



Rational® ClearCase LT®

Release Notes

VERSION: 2003.06.00

UNIX EDITION

SOLARIS 2.6,7,8,9

HP-UX 11.0, 11.0 ACE, 11.11

IBM AIX 4.3.3, 5.1, 5.2

RED HAT LINUX 7.2, 7.3, 8.0, 9 FOR X86

RED HAT ENTERPRISE LINUX 2.1, 3 FOR X86

SUSE LINUX ENTERPRISE 7, 8

SUSE LINUX STANDARD SERVER 8 FOR X86

SUSE LINUX ENTERPRISE SERVER 8 FOR X86

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Scope

These release notes present information about the definition, delivery, and operation of Rational ClearCase LT configuration management software.

Product Definition

1

Rational ClearCase LT software for UNIX operating systems offers client/server solutions for configuration management software.

Before you install ClearCase LT software, read the *Installation Guide* for Rational ClearCase LT.

What's New in ClearCase

2

This chapter describes new features and other changes in Version 2003.06.00 of Rational ClearCase, as follows:

- *New Features*
- *Announcements*
- *Changes to the Commands*
- *Changes to the Documentation*

New Features

The following is a summary of the new features that are introduced in this release of ClearCase:

- *ClearCase Web*
- *Mainframe Connector Remote Builds*
- *Build Enhancements*
- *New and Enhanced Integrations*
- *UCM Enhancements*
- *MVFS Scaled for Multiprocessor Systems*

ClearCase Web

ClearCase Web supports the following new features:

- The Rational Web Platform (RWP) is the new server for the Web interface. ClearCase is a CGI executable that runs with the Apache Web server provided by RWP. Rational no longer supports any other Web server as the server for this interface. For more information, see the *Administrator's Guide* for Rational ClearCase.
- Support for Mozilla 1.4-based browsers on AIX, HP-UX/IPF, SGI IRIX, and Linux systems. Netscape 7 is supported on Solaris and HP-UX.

- Reverse proxy support. The Web interface allows requests from external users to be passed through a firewall to an internal ClearCase Web server.
- Performance improvement. When you perform an update, load, or restore operation on a large number of files, the associated Progress page displays either a **Show Details** or **Hide Details** button. Hiding the details can improve performance dramatically when several thousand or more file elements are the subjects of the operation.
- You can create a UCM view based on an existing development stream, even if you are not the owner of the stream, as long as you are a member of the same group.
- Support for multibyte character sets.
- Support for Sun JVM 1.4.2.
- Full-text search capabilities in Help through the **Search** tab in the left navigation pane.
- Using **Compare** (in **ClearCase Properties**), you can compare the current version of an element with any other version. In previous releases, you could compare a version only with its predecessor.

For complete information, see the Help.

Mainframe Connector Remote Builds

The Mainframe Connector Remote Build feature allows you to submit build requests from ClearCase client platforms to OS/390 (MVS and USS) and z/OS (MVS and USS). You can configure Remote Build to return the derived objects to the client platforms, where you can version them. In addition, you can audit the builds using **clearmake**. For more information, see the *Mainframe Connectors User's Guide* for Rational ClearCase, which is available from the Help and the section, *Changes to Mainframe Connector Remote Builds*.

Build Enhancements

The following is a summary of build-related enhancements. For more information, see *Building Software*.

- For Java builds, the **clearmake** command offers a special makefile target: **.JAVAC**. This feature enables **clearmake** to use heuristics to determine class dependencies from audits of Java compiles in dynamic views. These dependencies are stored in **.class.dep** files for future **clearmake** runs. They allow **clearmake** to build **.class** targets in the same order as the Java compiler does, which, in turn, enables winking of derived objects.
- There is a new environment variable:

- CCASE_NO_DIRENT_CACHE forces **clearmake** to obtain the status of files individually by pathname when attempting to apply a suffix rule. Thus, when a view selects no version of an element, **stat** fails to match, and **clearmake** does not apply a suffix rule for that file.
- The flags **-A** and **-B** have been added to the list of flags that can be passed through MAKEFLAGS and picked up by submakes.
- The **clearmake** command supports the following long command line options in GNU compatibility mode (see the **makefile_gnu** reference page): **--debug**, **--directory**, **--dry-run**, **--environment-override**, **--file**, **--ignore-errors**, **--include-dir**, **--just-print**, **--keep-going**, **--makefile**, **--no-builtin-rules**, **--no-builtin-variables**, **--no-print-directory**, **--print-data-base**, **--print-directory**, **--question**, **--quiet**, **--recon**, **--silent**, **--warn-undefined-variables**.
- The **clearmake** command includes a **-v** level debug message so that the output from distributed builds includes the name of the .bldhost file that is being read.
- The **cattr --recurse --long** command prints the extended path of the DO that caused the config record to be written.
- The **rmdo** options **--before** and **--since** remove DOs before and since a specified date, respectively.

New and Enhanced Integrations

This section describes integrations that are new or enhanced in this release.

WebSphere Studio

This release introduces the integration of ClearCase with WebSphere Studio. The integration supports WebSphere Studio versions 4 and 5.0 running on versions 1.0, 2.0, and 2.1 of the Eclipse shell. For more information, see the Help.

Forte for Java

This release introduces the integration of ClearCase with Forte for Java version 3.0. For more information, see the Help.

JBuilder

This release provides support for Borland JBuilder versions 5, 6, and 7. For more information, see the Help.

UCM-ClearQuest Integration

This release includes the following enhancements to the UCM-ClearQuest integration:

- The integration is now supported on HP-UX 11.11 and AIX.
- GUIs in the style of ClearCase on Windows. You can now create activities and view an activity's property sheet from within the **Checkin**, **Checkout**, and **Add to Source Control** dialog boxes. For more information, see the Help.
- Performance enhancement. This release incorporates changes that reduce the communications overhead between ClearCase and ClearQuest.
- During a **deliver** operation in a project enabled for ClearQuest that has set the policy **Transition to Complete After Delivery**, if any of the activities being delivered is set to a view, the integration unsets the activity from that view after it transitions the activity to a **Complete** type state. For more information, see *Managing Software Projects*.
- Format options implemented for this integration enable you to determine the view set to the UCM activity (`%[view]p`), the ClearQuest record type (`%[crm_record_type]p`), the likeliest view for resolving the names of versions in a change set (`%[name_resolver_view]p`), and the name of the ClearQuest database (`%[crm_database]p`). See the `fmt_ccase` reference page.
- You can submit new ClearQuest records using the activity list dialogs. For more information, see *Developing Software*.
- New policies provide more flexibility in controlling the behavior of projects enabled for ClearQuest. For more information, see *Managing Software Projects* and the Help.

