ClearTrack

INSTALLATION AND RELEASE NOTES

4000-022-C

Unix Edition

Release 1.0.2

HP-UX 9
HP-UX 10
IRIX 5
IRIX 6
SunOS 4
SunOS 5

ATRIA

ClearCase Attache Manual
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This document describes installation procedures, improvements, additions and corrections to current manuals, and bug fixes for Release 1.0.2 of ClearTrack™ from Atria Software, Inc. ClearTrack is a customizable, client/server, change-request management system that tracks defects and enhancement requests throughout the life cycle of software products.

1.1 Supported Architectures

ClearTrack Release 1.0.2 runs on the platforms listed in Table 1.

Table 1 Supported Hardware/Software Architectures

Hardware Platform[1]	**Operating System**
Sun™ SparcStation™	SunOS™ 4.1.3 and 4.1.4; Solaris™ 2.3, 2.4, and 2.5
HP™ 9000 Series 700	HP-UX 9.03, 9.05, 9.07, 10.01, 10.10
HP 9000 Series 800	HP-UX 9.04, 10.01, 10.10
SGI™ IRIX™	IRIX 5.2, 5.3, and 6.2 (32-bit systems only)

1. ClearTrack integration triggers may execute remotely on any architecture that supports ClearCase V3.0.

1.2 Notes to ClearCase Customers

This section contains important information for ClearTrack customers who are also ClearCase customers. If you are installing ClearTrack as a stand-alone product, you do not need to read this.

- ClearTrack installs in the same directories as ClearCase V3.0. We recommend that you always install ClearTrack *after* ClearCase.
- You can't use link or mount install models if you are installing both ClearTrack and ClearCase—to install both products, you can only use standard or full-copy, and you don't need to use the same model.
- You no longer need to merge ClearTrack and ClearCase into a single release area. In fact, you cannot, as there is no mechanism in the new installation procedures to merge release areas.
- The same license and registry servers must be used for both ClearTrack and ClearCase.
- If a single registry or license host serves both ClearTrack and ClearCase, it must either be running ClearCase V3.0 or later, or must have ClearTrack installed.
- You must exit all ClearCase views before installing ClearTrack, because the **install_release** tool stops all Atria processes.
- ClearTrack reference pages are set up and used differently than ClearCase reference pages. See Section 2.8 of *ClearTrack Administrator's Manual*.
- See *ClearCase Installation and Release Notes* for ClearCase V3.0 for details about compatibility issues affecting ClearCase/ClearTrack installation.
- If you have edited the integration **policy_vars.sh** file for a previous version of ClearTrack, you may wish to edit the ClearTrack V1.0.2 version to bring it in line with your version. (Refer to pages 218-219 of the *ClearTrack Administrator's Manual*.)

CAUTION: If ClearTrack and ClearCase are installed in the same environment, they must be Release 1.0.2 and Release 3.0, respectively, otherwise the second one being installed will delete the files belonging to the one already installed.

1.3 Obtaining License Authorization

Your ClearTrack users need *licenses* to run ClearTrack, as explained in detail in the *ClearTrack Administrator's Manual* and in the **clearlicense** and **license.db** reference pages. The last pages of this installation guide contain blank license application forms that you can fill out and fax to Atria, so that you can receive the appropriate number of licenses and *license authorization codes* and have them available to finish making the ClearTrack software available to your users.

This section briefly introduces licensing concepts.

Determining the Number of Licenses

ClearTrack implements an *active user, floating license* scheme. You can specify a 60-minute or 7-day time-out period so that inactive users temporarily relinquish their right to a license. And you can specify a list of users and priorities so that higher-priority users can "bump" lower-priority ones. (You can also specify a list of unauthorized users.)

Determining the Number of License Server Hosts

A set of licenses is defined in a *license database file* on a *license server host*. Your network can have one or more of these hosts, and thus, you may need one or more license authorization codes. Each such host runs a ClearTrack server process, and so must have ClearTrack installed.

- **Using a single license server host —** You might request a single license authorization code, for as many user licenses as you need, but if your network's single license server host goes down, no one will be able to use ClearTrack. (You might consider making some important ClearTrack data server also act as the license server; if that host goes down, important data will be unavailable, so the incremental inconvenience of not being able to use ClearTrack will be small.)

- **Using multiple license server hosts —** If you portion out your licenses to more than one license server host, your ClearTrack users can still use ClearTrack if at least one of the server hosts stays up. (The number of users in this situation depends on how many floating licenses you have applied to this host.)

See the *ClearTrack Applications User's Manual* for information on the different kinds of ClearTrack licenses and interactions among Atria products using license server hosts. (For example, if you

have ClearCase installed on your network, you can add ClearTrack licenses to the license database file on the ClearCase license server host.)

Filling out the License Registration Form

When you've decided how to allocate ClearTrack licenses, fill in the appropriate number of License Registration Forms, and fax them to Atria (or its designee) according to the instructions on the form. You do not need to wait until you receive a response — you can proceed to load the ClearTrack software from the distribution medium.

1.4 Obtaining Required Operating System Patches

You may need to install operating system patches from your hardware vendor in order for ClearTrack to work properly. See Appendix A, *Operating System Patches*.

