ClearCase Product Family Installation Notes

Release 4.2 and later

Windows Edition

Rational®
the e-development company™

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Patent

U.S. Patent Nos. 5,574,898 and 5,649,200 and 5,675,802. Additional patents pending.

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This product includes software developed by Greg Stein <gstein@lyra.org> for use in the mod_dav module for Apache (http://www.webdav.org/mod_dav/).

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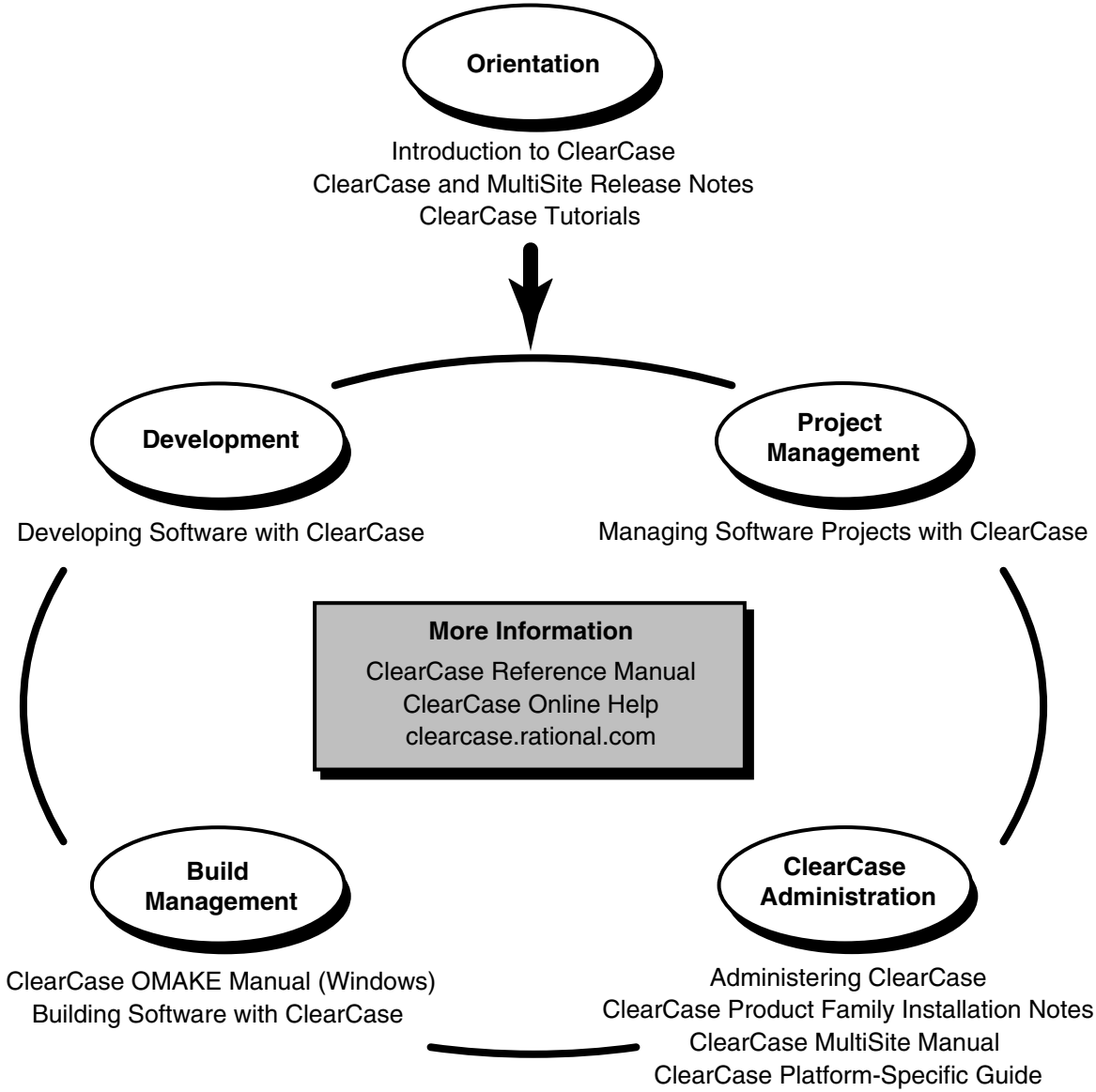
Preface

About This Manual

This manual provides detailed instructions for installing the Rational ClearCase family of products and upgrading ClearCase LT to ClearCase.

This ClearCase release includes the ClearCase, MultiSite, and Attache helper products. Where the term “CPF products” appears in this manual, it denotes the set of ClearCase products included in a particular release.

ClearCase Documentation Roadmap



Typographical Conventions

This manual uses the following typographical conventions:

- *ccase-home-dir* represents the directory into which the ClearCase Product Family has been installed. By default, this directory is **/usr/atria** on UNIX and **C:\Program Files\Rational\ClearCase** on Windows.
- *attache-home-dir* represents the directory into which ClearCase Attache has been installed. By default, this directory is **C:\Program Files\Rational\Attache**, except on Windows 3.*x*, where it is **C:\RATIONAL\ATTACHE**.
- **Bold** is used for names the user can enter; for example, all command names, file names, and branch names.
- *Italic* is used for variables, document titles, glossary terms, and emphasis.
- `A monospaced font` is used for examples. Where user input needs to be distinguished from program output, **bold** is used for user input.
- Nonprinting characters are in small caps and appear as follows: **<EOF>**, **<NL>**.
- Key names and key combinations are capitalized and appear as follows: SHIFT, CTRL+G.
- [ ] Brackets enclose optional items in format and syntax descriptions.
- { } Braces enclose a list from which you must choose an item in format and syntax descriptions.
- | A vertical bar separates items in a list of choices.
- ... In a syntax description, an ellipsis indicates you can repeat the preceding item or line one or more times. Otherwise, it can indicate omitted information.

  NOTE: In certain contexts, ClearCase recognizes "**...**" within a pathname as a wildcard, similar to "*" or "?". See the **wildcards_ccase** reference page for more information.
- If a command or option name has a short form, a "medial dot" (·) character indicates the shortest legal abbreviation. For example:

  lsc·heckout

  This means that you can truncate the command name to **lsc** or any of its intermediate spellings (**lsch**, **lsche**, **lschec**, and so on).

Online Documentation

The ClearCase graphical interface includes a standard Windows help system.

There are three basic ways to access the online help system: the **Help** menu, the **Help** button, or the F1 key. **Help**>**Help Topics** provides access to the complete set of ClearCase online documentation. For help on a particular context, press F1. Use the **Help** button on various dialog boxes to get information specific to that dialog box.

ClearCase also provides access to full "reference pages" (detailed descriptions of ClearCase commands, utilities, and data structures) with the **cleartool man** subcommand. Without any argument, **cleartool man** displays the **cleartool** overview reference page. Specifying a command name as an argument gives information about using the specified command. For example:

> **cleartool man** *(display the cleartool overview page)*

> **cleartool man man** *(display the cleartool man reference page)*

> **cleartool man checkout** *(display the cleartool checkout reference page)*

ClearCase's **–help** command option or **help** command displays individual subcommand syntax. Without any argument, **cleartool help** displays the syntax for all **cleartool** commands. **help checkout** and **checkout –help** are equivalent.

> **cleartool uncheckout –help**

```
Usage: uncheckout | unco [-keep | -rm] [-cact | -cwork ] pname ...
```

Additionally, the online *ClearCase Tutorial* provides important information on setting up a user's environment, along with a step-by-step tour through ClearCase's most important features. To start the *ClearCase Tutorial*, choose **Tutorial** in the ClearCase folder off the **Start** menu.

Technical Support

If you have any problems with the software or documentation, please contact Rational Technical Support via telephone, fax, or electronic mail as described below. For information regarding support hours, languages spoken, or other support information, click the **Technical Support** link on the Rational Web site at **www.rational.com**.

Your Location	Telephone	Facsimile	Electronic Mail
North America	800-433-5444 toll free or 408-863-4000 Cupertino, CA	408-863-4194 Cupertino, CA 781-676-2460 Lexington, MA	**support@rational.com**
Europe, Middle East, and Africa	+31-(0)20-4546-200 Netherlands	+31-(0)20-4546-201 Netherlands	**support@europe.rational.com**
Asia Pacific	61-2-9419-0111 Australia	61-2-9419-0123 Australia	**support@apac.rational.com**

1 Overview and Installation-Related Operations

This document describes how to install the Rational ClearCase family of products on Windows computers and upgrade ClearCase LT to ClearCase.

This chapter provides pointers to the installation instructions for the type of installation that you want to perform. It also describes the installation-related operations of patch installation and removing ClearCase.

1.1 ClearCase Installation Overview

Type of installation	Location of instructions
Upgrading an existing ClearCase release	Chapter 2
Upgrading ClearCase LT to ClearCase	Chapter 3
Installing ClearCase for the first time	Chapter 4
Installing ClearCase for an evaluation	Chapter 5
Installing ClearCase patches	Section 1.3
Removing ClearCase	Section 1.4
Allocating licenses	Appendix A

Before you start, read *ClearCase Installation Directory Conventions* on page 2.