Base ClearCase-ClearQuest Integration

- This integration supports the association of multiple file imports (by **clearfsimport**) with a single change request. For more information, see the **clearfsimport** reference page.
- Enhanced capabilities for making ClearQuest associations. The integration lets you specify a file's association with a defect or defects by using **checkout** or **checkin** comments that contain a text pattern specified in the environment variable `CQCC_COMMENT_PATTERN`, or obtain a list of files to associate with a defect from the environment variable `CQCC_AUTO_ASSOCIATE`.

UCM Enhancements

This release includes the following enhancements to UCM:

- **Single-stream projects.** Customers who prefer a serial, rather than a parallel, development environment can use single-stream projects. A single-stream project contains one stream: the integration stream. Developers join the project by creating an integration view attached to the integration stream. Because developers work directly on the integration stream, they do not perform **deliver** or **rebase** operations. Single-stream projects are recommended only for small teams of developers who work closely together.
- **Read-only streams.** You can designate specific streams as read-only to prevent developers from making changes to the stream's components. For example, you might create a read-only stream for your release engineering team members so that they can access a set of baselines without inadvertently making changes to components.
- **Support for multiple PVOBs that share components.** Projects within two or more PVOBs may reference some of the same components. To handle the common global types, administrators must link the PVOBs to an administrative VOB or a PVOB that acts as an administrative VOB. This feature supports the use case in which two project teams working in different PVOBs combine their work and need to share components.
- **Baseline naming templates.** Project managers can specify a template to be used in naming baselines within a project. They construct a baseline naming template by choosing tokens that represent variables such as project name, component name, date, and so on.
- **Performance enhancements.** This release incorporates changes that reduce the processing and communications overhead for almost all UCM operations.
- **Format options for object properties.** Formatting options for UCM object properties enable you to output the initial baseline of a component (**%[initial_bl]Xp**), the activities of a baseline (**%[activities]Xp**), the promotion level of a baseline (**%[plevel]p**), the promotion levels defined in the PVOB (**%[plevels]**), and whether or not a stream is read-only (**%[read_only]p**). See the **fmt_ccase** reference page.
- **Delivering the current activity.** The **-cactivity** option for **deliver** specifies that the currently set activity is to be delivered. See the **deliver** reference page.
- **Status button in UCM GUIs.** The **Deliver from Stream in Progress** and **Rebase in Progress** GUIs now include a **Show Details** button. This eliminates the need to select **Properties** on the **Stream** and then click the **Status** button.
- **Determining baseline membership.** The **lsbl** command supports the options **-member_of** and **-recurse**, which enable you to determine whether a baseline is a member of a composite baseline. See the reference pages for **lsbl** and **fmt_ccase**.

- **Displaying the activities of a delivery.** In the Compare Baselines GUI, you can right-click a **deliver** integration activity on the Activities tab to show the contributing activities that were included in the **deliver** operation.

For integration activities in projects enabled for ClearQuest, you can click **Actions > Contributors** on the ClearQuest record form to display the activities that were included in the **deliver** operation.
- **Using lsproject to display ClearQuest policies.** The **lsproject -l** command displays ClearQuest policies for a project that is enabled for ClearQuest. For more information, see the **lsproject** reference page.
- **Checking PVOB/component relationships.** The **checkvob** command incorporates functionality for detecting and repairing relationships among a PVOB, a project's components, and for projects that are enabled for ClearQuest, the ClearQuest user database. For more information, see the *Administrator's Guide* and the **checkvob** reference page.
- **Listing activities by user.** You can use the **lsactivity** command to list only those activities that are owned by a specified user. See the **lsactivity** reference page.
- **Checking in all versions in an activity's change set.** Using the **xcclearcase File Browser**, you can click **Projects > Checkin All in Current Activity** to check in all versions in the activity's change set.
- **New Events.** There are new events that support UCM operations. See the **events_ccase** reference page.

For more information, see *Managing Software Projects*, the reference pages cited in this section, and the Help.

MVFS Scaled for Multiprocessor Systems

The ClearCase multiversion file system (MVFS) has been enhanced to reduce lock contention and to scale to large systems (that is, 8-way multiprocessors or greater) that are accessed by multiple users. This enhancement results in noticeably better performance.

Mozilla Environment Variables

New environment variables control the Mozilla browser, as follows:

- **CCASE_MOZILLA** may be set to specify Mozilla as the default browser.
- **CCASE_MOZILLA_OPT** may be set to pass options to the Mozilla command line.
- **CCASE_MOZILLA_NEW_WINDOW** may be set to **“new-window”** to open a new window or to **“new-tab”** to open a new tab in an existing window.

These environment variables are comparable to the `CCASE_NETSCAPE` and `CCASE_NETSCAPE_OPT` environment variables that are described in the reference page for `xcleardiff`. The script `display_url.sh` treats them as follows:

- If `CCASE_MOZILLA` is set, the browser that it specifies is used.
- Else if `CCASE_NETSCAPE` is defined, the browser that it specifies is used.
- If neither `CCASE_MOZILLA` nor `CCASE_NETSCAPE` are defined, an attempt is made to find the Mozilla executable in the search path first. Then, if it cannot be found, Netscape is used.

Miscellaneous Enhancements

This section describes miscellaneous enhancements in this release.