What's New in this Release

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This chapter summarizes new features for ClearTrack V1.0.2. These include the following:

- Remote script execution on ClearTrack hosts from ClearCase integration triggers
- New installation procedures
- Bug fixes
- Additional environment variables for ClearCase integration policy
- Improvements in the on-line reference pages

2.1 New Remote Trigger Execution

Integration can now run on platforms, including Windows NT, that support ClearCase but not ClearTrack. This significant change allows ClearCase software triggers to communicate via remote shells to ClearTrack systems.

These trigger scripts execute in remote shells on the ClearTrack host(s), using the hostname and user ID specified in new policy environment variables. In addition, there is a new policy file, named **local_policy.sh** which complements **policy_vars.sh**.

Several new scripts that help implement this new feature provide functions to set and check policy, validate requests, update history files, and so on. (See *Additional ClearTrack-Dependent Integration Scripts* on page 35.)

2.2 New Installation Procedures

With ClearTrack V1.0.2, there is a new **install_release** script for Unix hosts and a new installation script for Windows NT, as follows:

- The **install_release** script for ClearTrack is the same as for ClearCase V3.0 on whose behalf it was changed to install multiple products. Now you make two separate choices:
  - The *installation method*—whether to install the software locally, or on one or more remote hosts. To install a product using a different method requires you to re-invoke **install_release**.
  - Which software to install.

  CAUTION: Releases of ClearTrack and ClearCase *other than* Release 1.0.2 and Release 3.0, respectively, cannot be installed together, as the **install_release** script will delete whichever one has been previously installed. (It will also delete **/usr/atria**, but it warns you so that you can take appropriate steps to preserve its contents.)
- A new, separate install script now sets up software integration triggers for ClearCase on Windows NT to execute scripts on hosts that run ClearTrack.
- The **install_script** can also be used to install remote integration on Unix hosts that run ClearCase, but not ClearTrack.

2.3 Bug Fixes

This release contains numerous bug fixes, as well as improvements in the overall robustness of the product. See Chapter 6, *Status of Software Change Requests*, for details.

2.4 New Environment Variables

New environment variables related to integration policy include the following:

- **ATRIAHOME** —Must be set on Unix systems and on Windows NT systems so that **$ATRIAHOME/bugtrack** is on the executable path for all integration users.

To install a specific policy (for example, ClearTrack or DDTS), you will need to link or copy **$ATRIAHOME/cleartrack/policy_vars.sh** and **$ATRIAHOME/cleartrack/local_policy.sh** to **$ATRIAHOME/bugtrack**.

- **BUGTRACK_PROXY_HOST** —Specifies the host whose scripts are to execute.
- **BUGTRACK_PROXY_USER**—Sets the user ID for the scripts.

  You need to set the proxy variables (above) by editing the **policy_var.sh** file so that remote scripts execute on the appropriate hosts and with the correct user IDs when the integration's triggers the remote script via the command **rsh** *hostname* **-l** *username script*.

- **SUMMARIZE_BUGS**—A Cleartrack-specific command to obtain a bug's summary information.

2.5 Improvements in the On-line Reference Pages

The language and readability of the ClearTrack reference pages have been improved.

3 Creating a Release Area

Before you can install ClearTrack on individual hosts, you need to establish one or more hosts that will act as network-wide resources to provide the following services:

- *Release area*, on a single host known as a *release host*, to act as a storage area for the entire ClearTrack distribution: executables, configuration files, reference pages, and so on. The release host need not be one of the architectures that can run ClearTrack.
- *License server*, on one or more hosts, each with ClearTrack or ClearCase installed, to contain the file **/usr/adm/atria/license.db**, which defines a set of ClearTrack licenses.
- *Registry server*, on a single host, to provide the databases in the directory **/usr/adm/atria/rgy** to determine the locations of all the network's ClearTrack request bases.

Table 2 Network-Wide Resource Hosts

Type of Host	Characteristics	Backup Requirements
Release Host	"Highly available" fast file-system access, visible to all other ClearTrack hosts, robust, and infrequently rebooted	The ClearTrack release area is an exact image of the distribution medium and does not require regular backup
License Server	If this host becomes unavailable, so eventually do the licenses defined in its license database file	Backup after changes to the license database (also keep a printed copy of each license database file)
Registry Server	If this host becomes unavailable, users will eventually be unable to access ClearTrack data	Readily-available backup copy of the **rgy** directory on another host and/or on a backup medium

3.1 Setting Up a New Release Area

To set up a new release area, perform the following steps:

1. Decide where to create the ClearTrack release area, into which you will load the contents of the ClearTrack distribution medium. Select a location in a file system that is (or can be) NFS-mounted by all current and prospective ClearTrack hosts. You need 25 MB for HP systems and 35-37 MB for the others.

2. Log in, as **root**, to a host with a CD-ROM drive. Ideally, this is the network-wide release host itself. But if that host does not have a CD-ROM drive, log into another host that is NFS-accessible to the network-wide release host.

   CLEARTRACK FOR HP-UX INSTALLATION: you *must* use a CD-ROM drive that is connected to the network-wide release host.

