Client Automation Configuration Server Installation Progress window opens.

When the installation is complete, the HP Client Automation Configuration Server Installation Finish window opens.

20 Click **Finish**.

The Configuration Server for UNIX has been successfully installed.

UNIX Post-Installation Notes

See Appendix A, UNIX Kernel Tuning, for important information about tuning kernel parameters in order to accommodate the Configuration Server's use of memory, communications, and *inter-process communications* (IPC).

Starting, Stopping, Identifying, and Cleaning up the Configuration Server

Throughout the next four sets of instructions, the Configuration Server is referred to as "Manager." In order to execute these four tasks, an HPCA administrator must be logged on to the system as the UNIX user ID that installed the Configuration Server.

To start the Configuration Server

1 Change to the Configuration Server `bin` directory by typing **cd /opt/HP/HPCA/ConfigurationServer/bin** and pressing **Enter**.

2 Type **./startmgr** and press **Enter**. The Configuration Server will start, and a series of start-up messages will display.

> An optional, numerical parameter can be added to the **./startmgr** command.
>
> This parameter specifies (in seconds) the length of time to wait before verifying that the Configuration Server has started. The default for this is 100 (seconds).
>
> This parameter is useful when caching much of the database, if the processor is slow, or if there are many system tasks running. In the example below, 40 seconds would elapse before any verification is made.

./startmgr 40

> If the Configuration Server is running and a 'start' is attempted, the following message will display:
> ```
> Manager already started with USER-ID=[user id] and
> PID=[HPCA Configuration process id]
> ```

To stop the Configuration Server

1 To change to the Configuration Server `bin` directory, type **cd /opt/HP/HPCA/ConfigurationServer/bin** and press **Enter**.

2 Type **./killmgr** and press **Enter**. The following shutdown message is displayed:
```
Killing Manager with USER-ID=[user id] in 30 seconds. Please
wait.
```

Running **./killmgr** explicitly calls the script **./clean_ipc**. Neither of these scripts should be run as **root** because all IPC resources used by **root** would be removed.

If the Configuration Server is not running, the following message will display:

```
Manager is not running with USERID=[user id]...do nothing
```

To identify the Configuration Server

The Configuration Server must be running.

1 To change to the Configuration Server `bin` directory, type **cd /opt/HP/HPCA/ConfigurationServer/bin** and press **Enter**.

2 Type **./whatmgr** and press **Enter**.

The user ID and the respective TCP/IP port number, database path, log paths, and method path are displayed for currently active Configuration Servers running on this system. No response is returned if there are no active Configuration Servers.

To clean up the Configuration Server

1 To change to the Configuration Server `bin` directory, type **cd /ConfigurationServer/bin** and press **Enter**.

2 Stop the Configuration Server.

3 Type **./clean_ipc** and press **Enter**.

Issuing this command will remove messages, shared memory, and semaphores from the last session of the Configuration Server.

HP strongly advises *against* running:

./clean_ipc

- when the Configuration Server is running.
- when logged on as **root**.

3 Configuration Server Installation for Windows

At the end of this chapter, you will have:

- An understanding of the HP Client Automation Configuration Server (Configuration Server) system requirements for a Windows environment.

- Installed the Configuration Server (either *silently* or via a *graphical user-interface* [GUI]) in a Windows environment.

⚠ If your environment uses Core and Satellite servers, first read the *Core and Satellite Servers Getting Started Guide* as the installation, configuration, and troubleshooting information in that guide may override the information in this guide.

Chapter Overview

This chapter details the installation of the HP Client Automation
Management Configuration Server (Configuration Server) for Windows.

> IMPORTANT NOTE:
>
> With the introduction of **Client Automation, version 7.20**, HP
> has simplified and streamlined the installation, configuration, and
> use of our product by introducing two new server components: the
> **Core** and the **Satellite**. These components provide an end-to-end
> experience that encompasses all of our product capabilities.
>
> The new **Core** and **Satellite** (see the *HPCA Core and Satellite
> Getting Started and Concepts Guide* in the `Documentation`
> directory of the HPCA media) are available *only* to new customers
> who use **Windows Servers** as their primary infrastructure
> platforms.
>
> Existing customers, and new customers who require **UNIX**
> infrastructure support, should use this guide for information on
> alternative methods for installing, configuring, and using HP's
> **Client Automation** infrastructure.

Platform Support

For information about the platforms that are supported in this release, see
the accompanying release notes.

Configuration Server Installation

This section provides instructions for installing the Configuration Server, as
well as reviewing the system requirements for the various Windows
platforms.

Installation Types

There are two installation types, Silent and User Interface.