- **Uncataloging elements that have checkouts.** By default, the `rmname` operation behaves correctly by failing when the element specified to be uncataloged is checked out. See the `rmname` reference page.
- **Creating elements in view-private directories.** The `mkelem` command supports a `-mkpath` option that creates an element from a view-private file or directory that resides in a view-private directory. The distinctive behavior of this option is that it also creates elements from all view-private directories in the element path. See the `mkelem` reference page.
- **Handling white space during merges.** In previous releases, you could ignore white space when using `cleardiff` and `xcleardiff` by means of the `-blank_ignore` command-line option or the **Ignore white space during merge** option in the Diff Merge Properties window. However, in graphical mode the option was supported only for comparisons, not merges. At this release, the **Ignore white space** option is available during a merge. In addition, the command option `-favor_contrib` enables you to specify a contributor to be used for white space formatting of unchanged lines. For graphical merges, the `cleardiff` and `xcleardiff` GUIs display a list of contributors (**Take white space changes from:**) from which you can select one to be used for white-space formatting. See the Help and the reference pages for `cleardiff` and `xcleardiff`.
- **MVFS performance tuning.** The `getcache` and `setcache` options `-mvfs -persist` enable you to specify MVFS cache settings that persist across restarts of the MVFS. For more information, see the reference pages for `getcache` and `setcache`. In addition, MVFS performance has been enhanced so that it scales better on systems with large memories, including those hosting dynamic views.

You no longer have to rebuild the HP-UX kernel to make MVFS caching settings persistent. On Solaris, MVFS performance parameters are now handled by this interface; the install program copies parameters from `/etc/system` to `setcache`-style values.

- **Multiple mount points for paths to remote storage.** The environment variable `CCASE_GPATH_HINTS` enables you to specify a set of NFS mount points that **mkview**, **mkvob** and **mkstgloc** try when attempting to construct pathnames to remote storage. See the **env_ccase** reference page.
- **Checkins from merge dialog box.** The dialog box for **merge** operations includes an option for checking in merged element versions. For details, see the Help.
- **Redisplaying merge session transcripts.** The **Display Transcript** command redisplay a merge session transcript after the merge session is completed and the transcript dismissed. This command is available from the **View** menu.
- **Ignoring signal handlers.** User settings to ignore signal handlers for **SIGINT**, **SIGHUP**, and **SIGTERM** are honored by **cleartool** and **multitool**. Previously, they had been replaced by program internal handlers. User signal handlers that are not **SIG_IGN** will still be replaced.
- **Refreshing selected elements during a merge.** Refreshing a large number of elements during a merge can be a time-consuming operation. Now you can also specify that only certain elements are to be refreshed. The **Refresh Selected Elements** menu option is available from the **Merge** menu and in the pop-up menu for an individual item in the merge manager log.
- **Enhanced support for mounting multiple VOBs.** On Solaris, ClearCase supports mounting up to 5119 VOBs with up to 512 unique view-extended pathnames per VOB. In addition, up to 2560 VOBs exported for non-ClearCase access may be mounted. On HP-UX, you can mount up to 8191 VOBs with up to 1024 unique view-extended pathnames. On Linux, the default limit is 1022 VOBs.
- **Object name restriction relaxed.** The restriction on object names that disallowed numerics values has been relaxed such that only integers are disallowed. The data converters (the commands that are prefixed **clearexport_**) have been modified to take advantage of this change. For information about object naming rules, see the **cleartool** reference page.

Announcements

This section contains announcements, as follows:

- *Status of the Feature Level*
- *End of Support for ClearCase Attache Software*
- *Distribution of Perl Extension*
- *Perl Software Distributions in This Release*

- *UCM-ClearQuest Integration Support for UCM Packages*
- *Miscellaneous Announcements*

Status of the Feature Level

This release introduces feature level 4. Table 1 shows all supported feature levels and the versions at which they were introduced.

Table 1 Feature Levels and ClearCase Versions

| Feature level | Introduced in version |
|---------------|-----------------------|
| 2 | 4.0 |
| 3 | 2002.05.00 |
| 4 | 2003.06.00 |

Feature level 3 placed constraints on client/server compatibility in UCM environments. Feature level 4 introduces no additional constraint; it is equivalent to feature level 3 in terms of PVOB client/server compatibility. For information about feature level 3, see the Version 2002.05.00 *Release Notes* for your product. Also note that read-only streams and single-stream projects are restricted to PVOBs at feature levels 3 and higher (see the reference page for **mkstream**).

Raising the feature level to 4 (or in the case of a replicated VOB, raising the VOB family to feature level 4), results in the following changes in the VOB:

- The predefined element types **xml**, **html**, and **rose** (if they exist) are renamed to **xml_v5.0**, **html_v5.0**, and **rose_v5.0**, respectively. Similarly, element type names that you have changed are renamed to **name_v5.0**. The **v5.0** types lose their status as well-known element types. Accordingly, when you create new elements, the file-to-type mapping mechanism no longer treats these types as the defaults (see the **cc.magic** reference page). The type of an existing element does not change; however, you can use **chtype** to change it.
- The new predefined element types **xml**, **html**, and **rose** are created. The purpose of replacing these types is to base the type managers on the **binary_delta** type manager instead of the **text_file_delta** manager. The **cc.magic** file maps new elements to these types by default.

For instructions about raising the feature level of an unreplicated VOB, see the **chflevel** reference page.

For instructions about raising the feature level of replicated VOBs, see the *Administrator's Guide* for Rational ClearCase MultiSite. Note that in a VOB family, the replica that masters the VOB object must master the element types **xml**, **html**, and **rose**.

End of Support for ClearCase Attache Software

At this release, Rational ClearCase Attache is no longer a supported product.

Distribution of Perl Extension

ClearCase::CtCmd is a Perl extension that takes **cleartool**-like arguments.

ClearCase::CtCmd takes a string or an array as an input argument and returns a three-element Perl array, as follows: a status bit, a scalar string corresponding to **stdout**, and any error message corresponding to **stderr**. This Perl extension and its documentation are available from www.cpan.org.

Note: After upgrading to Version 2003.06.00, you must rebuild **ClearCase::CtCmd** to account for the addition of new libraries and symbols to ClearCase

Perl Software Distributions in This Release

Perl 5.6.1 is distributed with ClearCase. Perl 4 is not included in this release. For backward compatibility, this release also includes a modified version of Perl 5.002. To use 5.002 instead of Perl 5.6.1, set **CCASE_USEPERL5** to a nonempty string (see the **env_ccase** reference page). To verify the version that is being invoked, type **ccperl -ver**.