3. If necessary, create a mount-point directory for the CD-ROM:

   # **mkdir** */cdrom*

4. Place the ClearTrack distribution CD-ROM in the drive.

5. Mount the CD-ROM using the appropriate command in Table 3, unless you are using a Solaris host, in which case the volume manager mounts the CD-ROM automatically.

Table 3 Mounting the CD-ROM on ClearCase-Supported Hosts

Architecture	**Mount Command** [1]
Solaris	not necessary
SunOS 4	**mount –r –t hsfs** */dev/sr0 /cdrom*
HP-UX 9	**mount –r –t cdfs** */dev/dsk/c3d0s2 /cdrom*
HP-UX 10	**mount –F cdfs –r** */dev/dsk/c3d0s2 /cdrom*
IRIX 5,6	**mount –r –t** *iso9660 /dev/sc0d6l0 /cdrom*
Digital Unix	**mount -r -t cdfs** */dev/rz4c /cdrom*
AIX 4	**mount -o ro -v cdrfs** */dev/cd0 /cdrom*

1. Different hosts may use slightly different CD-ROM device names, requiring different **mount** commands.

If the CD-ROM drive is not on the network-wide release host (and the host is *not* an HP-UX 9 system), use NFS facilities to export the CD-ROM drive's mount point from its host, and mount it on the network-wide release host. For example:

/etc/exportfs –i –o ro */cdrom* *On the host with the CD-ROM drive*

mount *drive-host:/cdrom cdrom* *On the release host*

6. If your release host is running HP-UX 9:

   # **cd** */cdrom*

   # update -s */cdrom***/atria/cleartra/***hp9_type***/102b1.upd** *hp9_800 or hp9_pa*

7. If your release host is not running HP-UX 9, run the standard installation script (be sure that you are logged in as **root** to the release host). This script loads the ClearTrack software from the CD-ROM to the release host.

   # **cd** */cdrom*

   # **sh copy_rel.sh** *Most architectures*
   or
   # **sh COPY_REL.SH**

8. Look for the script to start up with the following output. (Note that the ellipses indicate that some of the lines have been omitted—including the initial dozen or so.)

```
. . .
looking up items available to extract..,,....,,...
Please press enter/return to continue:
. . .
    5 : ClearTrack      hp10_pa      1.0.2.BL1
    6 : ClearTrack      sgi5         1.0.2.BL1
    7 : ClearTrack      sun4         1.0.2.BL1
    8 : ClearTrack      sun5         1.0.2.BL1
. . .
Please select item numbers you would like to extract [q] : 8


   ---------- Items chosen to extract ----------

    + cleartra/sun5/102b1.tar

   Please enter the name of a directory that has sufficient disk
    space to hold the chosen releases
```

```
directory name [/usr/ccase_rls] : /user2/ctrack_rls

 + Extracting: /cdrom/atria/cleartra/sun5/102b1.tar ....

x cleartrack_v1.0.1a.bl1/sun5/Ctrack_examples, 0 bytes, 0 tape blocks
. . .
```

3.2 Customizing the Loaded Release Area

After you have loaded the software, run the **site_prep** script to:

- Define permissions for root or non-root users to use the release area
- Specify network-wide resources such as the network registry region and the hostnames of the license and registry servers

To guarantee access, make sure you are logged in as **root** to the release area host. There is a **site_prep** script for each supported host architecture. Go to the subdirectory for the architecture of the host where you are logged in (and where you have loaded the software):

```
#  cd /release_area/cleartrack_v1.0.2     release_area is where you installed the software from CD-ROM
# cd architecture/install                 architecture is sun4, sun5, hp9_pa, hp10_pa, sgi5, or sgi6
# ./site_prep
```

If you specify no options, **site_prep** performs these tasks:

- Makes all ClearTrack files belong to **root** and disables writes to all files.
- Checks whether the NIS *services database* will accommodate the addition of the **albd_server**, with no collision of port numbers.
- Marks a few files as **setUID root**.
- Prompts you to specify the hostnames of the license and registry server hosts (and the optional backup registry host), as well as the name of the network region. (These names are supplied later as suggested defaults when **install_release** is run to install individual hosts.)

site_prep options

Usage: **site_prep** [**–enable_non_root** | **–disable_non_root**]
[**–license_host** *hostname* | **–lh** *hostname*]
[**–registry_host** *hostname* | **–rh** *hostname*]
[**–registry_backup** *hostname* | **–rbh** *hostname*]
[**–registry_region** *registry_region* | **–rr** *registry_region*]
[**–no_query** | **–nq**] [**–help** | **h**]

Option:	Description:
–enable_non_root	Allow non-root users to install this release.
–disable_non_root	Revert to allowing installation only by root users.
–license_host *hostname*	Specify location of license host.
–registry_host *hostname*	Specify location of registry host.
–registry_backup *hostname*	Specify location of optional backup registry host.
–registry_region *registry_region_name*	Specify registry region.
–no_query	If any host (or registry region) is not set in the command line, set it to **Unknown**, and suppress queries for other values.)
–**help**	Display this summary of **site_prep** options.