- **Silent**: A hands-off, command-line invoked installation that has pre-determined database-configuration parameters. It will install the Configuration Server Database and

  — The TCP/IP communications protocol, configured on port **3464**

  — Three TCP/IP Notify Managers

  — Default caching and SNMP configurations

  — Default internet settings for the Configuration Server

- **User Interface (GUI)**: A graphical installation that requires an administrator of HP Client Automation (HPCA) to specify a variety of parameters in order to customize the HPCA environment. It has some pre-determined database configuration parameters, and will install the CSDB and the following configurable parameters:

  — The TCP/IP communications protocol and port

  — TCP/IP Notify Managers

  — Caching and SNMP configurations

  — Internet settings for the Configuration Server

Configuration Server Directories

Table 16 below presents a list of the directories that will be automatically created during the Configuration Server installation.

Table 16   Configuration Server Directories

Directory	Contents
bin	The Configuration Server binary and executable files; the database-utility executable, raddbutil.exe; two directories for SSL "certificates"; the edmprof file.
DB	The Configuration Server Database files.
internet	The ARGS.XML file.
lib	The HPCA infrastructure and Patch Manager Server .tcl scripts. Note: Do not modify or delete these files.
log	The Configuration Server log.
modules	The .tkd files for OS Manager.

Directory	Contents
rexx	This directory is for storing customized REXX methods.
	Note: Its sub-folder, NOVADIGM, contains the default Configuration Server REXX methods. See the Caution that follows.
shell	The batch and application files, such as the un-install and query scripts, and the files that coincide with the Configuration Server options that are available from the **Start** menu.

⚠ Altering the Configuration Server methods that are in the ConfigurationServer\rexx\NOVADIGM directory could adversely effect HPCA processing.

Therefore, it is recommended that a method be copied up one level, to the ConfigurationServer\rexx directory, before being modified.

System Requirements for Windows

Table 17 below lists the disk-space requirements for installing and operating the Configuration Server in a Windows environment.

▶ These recommendations represent typical, minimum, operating system estimates. Adjust these recommendations based on the environment in which the CSDB is being installed.

Table 17   Space Requirements for the Configuration Server

Component	All Platforms
Memory	512 MB
Virtual Memory	2 GB
Configuration Server Directory Important Note: This space recommendation does not include estimates for additional applications that will be managed by the Configuration Server.	75 MB
Configuration Server Database *	see note *

Component	All Platforms
Configuration Server Logs	50 MB

> * The size of the CSDB depends on the size and number of applications that the Configuration Server is going to manage. HP recommends this be estimated as roughly 50 percent of the size of the applications to be managed.
>
> Adjust these recommendations based on the environment in which the CSDB is being installed.

Windows Pre-Installation Checklist

Prior to beginning the installation, make sure that:

- The user that is performing the installation is included in the Administrator group. If not, the Configuration Server will not be installed properly.

- If a previous version of the Configuration Server is running, shut it down.

- If the SNMP process is running, stop it.

  > If the Startup Type for SNMP is AUTOMATIC, change it to MANUAL and reboot the machine before proceeding.

- Prior to starting the Configuration Server installation:

  — Close all other applications, including anti-virus programs.

  — Stop all other tasks and operations that are executing.

  > The installation media might contain products for which licenses have not been granted.
  >
  > Install only those products for which you purchased a license.

Windows Pre-Installation Tips

- Have the license file easily accessible for the installation.

- Click **Cancel** in any window to exit the installation. If **Cancel** is clicked accidentally, a confirmatory prompt enables the return to the installation program.

- Click **Back** at any time to return to previous windows. All the information entered thus far will remain unchanged.

- Most windows have associated error messages. If specifications are invalid, an error message will appear. Click **OK** and enter the correct information.

- This installation program displays default values when applicable. It is recommended that all defaults be accepted; however, they can be overridden by specifying the parameters for your environment.

The Setup-Configuration File

The default parameters for the Configuration Server installation are contained in the setup.cfg file. HP recommends viewing this file prior to beginning the Silent installation.

The following example code is an excerpt from the Configuration Server setup.cfg file.

```
# $Revision:  1.3 $
#
source comprcsf.tcl
SelectComprcs patchmanager 1
SelectComprcs usagemanager 0
SelectComprcs osmanager    0
SelectComprcs mgr          1

#############################################################
Variable   HP_product_name "HP Client Automation Configuration
Server"

Variable   PACKAGE "CS"

Variable   PKGNAME "Configuration Server"

Windows {
Variable   INSTDIR "$::env(PROGRAMFILES)\\Hewlett-Packard\\CM\\
ConfigurationServer"
Variable   DESTDB  "$::env(PROGRAMFILES)\\Hewlett-Packard\\CM\\
ConfigurationServer\\DB"
Variable   LICENSEFILE "C:\\license.nvd"
}
# UNIX {
#Variable  INSTDIR "/opt/HP/CM/ConfigurationServer"
#Variable  DESTDB  "/opt/HP/CM/ConfigurationServer/DB"
#Variable  LICENSEFILE "~/.license.nvd"
}

Variable   MGRPORT "3464"
Variable   LICEMAIL ""
```

```
Variable    MGRID "001"
Variable    MGRNAME "CMCS"
Variable    PORTALUID "romadmin"
Variable    PORTALPASS "secret"

Variable    global_GUID 000
Variable    enable_debug 0

Variable    uninstalldata_numlines 0
Variable    WinShortcuts 1
Variable    DOBACKUP 1
Variable    startrcs 1
```

Installing the Configuration Server

This section contains instructions for installing the Configuration Server. Before starting this installation, be sure to review the sections Windows Pre-Installation Checklist and Windows Pre-Installation Tips on the preceding pages.