In conformance with the Artistic License Agreement under the terms of which Perl is distributed, Table 2 describes the modifications that were made to Perl 5.6.1.

Table 2 **Modifications to 5.6.1 Perl Distribution**

| Reason for modification | |
|--|--------------------------|
| Modification | Source file modified |
| Changed to use native AIX dlopen() functions. | makedef.pl, dl_aix.xs |
| <i>Accommodation of underlying C library changes or other OS changes</i> | |
| Add libmalloc, libndir to link list | hints/hpux.sh |
| <i>Use Rational naming conventions</i> | |
| Configure. Add prompt for executable name | Configure |
| Allow arbitrary link library path | Makefile.SH |
| Allow arbitrary executable and library name | Makefile.SH, installperl |
| <i>Defect fixes independent of public domain</i> | |
| Do not free environment in perl_destruct when -DPERL_USE_SAFE_PUTENV | perl.c |

Table 2 Modifications to 5.6.1 Perl Distribution (Continued)

| Reason for modification | |
|---|----------------------|
| Modification | Source file modified |
| Do not free environment in Perl_my_setenv when -DPERL_USE_SAFE_PUTENV | util.c |
| <i>Compiler related changes</i> | |
| Allow C++ compiler on Sun5 | Configure |

Likewise, in conformance with the Artistic License Agreement Table 3 describes the modifications that were made to Perl 5.002.

Table 3 Modifications to 5.002 Perl Distribution

| Reason for modification | |
|--|--------------------------------------|
| Modification | Source file modified |
| <i>Accommodation of underlying C library changes or other OS changes</i> | |
| Fix AIX 4.2 relocation defect | dl_aix.xs |
| Perl dymaloder not initializing C++ shared libraries | dl_hpux10.xs |
| <i>New functions and other changes needed by the embedded ClearGuide interpreter</i> | |
| Fix hang when invoked from ClearGuide | dl_dlopen_C++_sun4.xs |
| <i>Changes related to ClearGuide modules</i> | |
| Put __END__ at end so Autosplitter succeeds | DynaLoader.pm |
| <i>Inclusion of changes/upgrades from public domain to sources</i> | |
| 5.005_62 BPD rule dumps core | dl_aix.xs, cop.h, pp_ctl.c, pp_hot.c |
| 5.004_04 Allow sigaction() in sig handlers | util.c |
| <i>Defect fixes independent of public domain</i> | |
| Fix to allow debugging | pp_ctl.c |
| Fix to build of miniperl to fix Linux core dump | perl.c |
| Fix sprintf for Aix 4.2/3 | doop.c, pp_sys.c |
| AIX dymaloder; always call loadAndInit | dl_aix.xs |
| Removed misleading error message | dl_dlopen_C++_sun4.xs |

Table 3 Modifications to 5.002 Perl Distribution (Continued)

| Reason for modification | |
|--|--------------------------|
| Modification | Source file modified |
| <i>Compiler related changes</i> | |
| Fixes to allow certain new compilers to function | proto.h, perl.h |
| Use cxssh1_ routines to handle C++ static initializers | dl_hpux.xs, dl_hpux10.xs |
| Support aCC | dl_hpux10.xs |
| Remove comment characters from within comments to quiet AIX compiler warnings | unixish.h |
| <i>Non-shipping changes to accommodate clearmake in build environment</i> | |
| Remove perly.y from build directories; change build scripts to eliminate -V switch | make_ext, perly.y |
| <i>Change in build or test environment to Perl modules as shipped</i> | |
| Test harness fix | ParseWords.pm |
| Fix autoloading | ParseWords.pm |
| <i>Version related changes</i> | |
| Remove v5.004 test | HTML.pm, Entities.pm |
| Remove use strict for use by Perl 5.002 | HTML.pm, Parser.pm |

This release is the last major release that includes 5.002. The unmodified sources for Perl versions 5.002 and 5.61, as well as the binaries built from them, may be downloaded from <http://www-3.ibm.com/software/awdtools/clearcase/support/index.html>.

UCM-ClearQuest Integration Support for UCM Packages

In the **Project Properties** and **New Project Wizard** GUIs, the **ClearQuest** page displays the policies that are appropriate for the UCM level of the ClearQuest user database associated with the project. If the ClearQuest user database uses the revision 5.0 UCM package (corresponding to Version 2003.06.00), the available policies are as documented in the Help and in *Managing Software Projects*.

If the ClearQuest user database uses an earlier UCM package, the available policies are as follows:

- For UCM package revision 2.0:

- Check assignment before WorkOn
- Check before ClearCase delivery
- Do ClearQuest action after delivery
- For UCM package revisions 3.0 and 4.0:
 - Check assignment before WorkOn
 - Check before ClearCase delivery
 - Check ClearQuest mastership before delivery
 - Do ClearQuest action after delivery

Miscellaneous Announcements

This section contains miscellaneous announcements about this release.

Change in Installation and Administration Directories

The default installation directory has been changed from `/usr/atria` to `/opt/rational/clearcase`. The administration directory has been changed from `/var/adm/atria` to `/var/adm/rational/clearcase`.

Manipulation of Directories When Upgrading from Version 2002.05.00 to 2003.06.00

During an upgrade from Version 2002.05.00 to 2003.06.00, the installation tool moves `/var/adm/atria` to `/var/adm/atria.preserve`. Critical files are moved back to `/var/adm/rational/clearcase` when the installation is complete. Other files or customizations stored in this directory remain in `/var/adm/atria.preserve` after the installation is complete.

CLEARCASE_OBSO_SYN Not Supported

The environment variable, `CLEARCASE_OBSO_SYN`, is not supported in this release.

Removal of the Term “atria”

The following changes were made to remove the term *atria*:

- The default installation directory has been changed from `/usr/atria` to `/opt/rational/clearcase`.
- The administration directory has been changed from `/var/adm/atria` to `/var/adm/rational/clearcase`.

- The environment variable `ATRIAHOME` has been renamed `CLEARCASEHOME`.
- The startup/shutdown scripts `rc.atria` and `atria` have been renamed `rc.clearcase` and `clearcase`, respectively. Symbolic links from the old names have been established for this release.