NOTE: The **–chmod** and **–setuid** options that apply to mag tape installations are not described here as ClearTrack is not released on mag tape.

Enabling non-Root Installations

Use the **–enable_non_root** option if you wish to allow installation of ClearTrack without becoming **root**. This is always done as a separate invocation of **site_prep**. For example:

site_prep –enable_non_root

If you have enabled non-root installation, eliminate the possibility of a security breach by entering the following command after all ClearTrack hosts have been installed. Atria Engineering has taken care to minimize the security risks of non-root ClearTrack installation, but taking this step provides extra assurance. This is always done as a separate invocation of **site_prep.** For example:

site_prep –disable_non_root

Specifying License Host, Registry Host, and Registry Region

If you do not specify host names in the **site_prep** command line, the script prompts you for them individually. The **–no_query** option suppresses this prompt (query), and sets the value to **Unknown** unless you have specified one on the command line, for example:

site_prep –license_host *hostname* **–no_query**

For license and registry hosts, any name you specify must match the hostname returned by the **/bin/uname –n** command or by resolvable by the **gethostbyname(3N)** function.

When you (or others) install ClearTrack on individual hosts (see Chapter 4), these locations will be offered as defaults. Accepting the defaults when prompted by the install script ensures that all hosts are configured to use the same network-wide resources.

If your network has several license server hosts and/or several network regions, some or all users will need to override the defaults — see *Setting Up Additional Network Regions* on page 30.

3.3 Making the Release Area Accessible

To make the release area accessible so that you or other users can use it to install ClearTrack on individual hosts, you need to take the following steps, as described in this section:

- Export the release area
- Publicize its location

Exporting the ClearTrack Release Area

Make sure the release host exports *ctrack_rls*, the directory (or the file system where it resides) in which you installed ClearTrack. Setting up the export is architecture-specific; consult Table 4. Basically, you will edit **/etc/exports** or **/etc/dfs/dfstab** to include a line specifying the release area and export options, and then you will issue a command to export the file. For details, see the standard reference pages for these files and programs.

Table 4 Exporting the ClearTrack Release Area from ClearCase-Supported Hosts

Architecture	Steps to Export ClearTrack Release Area	
SunOS 4, IRIX 5,6, HP-UX 9	1. revise **/etc/exports:**	*ctrack_rls options*
	2. enter command:	**# /usr/etc/exportfs –a** *other-options*
HP-UX 10	1. revise **/etc/exports**:	*ctrack_rls options*
	2. enter command:	**# /usr/sbin/exportfs –a** *other-options*
Solaris 2	1. revise **/etc/dfs/dfstab**:	**share –F nfs** *ctrack_rls options*
	2. enter command:	**# /usr/sbin/shareall –F NFS**
Digital Unix	1. revise **/etc/exports**:	*ctrack_rls options*
AIX 4	1. revise **/etc/exports**:	*ctrack_rls options*
	2. enter command:	**# /usr/sbin/exportfs –a** *other-options*

Publicizing the Location of the Release Area

If users will be installing individual hosts themselves, inform them of the pathname at which they can access the ClearTrack release area on their individual hosts (for example, **/net/filsvr1/usr/ctrack_rls**).

4 Installing ClearTrack from the Release Area

Note that you have not "installed" ClearTrack in the previous chapter — you have simply loaded the software into a release area, from which it can be accessed for installation on individual hosts.

ClearTrack 1.0.2 includes both the ClearTrack product and the ClearCase ClearTrack Integration. While the ClearTrack product runs on UNIX platforms (as listed in Table 1), the integration runs on both UNIX and Windows NT (as listed in Table 1). The integration allows communication between ClearCase and ClearTrack, with some portions executing on the ClearCase side and others executing on the ClearTrack side. For this reason, you install the integration onto a UNIX system first and then move some of the files to the Windows NT system and continue the installation there.

For all installations, you need to run **install_release**, a Bourne shell script found in the **install** subdirectory of the release area. To perform an installation, you change to that directory and invoke **install_release**, which prompts for information such as hostname, installation model, and so on. Then, it performs the installation automatically, in verbose mode, noting any errors. It creates a complete transcript file in **/var/adm/atria/log**, to help verify and troubleshoot the installation.

If you are installing the ClearCase ClearTrack Integration onto Windows NT systems, you also need to follow the additional steps explained in *Installing Remote Integration* on page 29.

Successful installation requires attention to the following issues, which are discussed more thoroughly in this chapter:

- Choosing the *installation method* — local, remote, or multiple remote, where *local* is the local host that you've logged onto and which has access to the release area; *remote* is another host, which must have the same architecture as the local host; and *multiple remote* is a group of

hosts all with the same architecture but excluding the local host. See *Choosing an Installation Method* on page 18.

- Choosing the *installation model* (standard, full-copy, mounted, or link-only). See *Choosing an Installation Model* on page 19.
- Providing appropriate client and server hosts. See *Providing Appropriate Client and Server Hosts* on page 20.
- Obtaining and installing relevant operating system patches. See *Operating System Patches* on page 22.
- Running the installation script. See *Running install_release* on page 23.
- Installing the integration and providing for remote execution of software trigger scripts for both UNIX and Windows NT systems. See *Installing Remote Integration* on page 29.
- Creating and verifying the license database file(s). See *Creating and Verifying the License Database File(s)* on page 36.
- Setting up user environments with appropriate environment variables. See *Preparing Users for ClearTrack* on page 38.