1.2 ClearCase Installation Directory Conventions

ClearCase documentation uses *ccase-home-dir* as shorthand for the ClearCase installation directory. When you encounter this notation, substitute your own local ClearCase installation directory for *ccase-home-dir*.

For new installations, the default installation directory is *system_drive*:**\Program Files\Rational\ClearCase**, where *system_drive* is the drive that contains Windows system files. A typical installation directory is **C:\Program Files\Rational\ClearCase**.

For an existing installation of ClearCase, the default installation directory is the one in which the previous version is installed.

NOTE: A ClearCase administrator can change the site-wide default for the installation directory by running the Site Preparation Wizard (see *Running the ClearCase Site Preparation Wizard* on page 32).

1.3 Installing ClearCase Patches

The Rational Web site provides information about patches; see **http://clearcase.rational.com** and click **Patches** on the site menu. Note that this site is password protected; to authenticate, you need your host ID (for the user name) and license string (for the password).

At the beginning of the patch installation program, you can choose to patch a network release area or an individual host.

- If you want to patch a network release area, enter the release area installation directory in the text box.
- If you want to patch an individual host, click **Only patch this system, not the release area**.

We recommend that you patch a release area because doing so allows you to construct a single install version of ClearCase with all the patches needed for your site. After the patch is applied to the release area, users must run (or rerun) the ClearCase Installation Wizard from the release area to get the latest patch.

1.4 Removing a ClearCase Installation

CAUTION: If Rational Shipping Server is installed on the computer from which you are removing ClearCase, uninstalling ClearCase removes components necessary to run the Shipping Server. You need to reinstall the Shipping Server if you want to continue using it. For information on installing the Shipping Server, see the manual *Installing Rational ClearQuest*.

If you installed ClearCase from the release area, the computer from which you are removing ClearCase must have access to the networkwide release area. Follow this procedure to remove ClearCase:

In Windows NT, Windows 98 and Windows Me:

1. In Control Panel, run **Add/Remove Programs**.
2. On the **Install/Uninstall** tab, select **ClearCase** from the list.
3. Click **Add/Remove**.

In Windows 2000:

1. In Control Panel, run **Add/Remove Programs**.
2. On the **Change or Remove Programs** tab, select **ClearCase** from the list.
3. Click **Change/Remove**.

If you have installed ClearCase from CD, you must remove it by running the following program from the CD:

*cd_drive***:\cpf\nt_i386\uninstal.exe**

2 Upgrading an Existing ClearCase Release

This chapter describes how to install a new release of the ClearCase family of products on a Windows computer where Rational ClearCase is already installed.

This chapter assumes that you are a ClearCase administrator who is familiar with the site-preparation and installation procedures. Detailed information about these procedures is in Chapter 4, *Installing ClearCase for Windows for the First Time*.

2.1 Requirements for Upgrading to a New ClearCase Release

For information about the requirements for upgrading to this release of ClearCase, see *README First* in the *ClearCase and MultiSite Release Notes*.

2.2 ClearCase Installation Directory Conventions

ClearCase documentation uses *ccase-home-dir* as shorthand for the ClearCase installation directory. When you encounter this notation, substitute your own local ClearCase installation directory for *ccase-home-dir*.

For an existing installation of ClearCase, the default installation directory is the one in which the previous version is installed.

NOTE: A ClearCase administrator can change the site-wide default for the installation directory by running the Site Preparation Wizard. (See *Running the ClearCase Site Preparation Wizard* on page 32.)

2.3 Preinstallation Notes

Make sure that you have local administrator privileges. If you are installing a client with local VOBs and views, you must also have the password for the ClearCase service account to run the ClearCase Site Preparation Wizard.

If a Windows NT computer contains view-storage or VOB-storage directories, upgrading to a ClearCase client installation that does not support local views and VOBs disables any views and VOBs whose storage directory is located on that computer. *This applies to all dynamic views and snapshot views created with the defaults suggested by the View Creation Wizard or* **cleartool mkview**.

This situation occurs because upgrading to that kind of client installation removes the software necessary to run view or VOB server processes. (The view-server and VOB-server processes typically run on the computer on which the storage directory is located.)

For details, see *README FIRST* in the *ClearCase and MultiSite Release Notes*.

VOB Database Support

ClearCase supports two VOB database formats: the older format (schema version 53) and the newer format (schema version 54). The ClearCase release 3.*x* family only supports the older VOB format (schema version 53); ClearCase releases 4.0 and later support both the older and newer formats.

Schema version 54 provides the following new features:

- Files in the VOB database can grow beyond 2 GB.

  Typically, ClearCase sites do not need databases this large.

- Better support for storing native Windows NT identity information.

  This feature is valuable in environments with multiple Windows NT domains.

ClearCase release	VOB formats supported
3.*x* family	Schema version 53
4.0 and later	Schema version 53 and 54

As part of installing this ClearCase release on a server, you must select which VOB format you want to use:

- If you are an existing ClearCase customer, you probably want to select the format that you are currently using.
- If you are an existing customer using schema version 53 and you select schema version 54, you will have to reformat your existing VOBs immediately after rebooting to allow users to access VOB data.
- If you are a new ClearCase customer, you probably want to select the latest VOB format (schema version 54).

If a server host contains replicated VOBs using ClearCase MultiSite, we recommend that all VOB servers of the same set of replicas use the same VOB format.

If you have an existing ClearCase installation that uses schema version 53 and you select the same VOB format for this installation but then change your mind, you can reinstall ClearCase, select schema version 54, and then reformat your VOBs.

If you have an existing installation that uses schema version 53 and you select schema version 54 for this installation but change your mind before having reformatted your VOBs, you can reinstall ClearCase and select schema version 53. However, if you have already reformatted your VOBs, Rational does not support reformatting back to the older VOB format.

See the **reformatvob** reference page for more information about VOB database formats, the implications of each selection, and what you need to know to reformat your VOBs.

2.4 Running the ClearCase Site Preparation Wizard

Because you are upgrading from a previous ClearCase release, you can skip the planning and configuration steps for first-time installations (Chapter 4). You need only run the ClearCase Site Preparation Wizard from the CD on a computer that already has ClearCase installed.

The Site Preparation Wizard helps you create a new release area for this ClearCase release. You must create a new release area because the files in the previous release area are read-only. To help you create a new release area, the wizard appends the version of the release onto the release area name. For example, ClearCase 4.2 is **netinst_4.2** to differentiate it from a previous release area. In addition, the application checks for the existence of a read-only **sitedefs.dat** file. For more information about what happens when you overwrite other read-only files, see *Overwriting Existing Network Release Area*.

The license server, registry server, credentials server, mail server, and registry regions are set to values from the local computer on which you run the Site Preparation Wizard. If no values were previously set, the field is blank and you must supply host or region settings. For more information, see *Administering ClearCase*.

More information about release areas is provided in Chapter 4 for first-time installations, specifically the sections *Running the ClearCase Site Preparation Wizard* on page 32 and *Creating Multiple Release Areas* on page 35.

Overwriting Existing Network Release Area

When a ClearCase administrator reruns the Site Preparation Wizard from the CD and attempts to overwrite an existing network release area, the wizard fails while copying the installation files and generates the following error:

```
Error copying file "<filename>"
Access is denied.
```

This error occurs because the files in a network release area are set to read-only to prevent inadvertent damage to the files. For this reason, you must use separate network release areas for each ClearCase release. In any case, it is often useful to preserve the previous release for historical reasons.

2.5 Running the ClearCase Installation Wizard

After running the Site Preparation Wizard, run the Installation Wizard to install ClearCase on this computer. Chapter 4 provides more information for initial installations, specifically *Running the ClearCase Installation Wizard* on page 35.

After you create and configure a release area, individual users can install ClearCase on their computers.

NOTE: Servers should be upgraded before any clients are upgraded.

2.6 Completing the Installation

ClearCase Doctor runs automatically after the installation. Examine its results and perform the postinstallation steps, as you do for an initial installation. For more information, see *Examining ClearCase Doctor Results* on page 37 and *Completing the Installation* on page 38.

2.7 Completing the Installation on VOB Server Hosts

If you are upgrading your VOB server hosts from a previous ClearCase release and the feature level of the releases differ, you must raise the feature level of your existing VOBs. This has to be done regardless of the VOB database format you have selected. If you don't raise the VOB's feature level, some 4.x functionality including UCM will be unavailable, even if you have selected the newer VOB format.

To determine the feature level of both the new release and the release from which you upgraded, see the *ClearCase and MultiSite Release Notes*.

- If the feature levels are the same, there are no additional steps to take.
- If the feature levels differ, see *Administering ClearCase* and the **chflevel** reference page for instructions on raising the feature level of unreplicated VOBs. See the *ClearCase MultiSite Manual* for instructions on raising the feature level of replicated VOBs.

3 Upgrading ClearCase LT to ClearCase

Rational ClearCase LT can be easily upgraded to full-featured Rational ClearCase. ClearCase includes a tool that helps automate the upgrade process, though a few manual steps may be required to upgrade certain configurations. This chapter explains the upgrade process and describes two common upgrade scenarios.