Examples Removed

Except for ClearCase API examples, the examples in `ccase-home-dir/examples` have been removed.

Available Versions of ClearCase–ClearQuest Integrations

The ClearQuest Configuration tool (`cqconfig`) offers the administrator a choice of the V1 (previous) integration or the V2 (new) integration implementation, allowing administrators to migrate to the new integration as appropriate. The default values were set to **V2** on UNIX (because V2 was a superset of the V1 implementation) and to **V1** on Windows (because the V1 integration had a GUI interface that V2 initially lacked). In this release, the V2 GUI is now available in all circumstances making it as functionally complete as the V1 Windows integration. Accordingly, the default for Windows is now set to **V2**. Administrators can still select **V1**.

Browser Support for ClearCase Web Interface

The Web interface no longer supports Netscape 4.7. For information about browser support for the Web interface, see the *Installation Guide* for Rational ClearCase.

Changes to Mainframe Connector Remote Builds

The sections that follow describe changes to the mainframe connector remote builds feature.

Change to the Server Proxy

For messages issued by the Server Proxy to be in Japanese, `RCCSESM` and `RCCSESU` must be stopped and resubmitted after adding the line

```
export
RCC_CATALOG=rccbld.cat.jpn
```

to the top of the USS shell scripts, `rccSSLMVSServerProxy.sh` and `rccSSLMVSServer-Proxy.sh`.

Change to the Client

To see messages issued by the **rccbuild** command in Japanese, you must have set the environment variable **RCC_CATALOG** to the value **rccbld.cat.jpn** before running **rccbuild**.

To receive messages from the server in Japanese, you must have set the environment variable **RCC_LANG** to the value **jpn** before running **rccbuild**.

Changes to the Commands

This section describes changes to the ClearCase command set.

New Commands

This release introduces no new commands.

New Options and Arguments

Table 4 lists new options and arguments to commands.

Table 4 **New Options and Arguments**

| Command | New option/argument | Use |
|------------|--|--|
| chactivity | -view <i>view-tag</i> | Transitions an activity in the specified view. |
| | -cqaction { -cact <i>activity-selector</i> ... } | In a single-stream project, checks in the versions in the change set of an activity and closes the activity if the relevant ClearQuest policies have been set. |

Table 4 New Options and Arguments (Continued)

| Command | New option/argument | Use |
|------------------|---|--|
| checkvob | -ucm | Runs checkvob in UCM mode. |
| | -view <i>view-tag</i> | Uses the view specified in <i>view-tag</i> . |
| | -log <i>log-dir-pname</i> | Specifies an alternative directory for the log file directory. |
| | -fix [-force] | Directs checkvob to try to correct any problems it finds. Without -force , -fix prompts you before fixing any problem object. |
| | -verbose | Specifies verbose output. |
| | -crm_only | Examines only references to records in a ClearQuest database |
| | -vob_only | Examines only references to objects in components. |
| | -component <i>component-selector</i> | Further restricts a -vob_only check to the component specified by <i>component-selector</i> |
| | <i>object-selector...</i> | Specifies the object types that are to be checked. |
| | -crm_dbname <i>user-database-name</i> | Checks the references held in the ClearQuest database specified by <i>user-database-name</i> . |
| | -activity <i>cq-display-name</i> | Checks the references held by the activity record specified in <i>cq-display-name</i> . |
| | -project <i>cq-display-name</i> | Checks the references held by the project record specified in <i>cq-display-name</i> . |
| chproject | -bname_template <i>baseline-naming-template</i> | Defines the baseline name template for a project. |
| chstream | -cview | Specifies the stream connected to the current view to be modified. |

Table 4 New Options and Arguments (Continued)

| Command | New option/argument | Use |
|-------------------|---|---|
| deliver | -reset -to <i>integration-view-tag</i> | Resets a new integration view so that you can cancel, resume, or complete a deliver operation after the integration view is lost during a deliver operation. |
| | -cactivity | Specifies that the currently set activity is to be delivered. |
| diff | -tiny | Same as -window , but uses a smaller font in a 165-character difference window. |
| | -window | Displays output in a separate difference window. |
| diffbl | -nmerge | Specifies that no merge is to be performed. |
| getcache | -persistent | Displays only those values which have been set to persist across MVFS restarts. |
| lsactivity | -me | Displays activities owned by the current user. |
| | -user <i>user</i> | Displays activities owned by the specified user. |
| lsbl | -member_of [-recurse] | Used by itself, displays the composite baselines of which each baseline is a direct member. Used with the -recurse option, displays all baselines of which each baseline is a direct or indirect member. |
| lsstream | -in { <i>project-selector</i> <i>stream-selector</i> } | Displays a list of all streams for the specified project, or a list of child streams for the specified stream. |
| mkbl | -view <i>view-tag</i> | Specifies the view from which to create baselines. |
| mkdir | -master | Assigns mastership of the main branch of the directory element to the VOB replica in which you execute the mkdir command. |

Table 4 New Options and Arguments (Continued)

| Command | New option/argument | Use |
|-------------------|--|--|
| mkelem | -mkpath | For an element that is being created from a view-private file or directory, this option creates elements from its view-private parent directories. |
| mkproject | -model { SIMPLE DEFAULT } | Sets the project model. SIMPLE : A single-stream project; DEFAULT : A multiple-stream project. |
| mkstream | -readonly | Creates a read-only stream. |
| protectvob | <i>pname-in-vob</i> | Pathname of the VOB tag or of any file system object within the VOB. |
| rmdo | -before <i>date-time</i> , -since <i>date-time</i> | Deletes DOs at the specified pathname that were created before or since the specified date and time. |