NOTE: You can only install ClearTrack V1.0.2 (or later) in the same installation directory as ClearCase V3.0 (or later), because of the new installation mechanism. Please read the caution and note on on page 24. However, the integration can run in a network that includes both ClearCase V2.1 and V3.0 systems. Please see *Using ClearCase ClearTrack Integration with ClearCase V2.1* on page 36.

4.1 Choosing an Installation Method

Before you run **install_release**, consider which of the following methods of installation is appropriate, and follow the indicated steps to log in and/or create a batch installation file. In all cases, you should log in as **root** if you didn't enable non-root installation when you ran the **site_prep** script:

- **Local installation** — Install the software on the local system where you are logged in.
- **Local Deinstallation** — If you wish to remove the software from the host where you are logged in.

- **Remote installation** — Install software on a single remote system.
- **Multiple remote installation** — Install software on a set of remote systems using the same installation model and options. If you log in as **root**, you'll get to choose another identity during execution of **install_release**. Whatever user ID you log in with must have permission to install the entire set of hosts. You also are asked to specify the name of a file containing a list of hostnames, one per line.

4.2 Choosing an Installation Model

You have considerable flexibility in choosing how ClearTrack programs and data will be installed on a host. Programs and data are installed into the following areas, which may be present locally on a host, or which may be links to areas on the release area host:

- **ClearTrack installation directory** — Virtually all ClearTrack programs and host-wide configuration files are installed in a single directory tree, whose default location is **/usr/atria**. If you use a different location, **/usr/atria** is a link to it.
- **System-level, administrative, and configuration areas** — ClearTrack installation also makes a small number of modifications elsewhere on a host. For example:
  - It modifies a host's **/etc** or **/sbin** directory, so that ClearTrack servers will begin running at system start-up time.
  - ClearTrack log files and error files are placed in a host-private directory, **/usr/adm/atria** or **/var/adm/atria**.

There are four installation models:

- **Standard** — This default model copies many files into the installation directory. Symbolic links are created to the release host for the **ctrack_report**, **ctrack_path**, **graphs**, **dml**, **ctrack_graph**, **xcleartrack,** and **xclearhelp** commands, the documentation, and the examples. The **ctrack_admin**, **ctrack_dump**, **ctrack_load**, **ctrack.dbd**, and **ctrackSrt.dbd** files in **/usr/atria/etc** are also linked. This is the preferred and default model of installing PureAtria products onto an individual host.
- **Full-copy** — All ClearTrack files are copied from the release host to the installation area.
- **Mounted** — This model validates that the pre-existing **/usr/atria** directory contains the equivalent software as this release area. System-level and administrative files are created on

the installation host, but your network must be set up so that hosts can access a common **/usr** directory through NFS mounts. Using this method, you:

a. Run **install_release** on one host (using the full-copy installation model) to create the ClearTrack installation directory, which is accessed by other hosts that mount the common **/usr** directory.

b. Execute **install_release**, using the mounted model, on those hosts.

- **Link-only** — A symbolic link is created from **/usr/atria** on the installation host to the release area on the release host. System-level and administrative files, however, are created on the installation host. This limits future installations for this host to software contained in the release area to which the link points.

In choosing the model, you need to consider the amount of available storage and the expected patterns of use.

NOTE: If you install both ClearCase and ClearTrack, you may use either the full or standard installation model. You may also use the mounted installation model if both products are to be installed into the same directory.

4.3 Providing Appropriate Client and Server Hosts

In order to provide appropriate client and server hosts, you need to consider the needs discussed below in this section:

- Disk space requirements
- System resources
- ClearTrack server host compatibility with ClearCase
- Operating system patches
- Host visibility, utilities, and remote access
- Installation order for multiple hosts

Disk Space Requirements

Table 6 shows the disk space requirement for each kind of installation. All the space must be contained in a single disk partition.

Table 6 Disk Space Requirements

Type of Installation	Disk Space Required (in MB)					
	SunOS 4	Solaris 2	HP-UX 9-700	HP-UX9-800	HP-UX 10	IRIX 5[1]
Full copy	43	52	44	44	43	64
Standard	9	9	7	7	9	12
Link	< 1	< 1	< 1	< 1	< 1	< 1
Mounted	< 1	< 1	< 1	< 1	< 1	< 1

1. ClearTrack support for IRIX 6.2 (32-bit systems only) is found in the **sgi5** directory.

System Resources

When you install ClearTrack, consider whether the installation will be used as a client host, as a server host, or both:

- *Client hosts* are used by developers to run programs including **xcleartrack**, **xclearhelp**, **dml**, and so on, that constitute the user-level interface to ClearTrack. This is a successful approach that allows each developer sole use of a workstation that meets or exceeds the performance characteristics shown in Table 7. Several users can share a client host, for example, using X terminals, if the host can provide appropriate multiples of these single-user performance specifications.