3.1 What Happens When You Upgrade?

When you upgrade from ClearCase LT to ClearCase, you add many new capabilities to your existing ClearCase LT environment without having to sacrifice any of your ClearCase LT data, change the way you use UCM or any other software development process, or incur extensive project downtime. The upgrade preserves all of your ClearCase LT VOB data, including UCM project data, event history, metadata, and customizations such as triggers and type managers. VOBs do not need to be reformatted. Your upgraded ClearCase LT server and client hosts will not need to be reconfigured in any way.

ClearCase supports a number of powerful features not available in ClearCase LT:

- The ability for a client to access multiple servers
- Dynamic views, which use the ClearCase multiversion file system (MVFS)
- ClearCase build auditing tools
- An expanded ClearCase registry that supports registry regions
- Compatibility with Rational ClearCase MultiSite, which you can purchase to provide support for geographically dispersed development teams

You can read about these and other ClearCase features in *Introduction to ClearCase* and *Managing Software Projects with ClearCase*, as well as in *Administering ClearCase*, which also describes several procedures you may need to follow when you upgrade. These documents are available in hardcopy and as part of the ClearCase online document set. Click **Start**>**Programs**>**Rational ClearCase**>**ClearCase Help**. On the **Contents** tab, click **Online Manuals**. These documents are also available in HTML form on the ClearCase customer Web site **clearcase.rational.com**.

Any upgrade from ClearCase LT to ClearCase requires these basic steps:

1. Acquire ClearCase licenses for users of the upgraded ClearCase LT hosts.
2. Check in any checked-out files or directories.
3. Remove all views. (This step may not be necessary if your ClearCase LT server is running UNIX.)
4. Remove ClearCase LT software from the ClearCase LT server host.
5. Install ClearCase on the ClearCase LT server host in the same directory that had previously been used for ClearCase LT on this host.
6. Run the ClearCase LT upgrade tool **cclt2cc** on the upgraded ClearCase LT server host.
7. Install ClearCase on the ClearCase LT client hosts.
8. Create new snapshot and/or dynamic views.

Additional steps may be needed, depending on the upgrade scenario you choose.

NOTE: If you are upgrading a ClearCase LT community whose ClearCase LT server is running Windows NT and you need to access VOBs on the upgraded server from dynamic views on ClearCase hosts running UNIX, you must move the VOBs to a ClearCase VOB server host running UNIX. ClearCase hosts running UNIX cannot use dynamic views to access VOBs hosted on Windows NT. Contact Rational Support for information on moving a VOB from Windows NT to UNIX.

3.2 Upgrade Scenarios

This chapter describes two upgrade scenarios:

- **Simple Upgrade:** In this scenario, you upgrade a single ClearCase LT community (one server and some or all of its clients) to ClearCase. The ClearCase LT server becomes a ClearCase server and continues to host all the VOBs it hosted as a ClearCase LT server. It also becomes the ClearCase registry host and license server host. The ClearCase LT clients become ClearCase clients.

  You can upgrade your ClearCase LT server and its clients in a single operation or upgrade the server first and upgrade the clients later. A ClearCase LT client can access an upgraded ClearCase LT server as long as it can acquire a ClearCase license from that server; but the client cannot take advantage of ClearCase features until it has been upgraded.

- **Upgrade and merge:** In this scenario, you upgrade ClearCase LT server and *all* of its clients to ClearCase, and then incorporate the ClearCase LT VOBs and upgraded hosts into an existing ClearCase installation. The VOBs can remain on the upgraded ClearCase LT server or can be moved to another ClearCase VOB server.

3.3 Preparing to Upgrade

Before you upgrade, you may need to take one or more of the following steps to ensure that the upgrade goes smoothly:

- Acquire ClearCase licenses for ClearCase LT users who are being upgraded. Acquire ClearCase MultiSite licenses for users of the upgraded ClearCase LT hosts who need access to replicated VOBs. Your existing ClearCase LT licenses will not work with ClearCase.

- If this is a simple upgrade, designate an appropriate host for the ClearCase networkwide release area. (The upgrade and merge scenario uses an existing release area.)

- Check in all checked-out files and directories. ClearCase LT views cannot be upgraded for use by ClearCase hosts. After the upgrade is complete, you can create new snapshot or dynamic views as needed.

- If upgraded users will need to access VOBs on UNIX hosts from dynamic views on Windows NT, you must acquire and configure an appropriate third-party software package to enable cross-platform file-system access.

Acquire ClearCase Licenses

ClearCase requires its own licenses and its own license server. ClearCase MultiSite requires an additional set of licenses, one for each user who will need access to a replicated VOB.

To ensure uninterrupted operation, obtain your ClearCase licenses and, if necessary, MultiSite licenses from Rational before you begin the upgrade process. Licensing forms and instructions for using them are included at the end of this document.

NOTE: ClearCase and ClearCase LT use different procedures for requesting and installing licenses. The Rational License Key Administrator and Rational AccountLink Web site cannot be used to acquire ClearCase licenses.

Select ClearCase License Server and Registry Server Hosts

ClearCase requires a license server host and a registry server host. These may be separate computers or the same computer. After a simple upgrade, the upgraded ClearCase LT server performs both functions. After an upgrade and merge, existing ClearCase license and registry server hosts perform these functions.

If you are performing a simple upgrade and designate your ClearCase LT server as the ClearCase license server and registry server host, all ClearCase LT clients, whether or not they have been upgraded, can access VOBs and views on the upgraded ClearCase LT server with a minimum of reconfiguration.

If you are upgrading and merging with an existing ClearCase site, you install ClearCase from that site's networkwide release area and can use that release area's site defaults for the license and registry server hosts. More ClearCase licenses may be needed after the upgrade, and you may have to add them to the license database of the existing license server host.

Plan for Registry Regions

ClearCase LT clients are members of a single region in a ClearCase registry that is maintained on the ClearCase LT server. The VOB-tags and view-tags in this registry region are unsuitable for use by ClearCase hosts.

For a simple upgrade, the upgrade tool **cclt2cc** registers the VOBs stored on the upgraded ClearCase LT server host and creates tags for them in the server's default ClearCase registry region.

If you need to access these VOBs from client hosts that are not of the same platform type (UNIX or Windows) as the ClearCase LT server, you must create an additional registry region for use by these clients, and then create tags appropriate for the hosts that will use this region. Step #6 of *The Simple Upgrade Procedure* on page 17 describes this process in more detail.

In the upgrade and merge scenario, you can take advantage of existing registry regions.

Establish Your ClearCase Release Area

Before you begin, verify that you have adequate disk space on an appropriate host platform for a ClearCase release area. For more information on this topic, see *Running the ClearCase Site Preparation Wizard* on page 32.

On Windows platforms, ClearCase LT does not use a networkwide release area.

NOTE: If you are using the upgrade and merge procedure, you do not need to create a new networkwide release area, because you will use one that already exists.

Remove All ClearCase LT Views

ClearCase LT views must all be removed before you upgrade. These views will not work in a ClearCase environment and must be recreated after the upgrade. Even if you plan a simple upgrade in which some ClearCase LT clients are not upgraded right away, all views on these clients must usually (see note) be removed before the upgrade begins and re-created after the ClearCase LT server has been upgraded. UCM components, projects, and streams are available for use when the upgrade is complete. Only the views need to be re-created.

NOTE: If your ClearCase LT server is running UNIX and you plan to use the simple upgrade procedure to upgrade the server and some, but not all, ClearCase LT clients, you can leave your ClearCase LT views in place until all the clients have been upgraded.

To remove views:

1. If you are using UCM, complete any deliveries that are in progress.

2. Check in all checked-out versions of files and directories. Verify that there are no remaining checkouts by using the ClearCase Explorer or the **cleartool lscheckout** command.

3. Remove all views. To do so, we recommend that you use the ClearCase Explorer on any Windows platform or the **cleartool rmview** command on either Windows or UNIX.

Issues with Interoperability and Dynamic Views

ClearCase supports two kinds of views:

- **Snapshot views**, which are also supported on ClearCase LT, copy file and directory versions from a VOB into the platform's native file system. Snapshot view users cannot see changes checked in to the VOB by other users until they update their views.

- **Dynamic views**, which are not supported on ClearCase LT, use the ClearCase *multiversion file system* (MVFS), which permits users to see changes to files and directories made by other users as soon as they are checked in to the VOB. ClearCase supports dynamic views on UNIX and Windows NT computers.

When you use dynamic views in a homogeneous environment (views on UNIX hosts accessing VOBs on UNIX servers or views on Windows hosts accessing VOBs on Windows NT servers), the MVFS works with the native network file system (NFS on UNIX, LAN Manager on Windows NT) and needs no additional support. If your upgraded Windows NT clients will use dynamic views to access VOBs on UNIX servers, you must install and configure a third-party software package to support heterogeneous file-system access. Two types of software can provide support for this type of access:

- **An NFS client package** that enables a Windows NT client to access a UNIX file system using the NFS protocol. You install NFS client software on each upgraded ClearCase LT client that will use dynamic views to access any VOB on a UNIX server.

- **An SMB server package** that enables a UNIX server to support the LAN Manager SMB protocol, which is native to all Windows computers. You install SMB server software on the upgraded ClearCase LT server.

If you plan to install such a package, install it after the upgrade is complete; you can then create dynamic views—which you will need for testing cross-platform VOB access—on the upgraded Windows NT client hosts. See *Administering ClearCase* for more information on this topic.