Silent Installation

> By default, this Silent installation will back up an existing CSDB.
> In order to turn off this feature, open the setup.cfg file (see previous section) and change DOBACKUP to **0**.

The following steps detail the silent installation of the Configuration Server.

To run the Configuration Server Silent installation

1   Insert the HPCA installation media into the optical drive.

2   Navigate to the directory that contains the Configuration Server installation program for the Windows platforms.

    SystemDrive:\Configuration Server\management_
    infrastructure\configuration_server\win32

3   Type **setup.exe -mode silent** and press **Enter**.

The Configuration Server will be automatically installed to the locations— and with the pre-defined parameters—that are contained in the setup.cfg file.

GUI Installation

The following steps detail the GUI installation of the Configuration Server.

To run the Configuration Server GUI installation

1   Insert the HP Client Automation installation media into the optical drive.

2   Navigate to the directory that contains the Configuration Server installation program for the Windows platforms.

    System Drive:\Configuration Server\management_
    infrastructure\configuration_server\win32

3   Double-click setup.exe. The GUI installation begins with the HP Client Automation Configuration Server Installation Welcome window.

4   Click **Next**. (At any time during the installation, click **Cancel** to exit the installation.)

    The HP Client Automation Configuration Server Installation End User Licensing Agreement window opens.

5   Click **Accept**.

    ▶   If **Accept** is not selected, the Configuration Server installation program will terminate.

    The HP Client Automation Configuration Server Installation Directory Specifications window opens.

    ▶   In the Directory Specifications window, only ASCII characters are supported for the **root installation directory** setting.

    In this window:

    —   Accept the default Root Installation and default Database Installation directories that are displayed, or

    —   Specify the locations, or click **Browse** to navigate to different repositories for the Configuration Server and CSDB files.

    ▶   If previous versions of the Configuration Server and CSDB are in the default directories, a Directory Update message will appear.
        Click **OK** to continue with the update, or click **Cancel** to specify a different location.

6   Click **Next**.

If a previous version of the Configuration Server and CSDB are in the default directories, *and* you selected **OK** (to continue with the update) at the Directory Update message, the HP Client Automation Configuration Server Installation Backup Directory window opens.

In this window:

— Select **Yes** (the default) to have the installation program create a backup of the existing files.

This directory's name is determined by the operating system returning the date and time values of the machine's default time zone.

— Selecting **No** will result in the existing files being deleted.

7 Click **Next**. The HP Client Automation Configuration Server Installation Select Components to Install window opens.

In this window:

— The Configuration Server option is selected and disabled—it will be installed.

▶ See The Configuration Server as a Windows Service on page 56.

— Select **HPCA Patch Manager**, **Application Usage Manager**, and/or **HPCA OS Manager** to automatically include those product installations.

▶ It is important to understand that if these additional products are selected, they do *not* get installed. The Configuration Server installation will install *only* the database decks that are needed to support these products; *the products will still have to be installed via their own installation programs*.

Additionally, if **HPCA Patch Manager**, **Application Usage Manager**, and/or **HPCA OS Manager** are selected, the Configuration Server installation will not be affected, nor will there be additional dialog boxes.

8 Click **Next**. The HP Client Automation Configuration Server Installation Post-Installation Start window opens.

In this window:

— Accept the default (**Yes**) to have the Configuration Server automatically start at the conclusion of the installation.

— Select **No** to prevent the Configuration Server automatically starting after the installation.

9 Click **Next**. The HP Client Automation Configuration Server Installation License File window opens.

In this window:

— If the location and file name that are displayed in the Input location of the license file field are correct, click **Next**. Otherwise,

— Specify the correct location and file name, or click **Browse** to navigate to the license file.

10 Click **Next**. The HP Client Automation Configuration Server Installation E-mail Address window opens.

This window offers the option of specifying an e-mail address to which license-expiration notifications will be sent.

11 Click **Next**. The HP Client Automation Configuration Server Installation Configuration Server ID window opens.

In this window, specify a three-character ID for the Configuration Server. Valid values are within the hexadecimal (0-9 and A-F) range of 001 to EFF. (This ID is used as a prefix in the Configuration Server log file.)

This field is required.

12 Click **Next**. The HP Client Automation Configuration Server Installation Configuration Server Name window opens.

In this window, specify a name (32-character maximum) for the Configuration Server.

This field is required.