- *Server hosts* support ClearTrack request databases and server processes that communicate with client programs through remote procedure calls (RPCs). Each request base requires several server programs, each placing a load especially on its host's processing power and main memory, but also on operating system resources (for example, the open-file descriptor

table). A request base server host should meet or exceed the performance characteristics shown in Table 7.

Table 7 Performance and Backup Needs for Installed Hosts

	Client Hosts	Server Hosts
Selection Criteria	16–32 MB RAM; 400 MB disk	64–128 MB RAM; 2 GB disk; 96 UNIX processes, 600 file descriptors
Backup Needs	Users' private queries and reports	Back up request bases regularly

Compatibility with ClearCase

ClearTrack V1.0.2 may be installed onto ClearCase hosts running ClearCase V3.0 or later.

NOTE: If a single host serves as the registry or license server for both ClearTrack and ClearCase, it must either be running ClearCase V3.0 or later, or have ClearTrack 1.0.2 installed.

You can safely install ClearTrack on hosts that already have ClearCase V3.0 releases installed if you use the same install model for ClearTrack that you used when you installed ClearCase.

NOTE: Before beginning to install ClearTrack on a client, ensure that no user on that machine (including yourself) is inside a ClearCase view. In fact, you should ensure that no one is running other Atria products.

Operating System Patches

Operating system patches are available from your hardware or OS vendor, not from Atria. Before installing ClearTrack on a host, be sure to consult Appendix A, *Operating System Patches*, to obtain the appropriate operating system patches from the vendor, and to install them.

Host Visibility, Utilities, and Remote Access

ClearTrack installation relies on several UNIX-level mechanisms:

- The ClearTrack release area must be visible on every host to be installed — typically, through NFS mounts and/or symbolic links.
- Each host where ClearTrack is to be installed must have the standard UNIX utilities in their standard locations: **grep**, **sed**, **echo**, and so on.
- *Trusted host* remote-shell access must be enabled, so that no password will be required when an **install_release** process is initiated on a remote host. Since the root user on one host is often not a trusted user on other hosts, you can specify another user name under which remote installations are to be performed. For information on this topic, see the **hosts.equiv(4)** manual page, along with the remote-shell manual page: **rsh(1M)** or **remsh(1M)**.

  NOTE: If you are performing a remote ClearTrack installation from a machine on a different subnet than that of the target machine, the installation will not be allowed to continue if the mount point does not allow the execution of SUID programs.

Installation Order for Multiple Hosts

Install ClearTrack hosts in this order:

1. **License server host and registry server host** — We recommend that these be the *same* host. If not, it doesn't matter which one is installed first.
2. **Request base hosts** — Hosts where ClearTrack request bases physically reside.
3. **Client hosts** — Hosts where users run ClearTrack client programs.

4.4 Running install_release

The **install_release** program asks you to choose from the following options and to provide hostnames for your license and registry server(s). You can use the following checklist to make sure that you have the appropriate information before you begin:

- Installation method — local installation (or deinstallation), remote, or multiple remote
- Installation model — standard, full-copy, mounted, link-only, or uninstall
- The directory in which the software is to be installed

- Components to install—integration, full function, or server only
- License server hostname — if you have not already installed software that specified a license server
- Registry server hostname — if you have not already installed software that specified a registry server
- Registry backup hostname (optional) — if you have not already installed software that specified a backup registry server
- Registry region pathname — if you have not already installed software that specified a registry region
- If you are installing on a host running ClearCase, you must use the same installation model for ClearTrack that was used to install ClearCase.

CAUTION: The first time the new **install_release** runs, it deletes all files and directories in the installation directory. It warns you and gives you an opportunity to exit so that you can copy or save what you want. If it encounters files in **/usr/adm/atria** or **/var/adm/atria**, it moves them to **/usr/adm/atria.preserve** or **/var/adm/atria.preserve** unless you exit the installation.

NOTE: To install ClearCase ClearTrack Integration, see *Installing Remote Integration* on page 29. You need first to install at least one UNIX system with ClearTrack and then proceed with the steps to install the remote integration.

To install ClearTrack using the **install_release** program, follow these steps:

1. Go to the **install** subdirectory within the appropriate release area and the appropriate architecture — *architecture* can be **sun4**, **sun5**, **hp9_pa**, **hp9_800**, **hp10_pa**, **sgi5**; ClearTrack support for IRIX 6.2 (32-bit systems only) is installed from the directory specified by the **sgi5** architecture:

   # **cd /net/***release_host*/*ctrack_rls***/cleartrack_v1.0.2/***architecture***/install**

   In the line above, *release_host* is the name of the network-wide release host, and *ctrack_rls* is the release area that you have created within it.