Table 4 New Options and Arguments (Continued)

| Command | New option/argument | Use |
|----------|-----------------------------------|---|
| setcache | -persistent | Specifies that all options will be applied immediately and also set persistently. |
| | -persistent_only | Specifies that all options will be set persistently but will not take effect until the MVFS is restarted. |
| | -vobfreemax <i>cnt</i> | Sets the maximum number of free (unused) attribute cache entries. |
| | -cvpfreemax <i>cnt</i> | Sets the number of entries in the cleartext cache. |
| | -vobfreemin <i>cnt</i> | Sets the minimum number of mnodes to keep on the VOB free list. |
| | -cvpfreemin <i>cnt</i> | Sets the minimum number of mnodes to keep on the cleartext free list. |
| | -mnmax <i>cnt</i> | Sets the initial number of mnodes cached by the MVFS. |
| | -cto | Enables close-to-open consistency checking. |
| | -ncto | Disables close-to-open consistency checking. |
| | -acache | Enables attribute caching. |
| | -nacache | Disables attribute caching. |
| | -dncache | Enables directory name caching. |
| | -ndncache | Disables directory name caching. |
| | -rlcache | Enables readlink caching. |
| | -nrlcache | Disables readlink caching. |
| | -rvcache | Enables root version caching. |
| | -nrvcache | Disables root version caching. |
| | -readdir_blocks <i>cnt</i> | Sets the number of blocks cached for each directory read by the MVFS. |
| | -scalefactor <i>val</i> | Sets the scaling factor used to initialize the MVFS with more memory for better performance. |

Obsolete Command, Options, and Arguments

All ClearCase command options and arguments that were specific to ClearCase Attache are obsolete.

The **clearexport_ffile** command was announced as obsolete in version 2002.05.00; it has been removed from the product.

The *dir* argument to **annotate** and the **-glossary** option for **apropos** are obsolete.

Changes to Command Output

Significant changes to command output are as follows:

- The event comment for the **rmname** operation has been changed from `Removed file element` to `Uncataloged file element` to reflect the nature of the operation more accurately and distinguish it more clearly from the **rmelem** operation.
- Dates in log files are written in ISO format. Logs reside in `/var/adm/rational/clearcase/log/`.
- Output from the **schedule** command uses ISO dates regardless of any specified date format preference.
- For attribute types, hyperlink types, and label types, the **describe** command shows the instance mastership of the type, whether or not the VOB is replicated.

Changed Commands

Commands that have changed in one or more respects are as follows: **annotate**, **apropos**, **chactivity**, **checkvob**, **chproject**, **chstream**, **deliver**, **describe**, **diff**, **diffbl**, **find**, **getcache**, **getlog**, **lsactivity**, **lsbl**, **lsstream**, **lstype**, **man**, **mkbl**, **mkdir**, **mkelem**, **mkproject**, **mkstream**, **protectvob**, **rebase**, **rmdo**, **rmname**, **schedule**, **setcache**. For details, see the corresponding reference pages.

Changes to the Documentation

This section describes noteworthy changes to the documentation.

HTML Help

Most Help, including reference pages, is HTML.

Command Reference

The following reference pages have been removed from the *Command Reference*:

- ClearCase Attache reference pages have been removed.
- The reference pages for **mvfscache** and **mvfsstat** have been removed; see the *Administrator's Guide* for information about these commands.
- The reference page for **ClearCase::CtCmd** has been removed; for information about this Perl extension, see the Comprehensive Perl Archive Network (www.cpan.org).

Administrator's Guide

The *Administrator's Guide* contains new information about backing up and restoring ClearCase and ClearQuest data together.

Tutorial

The script-driven tutorial has been replaced with an HTML tutorial without scripts.

Managing Software Projects

A platform-independent edition of *Managing Software Projects* replaces the separate UNIX and Windows editions that were published at earlier releases.

Location of Files

Manuals in Portable Document Format (PDF) are installed in *ccase-home-dir/doc/books*. In previous releases, they were installed in *ccase-home-dir/doc/hlp*.

Restrictions and Guidelines for Using ClearCase

3

This chapter explains restrictions and guidelines affecting the use of Rational ClearCase Version 2003.06.00 software that are considered noteworthy. These are not necessarily considered defects because the behavior reported is not expected to change in a future release of the product.

This chapter also describes significant problems with the documentation and includes documentation that was inadvertently omitted from the manuals or Help.

Copyright Information

In some cases, you will not be able to view the Rational copyright information online. If you want to see this information, you can find it on the ClearCase product CD under `doc/unix/legal_information.html`.

Install-Related Restrictions

This section describes restrictions related to the installation of ClearCase.

Install Scripts and Obsolete German Locales

Some German locales are obsolete, such as `De`, `De_DE.646`, `De_DE.646@EU`, and `De_DE.646@TE`. If the current locale is set to one of these obsolete versions, the install scripts may abort with a syntax error. If this occurs, you must select and set a new locale before rerunning the installation.

ClearCase Mainframe Connectors Remote Build Server Requirements

The updated Remote Build server requirements for ClearCase Mainframe Connectors can be found in the *Rational ClearCase Mainframe Connectors User's Guide*. The Remote Build server requirements published in the Installation Guide are incorrect.

RWP Default Port Changed for Linux x86 Systems

On Linux for x86 installations, the default port number for RWP has been changed from 80 to 81. This avoids a conflict that was found on some systems.

Red Hat Linux Must be Set to Non-Unicode Locale

By default, Red Hat Linux 8.0, and 9, and Red Hat Enterprise Linux 3.0 set the locale to a Unicode locale, `en_US.UTF-8` for US installations, and may also do so for international installations. ClearCase currently does not support Unicode locales.

For ClearCase to function correctly, the locale must be explicitly set to a non-Unicode locale. Possible locales to use are the `C` locale, `en_US.iso885915`, or a locale that was used successfully in earlier Red Hat Releases.

ClearCase Web

This section describes limitations on and guidelines for using the ClearCase Web product.

Load Rule Scopes

For the Web interface, snapshot view config spec load rules are specified differently from the way they are specified for the native interface. The keyword **load** is not needed in the **Load rule scopes** portion of the config spec for the Web client.

Compare/Merge Operations Limited to `text_file` Elements

The **Compare** and **Merge** operations are limited to elements of type `text_file`. Attempts to perform these operations on other types will fail.

Using Special Characters on Non-ASCII Operating Systems

Using special characters on non-ASCII operating systems can cause server output to be corrupted or the server to crash.

For example, the Shift-JIS double-byte tilde character (**FULLWIDTH TILDE**), which is used to indicate “Copy of” in the Japanese Windows environment, can cause this problem. The problem originates in differences between the Unicode conversion tables used by ICU (the publicly available Unicode software currently used by the Web interface) and the base operating system. The ICU Shift-JIS conversion table maps **FULLWIDTH TILDE** to **WAVE DASH**.