NOTE: You cannot use a dynamic view to access a VOB on Windows NT from a UNIX computer. This type of access is supported for snapshot views only.

3.4 Simple Upgrade

In the simple upgrade procedure, you upgrade a single ClearCase LT community (one server and some or all of its clients) to ClearCase. Use this procedure if any of the following are true:

- You are not already running ClearCase at your site.
- You are running ClearCase at your site but do not want to make the upgraded ClearCase LT hosts members of an existing ClearCase registry.
- You cannot upgrade all of your ClearCase LT client hosts at once and need to preserve VOB access for both ClearCase LT clients and upgraded clients.

In this procedure, you must upgrade the server first, and then upgrade some or all of the clients. Many steps in this procedure are also required in the upgrade and merge procedure.

The Simple Upgrade Procedure

To perform a simple upgrade:

1. **Prepare.** Complete the applicable upgrade prerequisites described in *Preparing to Upgrade* on page 13.
2. **Create a new networkwide release area.** Follow the process described in *Running the ClearCase Site Preparation Wizard* on page 32. When you run the Site Preparation Wizard, specify the name of the ClearCase LT server when you are prompted for the name of the ClearCase registry host. We recommend, but do not require, that you also configure the upgraded ClearCase LT server as the ClearCase license server host. If you need to preserve access to the upgraded server from ClearCase LT clients, you must configure the upgraded ClearCase LT server as the ClearCase license server host. For more information, see *If You Cannot Upgrade All Your Clients at The Same Time* on page 19
3. **Remove ClearCase LT software from the ClearCase LT server.** Follow the instructions in *Installing Rational ClearCase LT*. Do not remove ClearCase LT data unless you are sure you will not need it after the upgrade. The upgrade procedure preserves all ClearCase LT data and makes it available to ClearCase after the upgrade is complete.
4. **Install ClearCase on the ClearCase LT server.** Follow the instructions in *Running the ClearCase Installation Wizard* on page 35. Accept the default choices for registry and license server hosts and for registry region. You will be prompted to create server storage locations for VOBs and views after the server reboots. The remainder of the upgrade process converts

existing VOB server storage locations on the upgraded ClearCase LT server, so you only need to create view storage locations at this time. You may also create additional VOB storage locations if you wish.

NOTE: When you upgrade the ClearCase LT server, you must install ClearCase in the directory where ClearCase LT had been installed (normally **C:\Program Files\Rational\ClearCase**). Otherwise, the upgrade procedure cannot complete successfully. This restriction does not apply when upgrading ClearCase LT clients.

5. **Run the upgrade tool.** The **cclt2cc** upgrade tool automates most of the upgrade process. It performs the following tasks:

   - Registers VOB storage locations on the upgraded ClearCase LT server in the server's default registry region
   - Creates VOB-tags for VOBs on the upgraded ClearCase LT server in the server's default registry region
   - On Windows NT, changes file system protection information on all VOB storage directories so that it is appropriate for ClearCase

   cclt2cc is located in the *ccase-home-dir***etc\utils** directory. To run **cclt2cc**:

   - Log in as a user with local administrator privilege to the upgraded ClearCase LT server.
   - Run the command in a Windows NT command shell. The example below upgrades all the VOBs on the ClearCase LT server and creates tags for them in the server's default region:

   *ccase-home-dir***etc\utils\cclt2cc -w** *tag-registry-password*

   See *cclt2cc Command Line Options* on page 23 for complete information on **cclt2cc** command line options.

   cclt2cc will complete its operations and display any applicable error messages.

6. **Create an additional ClearCase registry region if needed.** For more information, see *Creating Additional Regions* on page 22.

7. **Install ClearCase on the ClearCase LT clients.** Follow the instructions in *Running the ClearCase Installation Wizard* on page 35. Accept the default choices for registry region and license server host.

8. **Create new snapshot and/or dynamic views.** Use the ClearCase Explorer or the **mkview** command. For information on reusing UCM streams, see *Creating New UCM Views Using Existing Streams*.

Creating New UCM Views Using Existing Streams

The upgrade process preserves all of a UCM project's streams. If your upgrade takes place while a project is active, you may want to create new views using the project's existing streams. You can use either the Project Explorer or the Join Project Wizard to do so:

In the Project Explorer:

1. Select the stream you want to use.
2. Click **File**>**New**>**View**

In the Join Project Wizard:

1. Select the project you want to join
2. In Step 2 (**Create a Development Stream**), click **Advanced Options**.
3. On the **Stream** tab, click **Reuse an existing development stream**, and then select the stream you want to reuse.

If You Cannot Upgrade All Your Clients at the Same Time

If you've chosen to do a simple upgrade, you can defer upgrading some of your ClearCase LT client hosts for a few days or weeks to accommodate development schedules or other organizational requirements. ClearCase LT client hosts can access VOBs on the upgraded ClearCase LT server as long as the server is configured as a ClearCase license server host. The remaining ClearCase LT client hosts need to acquire ClearCase licenses to access VOBs on the upgraded server, which is possible only if the server itself has been configured as a ClearCase license server host. These clients cannot be configured to acquire ClearCase licenses from another ClearCase license server host, even if one is present in your environment. ClearCase LT clients that operate in this transitional mode are still limited to using the ClearCase LT feature set even though they require a ClearCase license.

3.5 Upgrade and Merge

In the upgrade and merge procedure, you upgrade the ClearCase LT server and all its clients at the same time, then make the server and clients part of a ClearCase registry that already exists at your site. Use this procedure if all of the following are true:

- You are running ClearCase at your site.
- You want the upgraded ClearCase LT server and clients to be members of the existing ClearCase registry.
- You can upgrade all ClearCase LT client hosts when you upgrade the server.

CAUTION: Do not use the upgrade and merge procedure unless you can upgrade all ClearCase LT clients at the same time. Upgrade and merge requires you to make the upgraded ClearCase LT server part of an existing ClearCase registry region. When you do this, the upgraded server cannot continue as the registry server for any remaining ClearCase LT clients, and these clients cannot access VOBs on the upgraded server.

The Upgrade and Merge Procedure

To upgrade and merge your ClearCase LT community:

1. **Prepare.** Complete the applicable upgrade prerequisites described in *Preparing to Upgrade* on page 13. Make sure that all of your ClearCase LT clients are ready to be upgraded. After you complete Step #3, no Clearcase LT client can access VOBs or views on the ClearCase LT server.

2. **Install additional ClearCase licenses on the license server host if needed.** Users who run ClearCase commands on upgraded ClearCase LT hosts can use licenses from the existing license pool. If you already have an adequate number of these licenses, you do not need to install additional licenses.

3. **Remove ClearCase LT software from the ClearCase LT server.** Follow the instructions in *Installing Rational ClearCase LT*. Do not remove ClearCase LT data unless you are sure you will not need it after the upgrade. The upgrade procedure preserves all ClearCase LT data and makes it available to ClearCase after the upgrade is complete.

4. **Install ClearCase on the ClearCase LT server.** Follow the instructions in *Running the ClearCase Installation Wizard* on page 35. Do not create a networkwide release area or run the Site Preparation Wizard. The upgrade and merge procedure assumes that you are merging

the ClearCase LT server and clients into a ClearCase installation for which these steps have already been completed.

With the exception of the registry server host name, you should accept all of the site default values (license host, view text mode, and so on) as defined. Override the site default value for registry server host, and instead, specify the ClearCase LT server's host name as the registry server.

NOTE: When you upgrade the ClearCase LT server, you must install ClearCase in the directory where ClearCase LT had been installed (normally **C:\Program Files\Rational\ClearCase**). Otherwise, the upgrade procedure cannot complete successfully. This restriction does not apply when upgrading ClearCase LT clients.

5. **Run the upgrade tool.** See Step #5 on page 18.

6. **Get information about storage locations and VOBs on the upgraded server.** Log in to the upgraded ClearCase LT server. Run the **cleartool lsstgloc -l** and **lsvob -l** commands to get information about server storage locations and VOBs on the upgraded server. You will use this information in Step #7 and Step #8 of this procedure.

7. **Register the upgraded server's storage locations in the existing registry.** On another ClearCase host—one that has network access to the file system of the upgraded ClearCase LT server and is a member of the registry in which you want VOBs on the upgraded ClearCase LT server to have tags—run the **cleartool mkstgloc** command to register storage locations on the upgraded ClearCase LT server.

8. **Register and create tags for the upgraded server's VOBs in the existing registry.** On the same ClearCase host that you used in Step #7, run the **cleartool register** and **mktag** commands to register and tag the VOBs on the upgraded ClearCase LT server.

9. **Verify that the VOBs are accessible.** Make sure that all ClearCase hosts in the region can access the VOBs on the upgraded ClearCase LT server.

10. **Make the upgraded server a member of the existing registry.** Reconfigure the upgraded ClearCase LT server so that it is no longer a registry server, and is instead a member of the existing registry region.

11. **Create an additional region if needed.** For more information, see *Creating Additional Regions*.

12. **Install ClearCase on the ClearCase LT clients.** Follow the instructions in *Running the ClearCase Installation Wizard* on page 35. Accept the default choices for registry region and license server host.

13. **Create new snapshot and/or dynamic views as needed for the upgraded clients.** Use the ClearCase Explorer or the **mkview** command. For information on reusing UCM streams, see *Creating New UCM Views Using Existing Streams* on page 19.