2. Invoke the **install_release** program:

   # **./install_release**

3. Look for the script to start with the following output. (Note that the ellipses indicate that some of the lines have been omitted.)

```
Copyright Atria Software, Inc,  All Rights Reserved.
. . .
This release area contains the following Atria product(s):

   ClearTrack
   ClearCase ClearTrack Integration

 A transcript of this installation will be initially written
 to /tmp/Atria.install.yymmdd.hh:mm.
 After a successful installation, the transcript will be located
 at /var/adm/atria/log/Atria_install.log.


The following installation methods are available:

1. Local Install:            Install occurs on the local host.
2. Remote Install:           Install occurs on a single remote host.
3. Multiple Remote Installs: Install occurs on a set of remote hosts.
4. Local Deinstall:          Deinstall occurs on the local host.

Type "Help" or "h" for expanded descriptions

Type "Quit" or "q" to exit the installation

Please select the installation method by number.
```

4. Enter the number of the installation method, shown as **1** below, and look for the script to continue.

```
Method of installation>> 1
         User specified:Install method:local
```

   The two remote methods operate exactly like the local method for all but the final steps. In their case, **install_release** executes a command that carries out one or more remote installations of the product (or products) and components you've selected, using the model you specify. If you choose Multiple Remote Installs, you are also asked to specify the pathname of the file containing the names of the hosts to be installed. (See *Choosing an Installation Method* on page 18.)

   We recommend starting with Local Install to gain familiarity with the new installation options before trying the remote methods.

5. Next, look for the question about the installation model.

```
The following installation operations or models are available:

1. Standard:  Regular installation, allowing links to this release area.
2. Full-copy: Regular installation, with no links to this release area.
3. Mounted:   Host install via mounted or pre-populated /usr/atria or
              ATRIAHOME.
4. Link-only: Host install via a symbolic link to this release area.
5. Deinstall: Deinstall software from the local installed host.

Type "Help" or "h" for expanded descriptions

Type "Quit" or "q" to exit the installation

Please select the installation type by number.


Model of installation>>
```

6. Enter the installation model. If you are unsure about the installation model, see *Choosing an Installation Model* on page 19.

```
Model of installation>> 1                                    (for example)

   User specified:Install model:standard
```

7. Enter the directory name for where ClearTrack is to be installed, or press the **<RETURN>** key to accept the default shown in square brackets:

```
Specify directory to be installed with ClearTrack,
   ClearCase ClearTrack Integration[/usr/atria]:<RETURN>
         User specified:Install into /usr/atria
```

8. Enter the pathname of the network-wide release directory, which need not be your current working directory, or accept the default (your current directory) shown in square brackets:

```
Pathname to the network-wide release directory
   (used as target of symbolic links)
   [release_area/cleartrack_v1.0.2/arch]:
            /net/release_host/ctrack_rls/cleartrack_v1.0.2/architecture
   User specified:Pathname to release area:
            /net/release_host/ctrack_rls/cleartrack_v1.0.2/architecture
```

9. Answer the following dialog prompt with the number representing the component to install, or a letter (**a**, **x**, **r**, or **q**) as appropriate. ClearTrack integration with ClearCase enables association of ClearCase VOB element versions with ClearTrack requests, as explained more fully in Appendix E of the *ClearTrack Administrator's Manual*.

```
Please select for installation from the following components:

  Components preceeded with a '*' are selected for installation.

  1 : ClearTrack Integration with ClearCase
  2 : ClearTrack Full Function Installation
  3 : ClearTrack Server-only Installation
  a : Select all
  f : Finish selection
  x : Toggle expanded descriptions
  r : Reset selections
  q : Quit

Selection number>> 2                                          (for example)
```

10. Notice that **install_release** places an asterisk in front of the results of your selection(s), as in the following output. This means that you might have selected one component, but if it depends on other components in the list, they will be highlighted also.

```
Next selection, '*' denotes a selected component

* 1 : ClearTrack Integration with ClearCase
* 2 : ClearTrack Full Function Installation
* 3 : ClearTrack Server-only Installation
  a : Select all
  f : Finish selection
  x : Toggle expanded descriptions
  r : Reset selections
  q : Quit

Selection number(s)>> f
```

11. When you choose to finish the selection in the above dialog, press **f**. The **install_release** script *may* present you with a list of components that are termed `"out of date relative to the installed software."` This means simply that you will be installing components to replace the ones in the list. Again, these items may be components on which your selection in Step **10** depends. If particular components are already installed in the right version because of a previous software installation, they will not be listed.

NOTE: See *Installing Remote Integration* on page 29 for a discussion of installing ClearTrack integration with ClearCase.

```
    The following list of selected components are out-of-date relative
    to the installed software:


           Atria Database Server Basics
           . . .

*************************************************************************
>> Beginning component specific queries.
*************************************************************************
         Reading component installation scripts.
```

12. Provide hostnames if you are prompted for license server, registry server, and registry server backup; and provide a pathname for the registry region, unless you wish to accept the defaults that were originally specified by **site_prep** and shown in brackets, for example:

```
Atria License Server Host[hostname]:
         User specified:License host is hostname
. . .
Atria Registry Region[pathname/]:
         User specified:Registry region: pathname
```

13. Answer **yes** or **no** to the question about whether to continue the installation:

```
    The interactive portion of the installation is complete.
    . . .
**** Enter 'quit' or 'no' to abort the installation ****
**** Enter 'yes' or press <RETURN> to continue ****

Continue installation?(yes, no, quit)[yes]: yes
```

14. At this point, you can simply watch as **install_release** copies the required files and directories. The report first warns you that it stops all Atria software, as well:

```
*************************************************************************
>> Shutdown running Atria software
*************************************************************************
   Shutting down running Atria software.
   This will interfere with current users of the installed software.
. . .
*************************************************************************
>> Begin installing files into /usr/atria
*************************************************************************
    ***************************************************************
    >> Beginning installation of component files for atria_install
```

```
        Updated:   /usr/atria/install/install_release
. . .
        >> Beginning installation of component files for CT_FULL
        ************************************************************
. . .
```

15. When the installation program concludes, carefully read its messages to see if any errors occurred. If there are errors, consult the installation log file (in **/usr/adm/atria** or **/var/adm/atria**) for instructions on how to correct them.