Relationship Between Pathnames and Hyperlinks

Pathnames that refer to files in your Web view are normally presented as hyperlinks. However, the Netscape 7 and Mozilla browsers enforce more stringent security restrictions than do other browsers. In these browsers, pathnames are not presented as hyperlinks because they cannot be traversed.

Handling SSL Warnings

When running the Web interface under SSL, the browser displays warning messages such as *You are leaving a secure site*. For example, in the VOB View, this may happen when you click a file name to view the file. The reason for the warning message is that a new window is opened to view the local file under the file protocol rather than under HTTPS. However, if you choose to view the same file by clicking **View** on the Properties page, a new window is opened under HTTPS, returning to the server, and the warning message does not appear.

You can safely ignore these warning messages because all client/server communications in the Web interface are encrypted. To disable the warning messages:

- 1 Click **Edit > Preferences > Privacy & Security > SSL**.
- 2 In the SSL Warnings section of the SSL page, clear all check boxes.

Web Client Can Be Very Slow When Browsing Large Directories

The Rational ClearCase Web client can be very slow when browsing large directories, especially when your client PC has a slow CPU or limited RAM. For example, on an 800 MHz PC with sufficient RAM, a 1500 entry directory can take approximately 2 minutes to render.

To work around this situation, use one of the following workarounds:

- Smaller directories
- A client PC with a faster processor speed
- If you are running ClearCase Version 2003.06.00, a Mozilla based browser. Mozilla based browsers seem to be faster than Microsoft Internet Explorer when browsing large directories.

Browser Pop-up Windows

When using the ClearCase Web client, display of pop-up windows must be enabled in your browser.

Unable to shut down rwp process in ClearCase

In Red Hat Linux 9, RWP startup and shutdown do not work correctly because of a problem with the JRE 1.4.0 that comes with the distribution. To work around this problem, Red Hat 9.0 users can use the JRE1.4.0 that is installed in `opt/rational/common/java` by setting the following environment variable:

```
LD_ASSUME_KERNEL=2.4.1
```

ClearCase-ClearQuest Integration

This section describes restrictions that affect the ClearCase–ClearQuest integration.

Activity Link with ClearQuest Record (UCM-ClearQuest Integration)

When a ClearCase activity in a project enabled for ClearQuest is linked to a ClearQuest record, the **Name** of the ClearCase activity is set to match the ClearQuest record's ID. This allows you to access the corresponding activity when you are working on a defect by using the current defect number. For example, you can use the command, **cleartool setactivity** *ClearQuest-record-ID*.

It is recommended that you do not change the name of a ClearCase activity, although ClearCase does not prevent that. If you change an activity name, you cannot use the **setactivity** command as already described.

Note that the **Headline** field for a ClearCase activity is synchronized with the corresponding field in a ClearQuest record. That is, if you change this field from within either ClearCase or ClearQuest, the corresponding field in the ClearQuest record or ClearCase activity is modified as well.

Naming dbsets (UCM-ClearQuest Integration)

When assigning names to dbsets, follow these rules:

- If you have only one dbset, you can name it as you want.
- If you have multiple dbsets, the dbset that is to be associated with the integration should, if possible, be named the ClearQuest version that you are using; for example, **2003.06.00**.
- If you have multiple dbsets and none of them can be assigned the name of the ClearQuest version string, stop the clients and set the **SQUID_DBSET** environment variable as follows: **setenv SQUID_DBSET** *dbset-name*. Then restart the clients.

Use of Rootless UCM Components

It is no longer possible to make a baseline in a rootless component that is not modifiable. Making a baseline of a composite component for the purpose of changing its members is regarded as making a modification in a component. A rootless component should be modifiable except in the following circumstances:

- The component is to hold only nonmodifiable members.
- No baseline is ever to be made in the component.

Required Patch for Mixed-Version UCM Environments

In UCM environments that support both 2002.05.00 and 2003.06.00 hosts, 2002.05.00 hosts must apply patch clearcase_p2002.05.00–13 or later. These patches provide support for the new project policies introduced in 2003.06.00.

Disabled Japanese Text Input in Red Hat Linux GUI

The standard method to toggle between English and Japanese text input mode in Red Hat Linux GUIs is to type SHIFT SPACE. This method does not work in ClearCase GUIs. Until the problem is fixed in a later release, the following procedure is recommended to enable Japanese input on all ClearCase GUIs:

- 1 Open the `.Xdefaults` file in your home directory. If the file does not exist, create it.
- 2 Add the following entry:
`*inputMethod: kinput2`
- 3 Save the `.Xdefaults` file.
- 4 On the command line, type `xrdb -q`.
- 5 If the message displayed does not confirm that the `kinput2` entry is listed in `.Xdefault`, type the command, `xrdb .Xdefaults` to make the change take effect.

Japanese Linux GUIs Cannot Use kterm in a View

GUIs that need to use the kterm multi-byte terminal display in Japanese Linux are not able to do so when set into a view. For example, in a view context, you cannot open a file that is under ClearCase control using a screen editor. To use multi-byte kterm applications, specify view-extended path names instead of setting into a view.

Deleting Sockets, Devices and Named Pipes in a View on Linux

When you attempt to delete certain file types (sockets, devices, and named pipes) while set to a ClearCase view, MVFS does not correctly handle the deletion.

Resolving this problem requires a change to the MVFS and also a patch to the Linux kernel. This release contains the change to the MVFS. For details about the patch, go to the IBM Support & downloads Web page, <http://www-3.ibm.com/software/support>, and search for the Technote titled, LINUX: defects which concern the inability to delete sockets, devices and named pipes when set to a view.

Galaxy-based Unix applets not Level 2 or Level 3 compliant

The Galaxy-based Unix applets in ClearCase use third-party libraries that have not been internationalized. Use the command line for Galaxy applications, such as `cleardescribe`, `cleargetlog` and `clearvobadmin`.