3.6 Creating Additional Regions

If you are doing either of the following, you need to create an additional registry region after the upgrade is complete:

- Using the simple upgrade procedure to upgrade a ClearCase LT community that includes both UNIX and Windows computers
- Using the upgrade and merge procedure to merge a ClearCase LT community that includes both UNIX and Windows computers into a ClearCase installation that only includes computers of one type or the other

In Step #4 of *The Simple Upgrade Procedure* on page 17, you specify that the upgraded ClearCase LT server will host the ClearCase registry after the upgrade. By doing this, you ensure that VOB-tags created in the registry's default region are appropriate for hosts of the same type as the upgraded ClearCase LT server. Hosts of a different type cannot use these VOB-tags to access the VOBs, so a peer region must be created and VOB-tags must be imported into it. Use the following procedure:

1. **Create the peer region.** Use the ClearCase Administration Console on Windows NT (click **Start**>**Programs**>**Rational ClearCase Administration**>**ClearCase Administration Console**), or use the **mkregion** command on either Windows NT or UNIX. The example below creates a new region named **NTdev**:

   cleartool mkregion -tag NTdev -tco "NT peer region"

2. **Create VOB-tags in the peer region**. After you create a peer region, you must use ClearCase commands to create VOB-tags in it. If the peer region is a Windows region (created to make the upgraded VOBs accessible to Windows hosts), we recommend using the Region Synchronizer to import tags from the default (UNIX) region into the peer region. To run the Region Synchronizer, click **Start**>**Programs**>**Rational ClearCase Administration**>**Region Synchronizer** on any ClearCase host running Windows.

   If the peer region is a UNIX region, use the **cleartool mktag** command. You can also use the ClearCase Administration Console to create VOB-tags and view-tags in any region.

Administering ClearCase has more information on this topic.

3.7 cclt2cc Command Line Options

This section summarizes the command line options for the **cclt2cc** upgrade tool.

SYNOPSIS

cclt2cc -w *tag-registry-password* [**–v** *vob-tag-list*] [**–d** *destination-region*] [**-p** *vob-tag-prefix*]

OPTIONS AND ARGUMENTS

TAG REGISTRY PASSWORD. *Default:* None.

–w *tag-registry-password*
: The registry password for the tag registry in which new VOB-tags will be created.

VOBS TO UPGRADE. *Default:* Upgrade all VOBs.

–v *vob-tag-list*
: Upgrade only the VOBs in *vob-tag-list*, a comma-separated list of VOB-tags.

DESTINATION REGION. *Default:* The server's default region.

–d *destination-region*
: Create VOB-tags in *destination-region* instead of the default.

VOB-TAG PREFIX. *Default:* **vobs**.

–p *vob-tag-prefix*
: Create UNIX VOB-tags with a prefix of *vob-tag-prefix* instead of the default. This option is ignored if specified on Windows NT.

4 Installing ClearCase for Windows for the First Time

This chapter describes how to install the ClearCase family of products on Windows computers for the first time.

This chapter assumes that you are a Rational ClearCase administrator who is unfamiliar with the site-preparation and installation procedures. See *Installation Overview* on page 26 for an outline of the procedures.

4.1 ClearCase Default Installation Directory

ClearCase documentation uses *ccase-home-dir* as shorthand for the ClearCase installation directory. When you encounter this notation, substitute your own local ClearCase installation directory for *ccase-home-dir*.

For new installations, the default installation directory is *system_drive***:\Program Files\Rational\ClearCase**, where *system_drive* is the drive that contains Windows system files. A typical installation directory is **C:\Program Files\Rational\ClearCase**.

NOTE: A ClearCase administrator can change the default directory by running the Site Preparation Wizard.

4.2 Installation Overview

To install this release of ClearCase:

Ensure that you have met the networkwide site prerequisites	Section 4.3
Decide about certain installation considerations	Section 4.4
Run the Site Preparation Wizard to prepare release areas	Section 4.5
Run the ClearCase Installation Wizard to install ClearCase	Section 4.6
Examine ClearCase Doctor results	Section 4.7
Run the ClearCase Storage Configuration Wizard (on the server)	Section 4.8
Complete the installation	Section 4.9
Set up MultiSite synchronization, if you installed MultiSite	Section 4.10

Typically, the ClearCase administrator prepares the release area by running the Site Preparation Wizard and installs ClearCase server software on the server hosts.

Then, users install ClearCase client software on their computers, taking the ClearCase settings established during site preparation as defaults. In this case, you can start with Section 4.6.

The ClearCase Installation Wizard performs both server and client installations (see *Server and Client Installation Considerations* on page 28).

4.3 Meeting Networkwide Site Prerequisites

If you are installing ClearCase at your site for the first time, you must perform the following preparatory planning and configuration steps:

- Read the *ClearCase and MultiSite Release Notes*, especially *README FIRST*.
- Select the ClearCase server host for your network.
- Ensure that you have local or domain administrator privileges.

The remainder of this section discusses the second and third steps.

Select the ClearCase Server Host

Select the computer that will act as your first ClearCase server. By default, this host handles various ClearCase administrative functions and also holds your ClearCase data. This host can

function as the license server, the registry server, and the (optional) credentials server. See also *Server and Client Installation Considerations* on page 28.

For a new installation, we recommend using one server host for all these functions. Over time, you will probably want to use multiple hosts for different ClearCase functions. See *Administering ClearCase* for information about server configuration.

Maintenance Requirements

Because ClearCase objects (such as VOBs and views) make up your organization's data repository, you must back them up regularly. In addition, you must run maintenance programs on VOBs regularly, to regulate their growth. (See *Administering ClearCase* for details.)

Windows Server Software and ClearCase Servers

Windows NT and Windows 2000 systems impose a limitation on concurrent access: a maximum of 10 systems can access a Windows NT or Windows 2000 Workstation system simultaneously by means of file-system mounts or UNC names.

If you anticipate approaching this level of use, at which many ClearCase users access the same VOB simultaneously, install Windows NT or Windows 2000 Server software on your primary ClearCase servers.

In general, views imply a lesser degree of sharing and concurrency than VOBs. In fact, many views are dedicated to a single user. However, if you devote one or more systems to storing large numbers of views, then concurrent, view-related access to the view server computers is significant.

Ensure That You Have Local or Domain Administrator Privileges

ClearCase site preparation requires that you have either local or domain administrator privileges:

- If the installation is new, you need domain administrator privileges to create the ClearCase service account and ClearCase group necessary to run ClearCase.
- Alternatively, if the installation is new and you do not have domain administrator privileges, your domain administrator can create the account manually before you run the ClearCase Site Preparation Wizard. You then need only the names of the account and group

(and the domain in which they were created) and the account password to run the wizard with local administrator privileges.

See *Administering ClearCase* for details about the ClearCase service account and ClearCase group (including how to create them manually).

NOTE: If you have a multidomain environment, see *Administering ClearCase* for more information about using Windows NT domains with ClearCase.

4.4 Installation Considerations

Before you run the ClearCase Site Preparation Wizard, you must decide whether you will do any of the following:

- Configure the installation computer as a client or as a server and decide which computer is to be the license server
- Install Internet Explorer
- Enable remote administration of the computer
- Use the latest VOB database format
- Install MultiSite (if you are configuring the computer as a server)
- Install on a dual-boot computer

The following sections provide information to consider in making these decisions.

Server and Client Installation Considerations

When you install ClearCase on a computer, you choose whether to configure that computer as a *server* or a *client*:

- A server is a reliable computer that provides ClearCase resources to other computers on a local area network.

- A client is a computer on which a ClearCase user works, typically using one or more views to operate on ClearCase elements stored in VOBs.

You must designate one server as the license server; you must decide how many ClearCase and MultiSite licenses you need; and you must decide how to allocate these licenses on your network. (For details, see Appendix A.)

In addition, you must designate a registry server, a Windows registry region, and an SMTP server. The ClearCase scheduler sends e-mail messages using the SMTP server. Optionally, you designate a credentials server if your site supports ClearCase clients on Windows 98 or Windows Me, and a UNIX registry region if your site supports Windows/UNIX interoperation. For more information about these servers, see *Administering ClearCase*.

As noted in *Select the ClearCase Server Host* on page 26, you can designate a single computer as the server that handles all these server functions.

A Windows NT or Windows 2000 computer can be a server or a client. A computer running Windows 98 or Windows Me can be a client only.

A ClearCase server running Windows NT or Windows 2000 can support the following:

- Registered locations where clients can create VOB and view storage directories
- ClearCase MultiSite-replicated VOBs and services
- A ClearCase registry, license, or credentials server
- All capabilities of a Windows NT or Windows 2000 client

A ClearCase client running Windows NT or Windows 2000 can support the following:

- Snapshot and dynamic views
- Local VOBs and views

A ClearCase client running Windows 98 or Windows Me can use snapshot views and have snapshot view directories. It cannot use dynamic views or be the location of VOB or view storage directories.

Which features a particular ClearCase computer has depend on both the site defaults (established by the ClearCase Site Preparation Wizard) and the options chosen if the person performing the installation overrides the site defaults.

Cross-Platform Consideration

If you have a mixed network environment of Windows and UNIX computers, you can use a UNIX host as a registry server or as a license server. For more information about Windows/UNIX interoperation, see *Administering ClearCase*.