13 Click **Next**. The HP Client Automation Configuration Server Installation TCP/IP Port window opens.

This window displays the communications port that the Configuration Server will use.

— Accept the default port (**3464**) that is specified in this window. (*Recommended*)

— Or specify a different port for Configuration Server communications.

14 Click **Next**. The HP Client Automation Configuration Server Installation Management Portal Zone Name window opens.

In this window, adhere to the following guidelines to specify a Zone Name that is associated with an instance of the Portal.

— Specify a maximum of 64 characters.

— Use only letters (a-z and A-Z), numerals (0-9), and the space character.

— Do not use special characters, such as an underscores, commas, and periods.

> For information on Portal zone names, refer to the *Portal Guide*.

15 Click **Next**. The HP Client Automation Configuration Server Installation Portal Credentials window opens.

— In this window, specify valid user ID and password credentials for the Portal.

16 Click **Next**. The HP Client Automation Configuration Server Installation Summary of Installation Input window opens.

This window presents all the information that was specified during the Configuration Server installation. This is the final opportunity to review and modify the specified settings.

— If you discover any errors, or wish to modify any of the entries, click **Back** until you reach the appropriate windows, and make the necessary changes.

The information that was entered in the other windows will not be affected. After making the changes, click **Next** repeatedly, until you arrive back at the Summary of Input window.

— If the Configuration Server installation settings are satisfactory, click **Install**.

17 Click **Install**. The Installation in Progress window opens.

When the installation is complete, the HP Client Automation Configuration Server Installation Finish window opens.

18 Click **Finish**. The Configuration Server for Windows has been successfully installed.

> Be sure to reset the SNMP startup type to its original setting (Automatic).
>
> Re-boot the machine and verify that the SNMP and anti-virus services are restored.

Additionally, the Configuration Server *service* (Configuration Server) should now be present in the Windows Services list.

- The Configuration Server service will be running if you selected **YES** at step 8, on page 53 of this installation.

- If you selected **NO**, the service will be listed, but not running.

The Configuration Server as a Windows Service

During the installation, the Configuration Server was set up to run as a Windows Service. Confirm this by checking the Services area of the Windows machine. As a Windows Service, the Configuration Server can be started, stopped, and queried, as described in this section.

Windows Service Options

If the Configuration Server is set up to run as a Windows Service, it can be started, stopped, and queried, as described in this section.

To start the Configuration Server as a Windows Service

1   Click **Start→Programs→HP Client Automation Configuration Server**.

2   Select **Windows Services**.

3   Select **Start as Windows Service**.

The Configuration Server will start. This can be verified by following the steps that are outlined in To query the Configuration Server as a Windows Service below.

To stop the Configuration Server as a Windows Service

1   Click **Start→Programs→HP Client Automation Configuration Server**.

2   Select **Windows Services**.

3   Select **Stop as Windows Service**.

It will take approximately two minutes for the Configuration Server to shut down. This can be verified by following the steps outlined in To query the Configuration Server as a Windows Service below.

To query the Configuration Server as a Windows Service

1   Click **Start→Programs→HP Client Automation Configuration Server**.

2   Select **Windows Services**.

3   Select **Query Windows Service**.

A command-prompt window will appear. This window will display the
various aspects of the Configuration Server service, such as:

- The name of the Configuration Server service,

- Whether it's running, and

- Its startup-type selection (automatic or manual).

Using the Windows Event Viewer with the Configuration Server

If the Configuration Server is running as a Windows Service, the Windows
Event Viewer can be used to view key Configuration Server messages, such
as start-ups and shutdowns.

The Event Viewer displays three types of messages: error, warning, and
informational. There are five Event Viewer messages (two informational and
three errors) that deal with Configuration Server processing. These are
described in Configuration Server Messages in Event Viewer on page 58.

Accessing the Event Viewer

The Event Viewer is invoked in a variety of ways on the various Windows
operating systems. For instructions on how to access the Event Viewer on
your operating system, consult the documentation that was distributed with
it.

Filtering for Configuration Server Messages

Once the Event Viewer is open, locating messages that are specific to the
Configuration Server is easy.

To locate Configuration Server messages

The steps outlined below are applicable to most Windows operating
systems, and are accurate as of this writing.

1   Select **Application**.

2   From the Menu bar, click **View** and select **Filter**.

3   From the Event Source drop-down list, select **ZTopTask**, and click **OK**.

Now, the right panel of the Event Viewer window displays only those messages that result from Configuration Server processing. Verify this by checking that **ZTopTask** is listed in all the rows of the Source column.

Configuration Server Messages in Event Viewer

Detailed below are the five Event Viewer messages that deal with Configuration Server processing.

- Start-up Message

  ```
  Configuration Server HAS STARTED
  ```

  The Configuration Server for Windows is beginning its start-up processing by running the Configuration Server program.

- Error Message 1

  ```
  START: Configuration Server CONTROL DISPATCHER FAILED
  ```

  The Configuration Server for Windows failed during service initialization. Start-up processing has stopped.