Timer Patch Support for SuSE Linux 390

ClearCase supports a patch for SuSE Linux SLES7 that changes the timing method for interrupts. The patch enables SLES7 to more efficiently run multiple Linux VMs on the IBM S/390 platforms. In most cases, ClearCase support requires that you rebuild the vnode layer after installing the package. The following packages containing the patch have been released by SuSE:

- `kernel-source-20020521.rpm` (unpacks to `linux-2.4.7.SuSE-53`)
Requires a rebuild of the vnode layer.
- `kernel-source-20020708.rpm` (unpacks to `linux-2.4.7.SuSE-66`)
Requires a rebuild of the vnode layer, unless the vnode layer is already rebuilt for the `linux-2.4.7.SuSE-53` kernel.
- `kernel-source-20030221.rpm` (unpacks to `linux-2.4.7.SuSE-69`)
Requires a relink of the MVFS.

Problems with the Documentation

This section describes significant problems with the documentation and supplies documentation that is missing from the manuals or the Help.

Browsing the Documentation with Netscape Navigator

If you use Netscape to browse HTML documentation, Netscape 7 is recommended.

Omissions from Building Software

The information that follows was omitted from *Building Software*.

Standard compatibility mode supports the GNU make **export** and **unexport** statements as well as the **.EXPORT_ALL_VARIABLES** directive. You can use the **export** statement to pass variable or macro values to a sub-make environment. Use the **unexport** statement to prevent a variable or macro from being exported to a

sub-make environment. Using **.EXPORT_ALL_VARIABLES** causes all variables in the makefile to be exported.

Standard compatibility mode support Sun pattern rules. You can use these patterns within your makefile to indicate matching targets. Any target matching the pattern will have a dependency on the same pattern and will use the same rule as in the following example:

```
% .o: %.c cc -c $< -o $@
```

Omissions from the Command Reference

The **diffbl** reference page does not describe the **-nmerge** option. The correct syntax for the first two usage modes of **diffbl** is as follows:

- Display differences between two baselines or streams nongraphically:

```
diffbl [ -activities ] [ -versions ] [ -baselines ] [ -first_only ]
```

```
      [ -nrecurse ] [ -nmerge ] { baseline-selector1 | stream-selector1 } { baseline-selector2 |  
      stream-selector2 }
```

- Display differences between the specified baseline and its predecessor baseline nongraphically:

```
diffbl -predecessor [ -activities ] [ -versions ] [ -nrecurse ]
```

```
      [ -nmerge ] baseline-selector
```

The **-nmerge** option is used to compare two baselines on the same stream and reports only activity and version changes made on that stream.

The **protectvob** reference page does not describe the *pname-in-vob* argument. The correct syntax for this command is as follows:

```
protectvob [ -force ] [ -chown user ] [ -chgrp group ] [ -add_group group[,...]
```

```
      [ -delete_group group[,...] ] vob-storage-pname | pname-in-vob } ...
```

pname-in-vob can be the pathname of the VOB tag (whether or not the VOB is mounted) or of any file system object within the VOB (if the VOB is mounted). It cannot be the pathname of the VOB storage directory.

The **checkvob -ucm** command supports a **-verbose** option, which directs the command to generate more detailed output.

Omission from the Administrator's Guide

The information that follows was omitted from the *Administrator's Guide*.

If you install Rational Web Platform (RWP) on a host that was previously using a different HTTP server to support version 4.2 or version 2002.05.00 of the ClearCase

Web interface and if that HTTP server must continue to run on that host to support other applications, you must do the following:

- 1 Ensure that RWP and the existing HTTP server do not have any port conflicts. (This topic is treated in the *Administrator's Guide*.)
- 2 Reconfigure the existing HTTP server to redirect Web interface requests to RWP. (For information about how to do this, see the documentation for your HTTP server.)

Omission from Managing Software Projects

The discussion of enabling a schema to work with UCM in *Managing Software Projects* for Rational ClearCase omits an important step: mapping states to state types.

When you apply the BaseCMAActivity package to a schema, ClearQuest adds the BaseCMAActivity record type. When you apply the UnitedChangeManagement (UCM) packages to the schema, ClearQuest adds the UCMUtilityActivity record type. But when you attempt to check in the schema with these changes, ClearQuest displays a series of validation errors stating that you need to map BaseCMAActivity states to the AMStates Types package.

You receive this error because, in applying the UCM package to the schema, ClearQuest also applied the AMState Types package. This behavior is not described in the *Administrator's Guide* for Rational ClearQuest or in *Managing Software Projects*.

Before you can check in the schema, you must map states to state types from the AMStates Types to the BaseCMAActivity record type, as follows:

- 1 In ClearQuest Designer, click **Package > Setup State Types**.
- 2 In the Setup States Type dialog box, select a **State Type** for each **State** listed.
- 3 Click **Finish**.
- 4 Click **File > Check in** to record your changes in the schema.

For more information about mapping states and state types, see the *Administrator's Guide* for Rational ClearQuest. For more information about enabling the BaseCMAActivity record type, consult the Rational Support Knowledge Database.

Status of ClearCase Software Change Requests

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Noteworthy problems found in or resolved in Version 2003.06.00 of Rational ClearCase are listed in the file `cc_issues.htm`.

You can find this file in two places:

- On your product CD, in the directory `Rational/doc/platform`, where *platform* is an architecture mnemonic like `ux` (for UNIX computers) or `nt` (for Windows computers).
- In the directory `ccase-home-dir/install/` after you install the product.

Contacting Rational Technical Support

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If you have any problems with the software or documentation, contact Rational Customer Support by telephone or fax. You can find information about support hours, languages spoken, or other support information at www.ibm.com/software/rational/support/.

| Your location | Telephone | Facsimile |
|---------------------------------|----------------------------------|---|
| Asia Pacific | +61-2-9419-0111 Australia | +61-2-9419-0123 Australia |
| Europe, Middle East, and Africa | +31-(0)20-4546-200 Netherlands | +31-(0)20-4546-201 Netherlands |
| Latin America and Mexico | +1-408-863-4000 Cupertino, CA | Use either location: +1-408-863-4194 Cupertino, CA +1-781-676-2460 Lexington, MA |
| United States and Canada | 1-800-IBM-SERV | Use either location: 1-408-863-4194 Cupertino, CA 1-781-676-2460 Lexington, MA |