Internet Explorer Consideration

The ClearCase Explorer, the ClearCase HTML Diff Merge tool, the ClearCase Automation Library (CAL) documentation, and the ClearCase Administration Console, including its help, require Internet Explorer Version 4.01 Service Pack 1 (SP1) or later to function correctly. Moreover, the Microsoft Management Console (which is used by the ClearCase Administration Console) may not install correctly without Internet Explorer Version 4.01 SP1.

You can download and install Internet Explorer from the Microsoft Web site:

www.microsoft.com/windows/IE

See also *Remote Administration Considerations*.

Remote Administration Considerations

If you enable ClearCase Remote Administration, any user who is both logged on to another host and a member of the ClearCase service group can use the Administration Console to change ClearCase properties for clients and servers. These ClearCase properties can be changed:

- Registry regions
- License server
- Registry and backup registry servers
- MVFS cache sizes

Remote administration capability is useful if, for example, you move your license server to a new host. You can then change the settings for all clients from a single computer.

If you do not enable Remote Administration, only the local user can change that computer's ClearCase properties.

Remote administration requires Internet Explorer Version 4.01 or later to function properly. See the previous section, *Internet Explorer Consideration*, for more information.

For more information, see *Administering ClearCase*.

VOB Database Format Considerations

The current ClearCase release supports two VOB database formats. For VOB server installations, you must select one of the following:

- The latest VOB database format

  New installations should select this format. (It is the default.)

- The VOB database format that is compatible with release 3.2.1

  In most cases, only existing installations should select this format.

If you have an existing ClearCase installation, you can run **-ver** from the **cleartool** command line to see the current vob database schema version. For more information, see *VOB Database Support* on page 6 and the *ClearCase and MultiSite Release Notes*.

MultiSite Installation Considerations

You can install MultiSite only on ClearCase server hosts.

MultiSite need not be installed on all ClearCase computers. In most cases, only the following computers require MultiSite installation:

- Computers on which one or more replicated VOBs reside.
- Computers that belong to users with ClearCase and MultiSite administration responsibilities.
- Computers on which the **shipping_server** utility will be used, even if no replicated VOBs will reside on that computer. Running **shipping_server** does not require a MultiSite license. For more information about this utility, see *ClearCase MultiSite Manual*.

Installing ClearCase on Dual-Boot Computers

On a computer that can boot multiple Windows NT, Windows 98, Windows Me, or Windows 2000 installations, do not install ClearCase in the same directory for any two installations.

If you install to the same directory, various identical ClearCase components are shared. Removing ClearCase from that directory disables ClearCase for every version of Windows that uses the common directory. Furthermore, when a common directory is used, it is not possible to install different ClearCase releases for each version of Windows.

To avoid these problems, install ClearCase in distinct directories for each version of the operating system. If you have encountered this problem already, the workaround is to reinstall ClearCase.

4.5 Running the ClearCase Site Preparation Wizard

Typically, the ClearCase administrator runs the Site Preparation Wizard (a program called **siteprep**) to create and configure a single release area for the site. At ClearCase releases 4.2 and later, you can specify more than one set of site defaults per release area. For information about creating multiple site default files, see *Creating Multiple Site Default Files for a Release Area* on page 34.

If you designated a single computer as the ClearCase server (see *Select the ClearCase Server Host* on page 26), run the Site Preparation Wizard on that computer.

As the administrator, run the ClearCase Site Preparation Wizard as follows:

1. Log on to the server computer as a user with either local or domain administrator privileges. (The section *Ensure That You Have Local or Domain Administrator Privileges* on page 27 describes how to determine which is required.)

2. Place the ClearCase CD in a drive accessible from the ClearCase server. The ClearCase Site Preparation Wizard starts automatically.

   The wizard asks whether to run ClearCase site preparation or to do an evaluation installation. Click **Start the Site Preparation Step of ClearCase Installation**. (For details about the evaluation installation, see Chapter 5.)

3. Follow the instructions as they appear.

   - At the beginning of ClearCase Site Preparation, ClearCase Doctor checks the configuration of your computer. If ClearCase Doctor finds problems, it provides detailed instructions for correcting them and often offers to fix problems for you.

   - The steps instruct you to specify site-wide default values, which are used in prompts by the ClearCase Installation Wizard. Most steps contain **Help** buttons, which provide detailed information to assist you in making your choices.

- You also are asked whether you intend to install MultiSite optional software. (See *MultiSite Installation Considerations* on page 31.)
- The Attache helper software is installed when the multiversion file system (MVFS) is installed.
- If you are installing ClearCase on a nondomain system, select **None** on the ClearCase Service Account screen. A message informs you that you can use ClearCase data only on this system. To access data on a UNIX system, you must override the registry and license servers and the interoperability region values after you complete the installation by using the ClearCase Control Panel.

  NOTE: As a rule, nondomain system installations are not recommended. For more information about using ClearCase on nondomain systems, see *Administering ClearCase*.

After you specify these values, the wizard asks whether to save new site preparation defaults or to create new network release area. Click **Create new network release area**.The wizard creates an on-disk image of the ClearCase CD that serves as the ClearCase release area in a directory on the server. It also creates a first site default file. By default, this file is named **sitedefs.dat**. You can change it to a meaningful name.

4. You are now prompted to start the ClearCase Installation Wizard. Proceed to install ClearCase on this server using the newly created release area.

   For details about running the ClearCase Installation Wizard, see *Installation Considerations* on page 28 and *Running the ClearCase Installation Wizard* on page 35.

5. Make the release area directory shareable. Even if the drive containing that directory is already shareable, making the directory itself shareable makes it easier to find the ClearCase release area.

   a. In Windows Explorer, right-click the network release area to display the directory shortcut menu.

   b. Click **Sharing**. The **Properties** dialog box appears.

   c. On the **Sharing** tab, click **Shared As** and supply a meaningful share name, such as **CCNT4.2 Release Area**.

Creating Multiple Site Default Files for a Release Area

Many sites handle only one set of ClearCase users. But some sites require different sets of users to work with different default settings. For example, a development group and a quality engineering group may use different **Start** menu commands or different registry servers. In this case, you can create one site default file for each group.

To create multiple site default files for a release area:

1. Create the initial release area by following the instructions in *Running the ClearCase Site Preparation Wizard* on page 32. Set up this area with the site-specific parameters relevant to the first group of users.

2. Rerun the ClearCase Site Preparation Wizard from the release area that you created in Step #1. In this case, do not run the wizard from the CD. Instead, double-click **siteprep** in the release area or run **siteprep.exe** on the command line.

3. Follow the instructions to set the ClearCase parameters. Because you have created a first site default file (**sitedefs.dat** for instance), in the initial release area, the Site Preparation Wizard displays the values set in **sitedefs.dat**. Keep the values that apply to both groups and change the ones according to the needs of the second group.

4. When you come to the **Save Site Defaults** step, click **Save new site preparation defaults in existing release area**.

5. You are now prompted to enter a name for the new site defaults file.

   - If you started the site preparation on the command line and specified a file-name argument for this new site defaults file, for example, **sitedefs.developers**, the field displays this name.

   - If no file name was previously specified, the field is blank. Type a name that does not currently exist in the release area.

     NOTE: If you enter the name of an existing file, a warning message appears. You can overwrite the existing file or specify a different name to create a new file.

According to your needs, you may create many more subsequent site defaults files in this way.

Creating Multiple Release Areas

Because ClearCase releases 4.2 and later support multiple site defaults per release area, creating multiple release areas become unnecessary but remains an alternative.

To create a second release area:

1. Create the initial release area by following the instructions in *Running the ClearCase Site Preparation Wizard* on page 32. Set up this area with the site-specific parameters relevant to the first group of users.

2. Rerun the ClearCase Site Preparation Wizard from the release area you created in Step #1. In this case, do not run the wizard from the CD. Instead, double-click **siteprep** in the release area.

   When you create the second release area by running the ClearCase Site Preparation Wizard from the first release area, the second release area is created using the site-specific parameters from the first release area instead of the initial settings from the CD, which you may have overridden when you created the first release area.

3. When you come to the **Save Site Defaults** step, click **Create new network release area**.

NOTE: If you run the ClearCase Site Preparation Wizard on a computer that has ClearCase installed, the installed values on that computer override the release area defaults.

4.6 Running the ClearCase Installation Wizard

The ClearCase Installation Wizard installs ClearCase and optionally MultiSite, if it was specified as defaults during site preparation. Attache helper is installed if the multiversion file system (MVFS) is installed.

If you are installing ClearCase on a client computer from a release area designated by your ClearCase administrator, Step #1 of the following procedure is not relevant. In most cases, take the defaults as presented on the installation screens. See your ClearCase administrator for more information.

If you are a ClearCase administrator and choose to run the ClearCase Installation Wizard after the Site Preparation Wizard runs, Step #2 and Step #3 of the following procedure are not relevant.

1. Review *Installation Considerations* on page 28.

2. Log on as a user with local administrator privileges.

3. To install ClearCase using a specific set of site defaults, run **setup.exe** on the command line and specify the name of the site defaults file. For example:

   setup.exe sitedefs.developers

   If you want to install ClearCase using the default site defaults file (**sitedefs.dat**), do one of the following:

   - On the command line, run **setup.exe** and don't specify a file name.