- Error Message 2

  ```
  Configuration Server CONTROL HANDLER REGISTRATION FAILED IN
  SERVICE MAIN
  ```

  During second stage initialization, the Windows service controller failed to update the registry keys. Start-up processing has stopped.

- Error Message 2

  ```
  SET Configuration Server FAILED IN REPORT STATUS
  ```

  An attempt was made to report the status of the Configuration Server for Windows start-up process to the Configuration Server service. However, the Configuration Server service did not receive the status report.

  The Configuration Server service may actually be running, or the start-up service has stopped. The Configuration Server is unable to discern what the actual condition is.

- Shut-down Message

```
Configuration Server STOPPED BY STOP REQUEST OR SHUT-DOWN
REQUEST
```

The Configuration Server has shut down.

4 Portal Installation for Windows

At the end of this chapter, you will have:

- An understanding of the HP Client Automation Portal (Portal) system requirements for a Windows environment.

- Installed the Portal in a Windows environment.

> The Portal installation files can be downloaded from the HP Client Automation (HPCA) release media and the installation run from a directory.
>
> However, HP recommends running the installation from the HPCA media because the installation program needs to access other directories on the media in order to do a complete Portal installation.

System Requirements

Table 18 below lists the system requirements for the installation and operation of the Portal. It is recommended that these requirements be strictly considered before installing the Portal on a Windows system.

> These recommendations represent typical, minimum operating system estimates.

Table 18   System Requirements for the Portal

Component	Recommendation
Memory	1 GB
Virtual Memory	2 GB
Processor Speed	800 MHz

Pre-Installation Checklist

Prior to beginning the installation, be sure to:

- Locate the license file that is associated with this product installation.

    If you need assistance, contact HP Technical Support.

Pre-Installation Tips

- Have the license file easily accessible for the installation.

- Click **Cancel** in any window to exit the installation. If **Cancel** is clicked accidentally, a confirmatory prompt enables the return to the installation program.

- Click **Back** at any time to return to previous windows. All the information entered thus far will remain unchanged.

- Most windows have associated error messages. If specifications are invalid, an error message will appear. Click **OK** and enter valid information.

- This installation program displays default values when applicable. It is recommended that all defaults be accepted; however, they can be overridden by specifying the parameters for your environment.

Pre-Installation Notes

This section contains items that should be noted before beginning the Portal installation.

- The Portal installation requires Administrator authority.

Installing the Portal

This section contains instructions for installing the Portal. Before starting this installation, be sure to review:

- Pre-Installation Checklist, starting on page 62
- Pre-Installation Tips, starting on page 62
- Pre-Installation Notes, starting above

⚠ This version of the Portal must be installed to a clean (empty) directory.

For more information, refer to the *HP Client Automation Portal Migration Guide* (*Portal Migration Guide*).

To install the Portal

1 Insert the HPCA installation media into the optical drive.

2 Navigate to the directory that contains the Portal installation program for Windows platforms.

   System Drive:\Infrastructure\extended_infrastructure
   \management_portal\win32

3 Double-click setup.exe. The installation begins with the HP Client Automation Portal Install Welcome window.

4 Click **Next**. The HP Client Automation Portal Install Software License Agreement window opens.

5 Click **Accept**.

   ▶ If **Accept** is not selected, the Portal installation program will terminate.

The HP Client Automation Portal Install Files Location window opens. In this window:

— Accept the default installation directory that is displayed (*recommended*), or

— Click **Browse** to navigate to a different repository for the Portal's files.

> The Portal no longer installs into a shared Integration Server path, service, and port.

6   Click **Next**. The HP Client Automation Portal Install License File window opens. In this window:

— Specify the location and name of the license file, or

— Click **Browse** to navigate to it.

7   Click **Next**. The HP Client Automation Portal Install Enable Network Discovery window opens. In this window:

— Click **Yes** to enable network discovery. (*Recommended*)

The Portal will be able to automatically discover all the devices in the Windows environment that can be managed by HPCA.

— Click **No** to not enable network discovery.

This is preferred if the Portal is being tested and the automatic discovery feature is not wanted.

8   Click **Next**. The HP Client Automation Portal Install Network Discovery Interval window opens.

In this window, specify the length of time (in hours) to wait (the interval) for the Network-Discovery job to run:

— Accept the default discovery interval of **24** (hours), or

— Specify a different length of time (valid values are 1 through 24)

9   Click **Next**. The HP Client Automation Portal Install Discovery Start Delay window opens.

In this window, specify the interval (in minutes) after the Portal has started before it starts network discovery:

— Accept the default discovery start delay of **15** (minutes), or

— Specify a different delay interval (valid values are 0 through 1440)

This delay applies each time the Portal is started.

10 Click **Next**. The first HP Client Automation Portal Install Zone Information window opens.

In this window, specify a Portal zone name that will represent this instance of the Portal. Be sure to adhere to the following guidelines.

— Specify a maximum of 64 characters.

— Use only letters (a-z and A-Z), numerals (0-9), and the space character.

— Do not use special characters, such as an underscores, commas, and periods.

11 Click **Next**. The second HP Client Automation Portal Install Zone information window opens.

In this window, specify a Portal zone friendly name for this instance of the Portal.

— This value is optional and, if omitted, will default to the zone name that was specified in the previous step.

— The friendly name is the zone's display name in the Enterprise Manager interface.

12 Click **Next**. The HP Client Automation Portal Install Secure Listening Port window opens. In this window:

— Accept the default value of **-1** to have the Portal run on an unsecured port (the default is **3471**), or

— Specify an SSL-secured listening port number for the Portal.

13 Click **Next**. The HP Client Automation Portal Installation Listening Port for OpenLDAP window opens. In this window:

— Accept the default listening port of **3474** for the Portal zone to communicate with an OpenLDAP Database (*recommended*), or

— Specify a different listening port.

14 Click **Next**. The HP Client Automation Portal Install Listening Port for OpenLDAP Backup window opens. In this window:

— Accept the default listening port of **3475** for the Portal zone to communicate with a *backup* OpenLDAP Database (*recommended*), or

— Specify a different listening port number.

15 Click **Next**. The HP Client Automation Portal Install Enable Backup window opens. In this window:

— Leave the default of **No** for this feature; it is not available in this release.

> For additional information about this feature, see the *HPCA Portal Guide*.

16 Click **Next**. The HP Client Automation Portal Install Summary window opens. It presents all the information that was specified during the Portal installation. This is the final opportunity to review and modify the specified settings.

— If you discover any errors, or wish to modify any of the entries, click **Back** until you reach the appropriate windows, and make the necessary changes.

The information that was entered in the other windows will not be affected. After making the changes, click **Next** repeatedly, until you arrive back at the Summary of Input window.

17 Click **Install** to begin the installation. There will be a prompt to copy the modules that can be used for remote installations of the HPCA infrastructure components.

18 Click **Next**. The modules are copied to the Portal's \media directory.

There will be a prompt to copy the HP Client Automation client modules that can be used for remote installations.

19 Click **Yes**. The HP Client Automation Portal Install Client Modules window opens.

— If necessary, click **Browse** to navigate to the Agents directory on the HPCA media.

The HPCA agent modules are copied to the Portal's \media directory.

20 Click **Finish** when the installation is complete. The successful installation of the Portal results in:

— The Portal service (httpd-managementportal) automatically starting (the service is listed as **HPCA Portal**), and

— A Portal zone being created as an OpenLDAP Directory Service. This zone is made available to the Enterprise Manager.

Starting and Stopping the Portal

To start the Portal

1 Go to the Windows Services section.

2 In the Services panel, right-click **HPCA Portal** and select **Start**.

To stop the Portal

1 Go to the Windows Services section.

2 In the Services panel, right-click **HPCA Portal** and select **Stop**.

5 Enterprise Manager Installation for Windows

At the end of this chapter, you will:

- Be familiar with the system requirements for HP Client Automation Enterprise Manager (Enterprise Manager).

- Know how to install Enterprise Manager.

- Know how to remove Enterprise Manager.

System Requirements

Before installing the Enterprise Manager, you need to have the following HP Client Automation (HPCA) products installed in your enterprise. If these products are installed, you will need to identify which will be used by the Enterprise Manager.

- Configuration Server
- Reporting Server
- Portal

> The Reporting Server is not required for using the Enterprise Manager. However, if one is not identified or installed in your enterprise, you will not be able to access any of the Reporting Server features in your Enterprise Manager.
>
> For information about installing and configuring the Reporting Server, refer to the *HP Client Automation Reporting Server Installation and Configuration Guide* (*Reporting Server Guide*).

The device on which the Enterprise Manager will be installed requires one of the following browsers.

- Microsoft Internet Explorer, version 6.*x* or later (with patches applied)
- Mozilla Firefox, version 2
- Adobe Flash Player, version 9.0.47.0 or later (download available at **www.adobe.com/go/getflashplayer**)

For Enterprise Manager to properly display data, the following desktop display settings are minimum requirements.

- Screen Resolution: 1024x768
- Color Quality: Medium (16 bit)

Installation and execution of Enterprise Manager is not supported on servers that are configured to perform the role of Windows Terminal Server.

Platform Support

For information about the platforms that are supported in this release, see the accompanying release notes.

Installation Tasks

You must complete the following tasks in order to use all the features of the Enterprise Manager. Be sure to have the IP address, hostname, and port for your Configuration Server, Portal, and Reporting Server.