   - In Windows Explorer, navigate to the ClearCase network release area. Double-click the **setup** icon.

4. Follow the instructions as they appear. Most panels contain **Help** buttons to access information about the parameters or questions in the panels.

   - At the beginning of the installation, the wizard reads the site defaults specified during site preparation. ClearCase Doctor then checks the configuration of your computer. If ClearCase Doctor finds problems, it provides detailed instructions for correcting them and often offers to fix problems for you.

   - If your computer is running Windows NT or Windows 2000, you have the option of configuring it as a ClearCase client or server. Typically, ClearCase users should configure their computers as ClearCase clients. See *Server and Client Installation Considerations* on page 28 for details about what ClearCase functionality is supported on clients and servers, or consult your ClearCase administrator.

   - Site-specific defaults have been defined for most steps in the ClearCase Installation Wizard. Consult your ClearCase administrator before overriding these defaults.

   - If this computer has been designated as the ClearCase license server, you are prompted to enter the ClearCase license keys. If you already have your ClearCase license keys, enter them when prompted.

     If you do not yet have your license keys, click **Next**. In this case, obtain and enter the license keys after the installation, using the procedures described in *License Server Postinstallation Procedure* on page 39.

     NOTE: Although you can install ClearCase, users at your site cannot run ClearCase until the license information is supplied.

➢ The **Start Copying Files** panel lists all the components to install. You can either accept the list to proceed with the installation or go back to change previous answers.

5. At the end of the installation, you are prompted to restart the computer. After you restart the computer, ClearCase Doctor checks the new configuration of your computer. See *Examining ClearCase Doctor Results* on page 37.

6. If you are installing on a ClearCase server and have specified that locations on the server will be available to clients for VOB and view storage directories, you must specify those locations. See *Running the ClearCase Server Storage Configuration Wizard* on page 38.

7. Follow the instructions in *Completing the Installation* on page 38.

ClearCase Administrator Notes

If you overrode the defaults for the ClearCase license, registry, or credentials servers, you must install ClearCase on these computers next. Because ClearCase clients use storage on ClearCase servers to create view and VOB storage directories, install ClearCase on those servers before you install ClearCase on clients.

Because you have created a network release area and provided default answers to most of the questions the ClearCase Installation Wizard asks, individual users can use your defaults to install ClearCase on their computers.

Note, however, that users can override any defaults that the ClearCase Site Preparation Wizard established when they run the ClearCase Installation Wizard on their computers.

It is possible to install ClearCase on individual computers directly from the CD, but it is not recommended. Each person who installs ClearCase directly from the CD must research and supply answers to many questions. If you decide to install ClearCase directly from the CD, you also must have the password for the ClearCase service user account.

4.7 Examining ClearCase Doctor Results

ClearCase Doctor is run by the ClearCase Installation Wizard before installing a new version of ClearCase, and also runs on a new installation after you log on. Thereafter, you can set ClearCase Doctor to run each time you log on (the default), turn it off entirely, or run it in the background.

At a minimum, we recommend that you run ClearCase Doctor in the background so that it can detect changes in your ClearCase environment that may affect operations.

ClearCase Doctor checks basic configuration information for a site or an individual computer. If it finds a problem, it suggests a solution and often offers to fix the problem for you.

In addition to checking configuration information, ClearCase Doctor displays configuration information. To display all configuration information messages, click **Options**>**Verbose** in ClearCase Doctor.

You can run ClearCase Doctor at any time. Click **Start>Programs>ClearCase Administration>ClearCase Doctor**.

4.8 Running the ClearCase Server Storage Configuration Wizard

If you specified that your computer is to be a ClearCase server and that locations on that server are to be available to ClearCase clients for creating VOB and view storage directories, the ClearCase Server Storage Configuration Wizard runs when you first log on after the installation restart.

NOTE: You must log on as the same user who ran the installation.

This wizard allows you to specify locations on the server that will be available to ClearCase clients for VOB and view storage directories.

The online help for the wizard provides detailed configuration information.

You can configure the locations by using the wizard now or wait until the next logon. On the next logon, you can configure the locations from the ClearCase Registry snap-in of the ClearCase Administration Console. You can also run *ccase-home-dir***etc\SvrStor.exe** or the **mkstgloc** command from the **cleartool** command line. For more information about storage configuration, see *Administering ClearCase*.

4.9 Completing the Installation

After running the ClearCase Installation Wizard, follow the steps in this section to complete the installation process.

License Server Postinstallation Procedure

If you specified that your computer is to be a ClearCase license server and did not enter the license key information during installation, you must enter the appropriate ClearCase license keys (sometimes called license authorization codes) before you can use ClearCase. See also *Allocating ClearCase Product Family Licenses* on page 47.

When you have the license keys, enter them using the following procedure:

1. On the ClearCase license server, run the ClearCase Control Panel program.
2. On the **Services Startup** tab:
   a. Click **Shutdown ClearCase**.
   b. Click **Yes**, and then click **OK**.
3. On the **Licensing** tab:
   a. Click **The local system can act as a license server**.
   b. Enter your ClearCase and MultiSite license keys.

      NOTE: License keys must be entered exactly as specified (for example, uppercase and lowercase letters must be preserved.)

   c. Click **OK**.
4. On the **Services Startup** tab, click **Startup ClearCase**.

   See also the **clearlicense** and **license.db** reference pages in the *ClearCase Reference Manual*.
5. If this is the first time you have used this computer as a license server, you must reboot the computer before you can use ClearCase on it. If you have previously used this computer as a license server, you need not reboot.

Administrator Postinstallation Procedure (NTFS)

If you install ClearCase on an NTFS file system, the ClearCase service account must have read/execute permissions for the *ccase-home-dir* directory. The local administrator must perform the following steps after ClearCase is installed.

1. Log on as the local administrator.

2. In Windows Explorer, navigate to the ClearCase installation directory, and right-click that directory.

3. Click **Properties**. A property sheet for the directory appears.

4. On the **Security** tab, click **Permissions** and modify the permissions to add **Read and Execute (RX)** rights for the ClearCase service group. Do not change any other rights for any group or user.

   NOTE: Be careful when modifying file-system permissions. Adding or removing rights can compromise file-system security or even render the computer inoperable.

Per-User Postinstallation Procedure

Each ClearCase user who logs on and works on the ClearCase client or server must perform this procedure:

1. Log on using your normal user account (not as the local administrator).

2. When prompted by ClearCase Doctor, click **Start Analysis** to do an initial analysis.

   NOTE: ClearCase access control relies on coordinated group assignments.

3. On the **Topics** tab, double-click the **User Logon Account** folder in the tree view.

4. If your primary group is incorrect, ClearCase Doctor reports the problem and provides instructions to correct it. You may need to set the CLEARCASE_PRIMARY_GROUP environment variable.

5. **UNIX and Windows NT (or Windows 2000) mixed environment users only** — After your primary group is set, verify that it matches your UNIX primary group using the following command:

   *ccase-home-dir***etc\utils\credmap** *UNIX-hostname*

   For more information, see *Administering ClearCase*.

4.10 Setting Up MultiSite Synchronization

Each site that uses Rational ClearCase MultiSite stores configuration settings locally. You can modify these settings at any time after installing MultiSite, using either of the following:

- **MultiSite Control Panel**

  Configures MultiSite's *store-and-forward* facility, which delivers synchronization packets between sites. See the **MultiSite Control Panel** reference page. To see the online help, click

  Start>**Programs**>**ClearCase Administration**>**MultiSite Help**.

- Synchronization scripts

  After installing MultiSite, you can automate replica synchronization by editing MultiSite configuration files and scheduling regular execution of synchronization scripts. For more information, see the *ClearCase MultiSite Manual*.

5 Installing ClearCase Release for Evaluation

You can perform an evaluation installation to interact with Rational ClearCase without having to perform all the steps necessary to set up a full-fledged ClearCase site. The evaluation installation allows you to run the ClearCase tutorial and to try most ClearCase functions.

NOTE: You cannot perform an evaluation installation over a previous ClearCase installation.

5.1 Evaluation Installation Is Not Supported on Windows 98 or Windows Me

You cannot perform an evaluation installation on Windows 98 or Windows Me because these operating systems do not support the creation of local VOB and view server processes.

5.2 Performing an Evaluation Installation

Install the ClearCase evaluation copy directly from the CD. (Standard licensed installations are performed from a network release area.) The evaluation installation is not intended for production work or any permanent use, nor is it supported for any production work or permanent use.

To perform an evaluation installation:

1. Log on as the local administrator on the evaluation computer (that is, the computer on which you want to evaluate ClearCase).
2. Insert the ClearCase CD in the drive on the evaluation computer.
3. Click **Do an Evaluation Installation of ClearCase to this workstation**.
4. Follow the instructions as they appear on the screen.

The evaluation computer is configured as a stand-alone ClearCase site. All accounts and services created are local to the evaluation computer. Anyone who logs on to the evaluation computer is prompted to start the ClearCase tutorial.

5.3 What the Evaluation Installation Does

The evaluation installation creates a ClearCase service account (**clearcase_albd**) and a ClearCase service group (**clearcase**), both local to the evaluation computer. These local accounts are removed by running **uninstal** or by upgrading to a licensed installation.

In the ClearCase configuration for the evaluation installation, the evaluation computer serves as both license and registry server. These servers have a default region of **evaluation_region** and local service account and service account group of

- **.\clearcase_albd**
- **.\clearcase**

In this notation, **.** is shorthand for a Windows NT or a Windows 2000 domain local to the evaluation computer.

5.4 Completing the Evaluation

After you finish evaluating ClearCase, you can remove it by running the following program from the CD:

cd_drive:**\cpf\nt_i386\uninstal.exe**

You can also remove the ClearCase evaluation installation by performing a standard product installation. If you choose to upgrade your evaluation installation to a licensed installation, all the temporary accounts local to this workstation are removed also.

NOTE: The ClearCase evaluation installation creates a shared directory on the evaluation computer. Uninstalling the evaluation does not remove this shared directory or any storage areas you create while evaluating ClearCase. You must remove these areas manually.

5.5 Limitations of the Evaluation Copy of ClearCase

An evaluation installation is for only a single user. You cannot share configuration management data with other users. Nothing you do in the evaluation installation can be carried over to the standard product installation. All VOBs and views you create using the evaluation installation, and the source code entered into them, are transitory. You can delete these VOBs and views when the standard licensed product installation is performed. Any source code you create using the evaluation installation must be reentered when you install the full ClearCase product. Also, the service accounts and groups created under the evaluation installation are transitory and local to the computer on which you installed the evaluation copy.

The evaluation configuration allows users logged on to this computer to create versioned object bases (VOBs) and ClearCase views. These VOBs and views cannot be preserved past their use in the evaluation installation. If you upgrade to a fully licensed installation of ClearCase, you must reimport the sources into ClearCase. These restrictions make the simple evaluation installation possible.

For this installation, the evaluation computer is configured for a one-month license, starting from the date of the initial evaluation installation. Even if you remove ClearCase and then reinstall an evaluation copy, the period is one month from the initial installation. If you want to extend the evaluation period, contact your Rational sales representative.

Allocating ClearCase Product Family Licenses

A

Rational ClearCase and Rational ClearCase MultiSite implement an active-user floating license scheme. Details of how this scheme controls a user's access to ClearCase and MultiSite are available in the **clearlicense** and **license.db** reference pages (see the *ClearCase Reference Manual*).

This appendix provides an overview of licensing and considerations for allocating licenses. Instructions for enabling ClearCase and MultiSite licenses are in *License Server Postinstallation Procedure* on page 39.

After you determine your license allocation, you must fill in the appropriate number of License Registration Forms and submit them according to the instructions on the form. A copy of the License Registration Form appears at the back of this manual. You will receive your license keys by return fax as soon as possible.

The set of licenses is maintained on the license server. The network can have one license server, or several. Each license server runs a ClearCase server process, and so must have ClearCase installed.

NOTE: ClearCase and MultiSite use the same license server—the computer displayed on the **Licensing** tab in the ClearCase Control Panel program. To open the ClearCase Control Panel program, double-click **ClearCase** in Windows Control Panel**.**

A.1 Allocating ClearCase Licenses

Suppose that your organization has purchased 25 ClearCase licenses. It's up to you to decide how many license servers to use and how to allocate licenses to them. Here are two examples:

- **Use a single license server.** In this case, request a single license authorization code for 25 licenses. Create a single license database incorporating this code.

  A drawback of this strategy is its single point of failure. If your network's lone license server fails, no one is able to use ClearCase. In this scenario, consider making an important ClearCase data server act as the license server also; if that server fails, important data is unavailable, so the incremental inconvenience of not being able to use ClearCase is small.

- **Use two license servers.** In this case, request two license authorization codes, perhaps one for 15 licenses and another for 10 licenses. Create two license databases incorporating these codes, on two different servers.

  This strategy provides for more robustness. If the 15-license server fails, developers can still use ClearCase. Using ClearCase Host Administration, the administrator can find the properties of each affected host and reset the license server. See *Administering ClearCase*.

A.2 Allocating MultiSite Licenses

Each user of a *replicated VOB* must acquire both a ClearCase license and a MultiSite or Attache MultiSite license; moreover, the two licenses must be acquired from the same license server host. Therefore, plan your MultiSite licenses by analyzing each current ClearCase license server:

- If some or all of the clients that use a particular license server will access replicated VOBs, you must install MultiSite licenses on that license server.
- If all users on those clients will access replicated VOBs, it makes sense to install the same number of MultiSite licenses as ClearCase licenses.
- If some users will access standard (unreplicated) VOBs only, you do not need MultiSite licenses for these users.

For example, a company has two sites, with 20 developers at site A and 5 developers at site B. The company has three VOBs at site A; two of them will be replicated to site B and one will not be replicated. Five of the developers at site A will access only the unreplicated VOB, and the

remaining 15 will work in all VOBs. Therefore, the company needs to purchase the following numbers of licenses:

Site	Number of ClearCase licenses	Number of MultiSite licenses
A	20	15
B	5	5

NOTE: This example assumes that you purchase a ClearCase license for each developer. If you have fewer ClearCase licenses than developers, you can purchase a proportionate number of MultiSite licenses. For example, if site B purchased three ClearCase licenses, it would also purchase three MultiSite licenses.

Rational®
the e-development company™

Licensing Forms for the ClearCase Product Family

ClearCase Product Family License Registration Form

The ClearCase family of products includes a license enforcement mechanism. As described in the product's installation documentation, you must obtain a *license authorization code*, an encoded line of text to be inserted into a special *license database file*. Please fill in the following form completely. Upon completing the form, FAX it to Rational Software Corporation at **(781) 676-2460**. You will receive your authorization code via return FAX as soon as possible.

ClearCase Family Product to License (check one):

❒ **ClearCase** ❒ **MultiSite** ❒ **ClearTrack**

❒ **ClearCase Attache** ❒ **Attache MultiSite**

Your Company

1. Company name_____
2. Address _____
3. City/State/Country/Postal Code _____
4. Contact Person _____
5. Phone number (with area code): _____
6. FAX number (with area code): _____
7. Electronic mail address of contact person: _____

Licensing Information

8. Purchase Order Number (For new licenses purchased): _____
9. License server host ID:_____

   If ClearCase is installed, enter **clearlicense –hostid** on the license server. If not:

SunOS 4:	run **/bin/hostid** to determine 8-digit hex number
Solaris:	run **/usr/sbin/sysdef –h** to determine 8-digit hex number
HP-UX:	run **/bin/uname –i** to determine number (usually, 10 or 12 digits)
AIX:	run **/bin/uname –m** to determine 12-digit number
IRIX:	run **/etc/sysinfo**; use first four pairs of hex digits from first line
Compaq Tru64 UNIX or *Digital UNIX:*	use last four pairs of hex digits of "Ethernet Interface, hardware address" in **/var/adm/messages**
UnixWare:	install ClearCase and enter command **clearlicense –hostid**
Windows NT:	on the command line, **cd** to **cpf\nt_i386** on ClearCase CD-ROM; run **hostid**
MP-RAS	run **ildconfig**; use 12-digit number displayed in NODE field for first csma/cd adapter
Reliant UNIX	run **/usr/ucb/hostid**

10. New licenses requested or additional licenses required:

    Number of licenses: _____

(Do not include licenses already installed. For additional licenses, add new License Authorization Code to the **.db** file.)

Please FAX — do not phone and do not use electronic mail

Request to MOVE ClearCase Product Family Licenses

Please complete and sign the following form. Upon completion, FAX to Rational Software Corporation at **(781) 676-2460**.

I certify that Rational's ClearCase software, under the terms of the signed Software License Agreement, will be deleted in its entirety from the *old* host referenced below, and will be installed on one or more *new* hosts.

Authorized Signature: _____

Move Licenses (check one):

❒ **ClearCase** ❒ **MultiSite** ❒ **ClearTrack**

❒ **ClearCase Attache** ❒ **Attache MultiSite**

Your Company

1. Company name_____
2. Address _____
3. City/State/Country/Postal Code _____
4. Contact Person _____
5. Phone number (with area code): _____
6. FAX number (with area code): _____
7. Electronic mail address of contact person: _____

Licensing Information

8. Host ID of *old* license server:_____ # of licenses _____
   Host ID of *new* license server #1: _____ # of licenses _____
   Host ID of *new* license server #2: _____ # of licenses _____

   If ClearCase is installed, run **clearlicense –hostid** on the license server; if not:

SunOS 4:	run **/bin/hostid** to determine 8-digit hex number
Solaris:	run **/usr/sbin/sysdef –h** to determine 8-digit hex number
HP-UX:	run **/bin/uname –i** to determine number (usually, 10 or 12 digits)
AIX:	run **/bin/uname –m** to determine 12-digit number
IRIX:	run **/etc/sysinfo***;* use first four pairs of hex digits from first line
Compaq Tru64 UNIX or *Digital UNIX*:	use last four pairs of hex digits of "Ethernet Interface, hardware address" in **/var/adm/messages**
UnixWare:	install ClearCase and enter command **clearlicense –hostid**
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MP-RAS:	run **ildconfig***;* use 12-digit number displayed in NODE field for first csma/cd adapter
Reliant UNIX	run **/usr/ucb/hostid**

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