> The Enterprise Manager runs in an instance of the Tomcat application server. By default, Tomcat uses port 8080 for HTTP communications and port 8443 for HTTPS (secure) communications.
>
> If the Enterprise Manager is installed behind a firewall and you will be accessing it from outside the firewall, be sure that the firewall allows incoming network connections to Tomcat. If this is not properly configured, access to the Enterprise Manager from outside the firewall will be denied.
>
> If you require secure access, the firewall must be configured to also allow incoming network connections on the secure Tomcat access port.
>
> If your Tomcat installation uses ports other than 8080 and 8443, you must modify the Enterprise Manager configuration accordingly. Refer to the *HP Client Automation Enterprise Manager User Guide* (*Enterprise Manager Guide*) for detailed instructions.

To install the Enterprise Manager and configure Portal Settings

1 From the installation media, navigate to `Enterprise Manager\win32` directory.

2 Double-click the installation executable.

3 Select a language and click **OK**.

4 Follow the steps in the wizard and provide the appropriate responses.

5 After installation, you will be prompted for your Portal settings, as shown below.

Hostname:*	localhost
	e.g. cmportalserver.mycorp.com
Port:*	3471
	e.g. 3471 or 443
Protocol:*	http ▼

> ► If your browser does not display this window, access it by opening a browser and navigating to **http://localhost:8080/em/flex/em.jsp**.

6 Type or select the correct settings, and click **Save**. The settings are then validated.

 — If validation fails, an error is displayed.

 — If validation is successful, click **Close** to continue. You will be automatically redirected to the Enterprise Manager log-on page.

User ID:	admin
Password:	********
Directory Source:	Zone: hp ▼
	Sign In **Clear**

7 Sign in with a user ID of **admin** and a password of **secret**. These are the defaults. The **Directory Source** should be the zone that you created when you installed the Portal.

> ► HP recommends changing the default user ID and password before using Enterprise Manager in a production environment.
>
> Refer to the *HP Client Automation Enterprise Manager User Guide* (*Enterprise Manager Guide*) for instructions.

8 Click **Sign In**. The main screen of the Enterprise Manager is displayed; you are successfully signed in.

To remove the Enterprise Manager

- From the **Add or Remove Programs** Control Panel applet, select `HPCA Enterprise Manager`.

- Use the standard removal procedure for the host operating system.

A UNIX Kernel Tuning

The HP Client Automation Configuration Server (Configuration Server) actively uses memory, communications, and *inter-process communications* (IPC), which require the UNIX system's Kernel configuration to make allowances for enough resources. The Kernel configuration parameters differ among UNIX operating systems. The values that are assigned can vary, depending on the Configuration Server configuration, considering elements such as the expected number of concurrent tasks and cache management.

Essential Kernel Variables

The tables in this section contain the most important parameters that might need to be adjusted.

> These values apply to the Configuration Server only; they do not take into consideration the requirements of other applications running on the machine.

Most of the Configuration Server parameters are specified in the `edmprof` file, which was created during the Configuration Server installation, and which is located in the Configuration Server's `home` directory. For more information about Configuration Server parameters, refer to the *HP Client Automation Configuration Server User Guide (Configuration Server Guide)*.

Table 19 below addresses the parameters that are associated with *semaphore management*.

Table 19   UNIX Kernel Settings for Semaphore Management

Kernel Parameter	Configuration Server-related Parameter or Recommendation	AIX, HP-UX, and Linux	Solaris
Maximum number of semaphores (system-wide)	TASKLIMIT * 3	semmni	seminfo_semmni
Maximum user-accessible semaphores (system-wide)	TASKLIMIT * 3	semmns	seminfo_semmns

Kernel Parameter	Configuration Server-related Parameter or Recommendation	AIX, HP-UX, and Linux	Solaris
Enable/Disable semaphores	Enable	sema = 1	N/A
Semaphore value change limit	N/A	semaem = 16384	N/A
Size of free semaphore resource map	semmni + 2	semmap	seminfo_semmap
Maximum un-dos per semaphore	Default	semmnu = 30	seminfo_semmnu
Maximum semaphore un-dos per process	Default	semume = 10	seminfo_semume
Maximum semaphore un-dos per ID	Default	N/A	seminfo_semmsl

Table 20 below addresses the parameters that are associated with *process management*.

Table 20   UNIX Kernel Settings for Process Management

Kernel Parameter	Configuration Server-Related Parameter or Recommendation	AIX and HP-UX	Solaris
Maximum process data segment size	N/A	maxdsiz = 0x7b03a000	N/A
Maximum number of processes per user	TASKLIM + 20	maxuprc	N/A
Maximum number of processes (system-wide)	TASKLIM + 20 + 4	nproc = maxuprc + 4	max_nprocs

> Use the administrative tool, **ulimit**, to configure the process-management parameters.

Table 21 on page 77 addresses the parameters that are associated with *shared memory*.

Table 21   UNIX Kernel Settings for Shared Memory

Kernel Parameter	Configuration Server-Related Parameter or Recommendation	AIX, HP-UX, and Linux	Solaris
Enable/Disable shared memory	Enable	shmem	N/A
Maximum shared memory segment size	In the MGR_CACHE section of the edmprof file, operating system-dependent parameters should be set to allow for expected cache segment size.	shmmax recommended setting is: 0x40000000	shminfo_shmmax
Maximum segments on system	In combination with segment size, should allow enough memory for cache.	shmmni (The default size of 200 is adequate.)	shminfo_shmmni
Maximum segments per process	In combination with segment size, should allow enough memory for cache.	shmseg (The default size of 120 is adequate.)	shminfo_shmseg

B UNIX Locales, Regions, and Code Sets

On UNIX systems, if the default **system locale**, including LC_CTYPE, is not set to the correct value for the language and region, problems will arise when extended or multi-byte character sets are used when importing and exporting database classes.

The default locale, LC_CTYPE, on some UNIX systems could be **C**, which handles the basic ASCII character set only.

Querying and Setting the Locale

On UNIX platforms, the locale, especially LC_CTYPE, must be set to the correct language and region so that the C runtime language-sensitive functions work correctly.

- To query the current locale setting (see Example 1), use the command

  locale

- To determine which multi-national language and region locales are installed (see Example 2), use the command

  local -a

- To set the correct language, region, and code set (character encoding) if the default is incorrect (see Example 3), use the command

  'export LC_ALL=*LL_RR.codeset*'

  where...

  — *LL* specifies the language,

  — *RR* specifies the region, and

  — *codeset* specifies the character encoding.

  ▶ HP recommends that, after setting the locale, it be verified by re-running the **locale** command (see Example 4).

Examples

This section presents examples of the previously mentioned commands, as well as the results of each being run. In these examples, assume the commands are run on a Configuration Server (version 4.5*x*) in Germany.

Example 1: Query the Current Locale Setting

```
>locale

    LANG=
    LC_CTYPE="C"
    LC_COLLATE="C"
    LC_MONETARY="C"
    LC_NUMERIC="C"
    LC_TIME="C"
    LC_MESSAGES="C"
    LC_ALL=
```

Example 2: Determine which Locales are Installed

```
>locale -a

    C
    POSIX
    C.iso88591
    C.utf8
    univ.utf8
    ar_DZ.arabic8
    ar_SA.arabic8
    ar_SA.iso88596
    bg_BG.iso88595
    cs_CZ.iso88592
    da_DK.iso88591
    a_DK.roman8
    nl_NL.iso88591
    nl_NL.roman8
    en_GB.iso88591
    en_GB.roman8
    en_US.iso88591
    en_US.roman8
    fi_FI.iso88591
    fi_FI.roman8
    fr_CA.iso88591
    fr_CA.roman8
    fr_FR.iso88591
    fr_FR.roman8
    de_DE.iso88591
    de_DE.roman8
    el_GR.greek8
```

```
el_GR.iso88597
iw_IL.hebrew8
iw_IL.iso88598
hu_HU.iso88592
is_IS.iso88591
is_IS.roman8
it_IT.iso88591
it_IT.roman8
no_NO.iso88591
no_NO.roman8
pl_PL.iso88592
pt_PT.iso88591
pt_PT.roman8
ro_RO.iso88592
ru_RU.iso88595
hr_HR.iso88592
sk_SK.iso88592
sl_SI.iso88592
es_ES.iso88591
es_ES.roman8
sv_SE.iso88591
sv_SE.roman8
th_TH.tis620
tr_TR.iso88599
tr_TR.turkish8
zh_CN.hp15CN
zh_TW.eucTW
C.iso885915
a_DK.iso885915@euro
de_DE.iso885915@euro
en_GB.iso885915@euro
es_ES.iso885915@euro
fi_FI.iso885915@euro
fr_CA.iso885915
fr_FR.iso885915@euro
is_IS.iso885915@euro
it_IT.iso885915@euro
nl_NL.iso885915@euro
no_NO.iso885915@euro
pt_PT.iso885915@euro
sv_SE.iso885915@euro
fr_CA.utf8
fr_FR.utf8
de_DE.utf8
it_IT.utf8
es_ES.utf8
sv_SE.utf8
zh_CN.utf8
zh_TW.utf8
zh_HK.utf8
```

```
ja_JP.utf8
ko_KR.utf8
```

Example 3: Set the Locale, Region, and Code Set for Germany

> **export LC_ALL=**_de_DE.iso885915@euro_

Be sure to replace `de_DE.iso885915@euro` with the value for your locale/region.

Example 4: Verify that the Locale Setting is Correct

> **locale**

```
LANG=
LC_CTYPE="de_DE.iso885915@euro"
LC_COLLATE="de_DE.iso885915@euro"
LC_MONETARY="de_DE.iso885915@euro"
LC_NUMERIC="de_DE.iso885915@euro"
LC_TIME="de_DE.iso885915@euro"
LC_MESSAGES="de_DE.iso885915@euro"
LC_ALL=de_DE.iso885915@euro
```

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