    A common cause of errors is lack of permission to create or modify standard system files residing outside the ClearTrack installation area. Typically, you must become **root** on a remote host to modify a configuration or administrative file manually.

Recovering from an Unsuccessful Installation

Some users may encounter problems running **install_release** on previously installed systems. At a certain point, **install_release** attempts to shut down Atria software running on the system. This is done by running a shutdown script. If the script encounters an error, it prevents **install_release** from completing the installation.In this case, we recommend rebooting the system and rerunning the install.

4.5 Installing Remote Integration

The ClearCase ClearTrack Integration lets you associate ClearCase VOB element versions with ClearTrack requests. When ClearCase users execute standard **checkout**, **checkin**, and **uncheckout** commands, ClearCase software triggers associated with them execute scripts on ClearTrack host(s). These scripts have access to event history information and paths to VOB elements that have been modified to address ClearTrack requests.

With ClearTrack Release 1.0.2, the ClearCase Release 3.0 users no longer need to be on the same host with ClearTrack. This new *remote integration* feature also provides integration functionality for systems that do not support ClearTrack themselves. Using this feature, ClearCase users on Windows NT systems, for example, can now cause their ClearCase commands to trigger appropriate scripts on the UNIX systems that run ClearTrack.

Proper installation of the integration requires the following types of activities, which are described in this section:

- For UNIX systems — installing the software into an installation directory from the release area, using the **install_release** script; setting environment variables; and preparing VOBs for integration. (See *Installing Remote Integration on UNIX Systems* on page 31.)
- For Windows NT systems — installing the software into a UNIX installation directory from a UNIX release area, using the **install_release** script; copying a small set of files from the installation directory; setting environment variables; copying policy file templates from a source directory; and preparing VOBs for integration. (See *Installing Remote Integration on a Windows NT System* on page 34.)

Overview of the Installation Process for Remote Integration

When you install the integration, you take the following steps, which are described more completely in the rest of this chapter:

1. Check for available disk space. (See *Checking Disk Space Availability* on page 31.)
2. Set up a release area on a UNIX host by copying the software from the CD-ROM on which it is distributed. (See *Setting up a New Release Area Host* on page 10.)

   NOTE: If you are installing the integration for Windows NT, you must first copy the software into a release area on a UNIX host. There must be at least one such host in your network because ClearTrack runs only on UNIX systems.
3. Prepare the release area so that it can be accessed by people who want to install software from it. (See *Customizing the Loaded Release Area* on page 12.)
4. Install the software from the release area into a directory on the UNIX host. (See *Running install_release* on page 23.)

   NOTE: Even if you are installing the integration for Windows NT users, you must first install the software from the release area into a directory on a UNIX host.
5. If you are installing the integration on Windows NT, copy the installed software to each Windows NT ClearCase host, and run a setup program. (See *Installing Remote Integration on a Windows NT System* on page 34.)
6. Set environment variables on both the ClearCase and ClearTrack systems so that the trigger scripts run on specified systems, using specified usernames. Some environment variables

also need to be defined so that the policy files can be found and their policies implemented. These policy files govern the integration according to your site policies and system parameters. See *Environment Variables and Policy Files for UNIX Users* on page 32 and *Environment Variables and Policy Files for Windows NT Users* on page 34.

7. Prepare the VOBs to be used by the integration

Checking Disk Space Availability

The integration software has the following approximate disk space requirements:

- 800 KB on the network-wide UNIX host for the release area
- 745 KB for the installation directory, which will also be on a UNIX host
- 745 KB on any Windows NT system to contain the software prior to installation
- 25 KB additional space on Windows NT systems to contain the software after the installation

Installing Remote Integration on UNIX Systems

To install remote integration on UNIX systems, take the following steps:

1. Copy the ClearTrack release software from the CD-ROM to a release area as previously explained in *Setting up a New Release Area Host* on page 10. (You need to ensure that ClearTrack itself is installed and functioning on at least one UNIX system.)
2. Log in to the host containing the release area, as **root**, if **site_prep** did not specify non-root access (see *Making the Release Area Accessible* on page 15).
3. Install the integration software from the release area, as explained in *Running install_release* on page 23, but with the following differences:
   - If you do *not* choose the *local installation method*, make sure that you include at least the integration selection in your choice, so that it has an asterisk to mark it, as in:

     ```
     Next selection, '*' denotes a selected component

     * 1 : ClearTrack Integration with ClearCase
     ```

➢ If you choose the *local installation method*, you will see only the single choice shown below. Make sure that you select it by specifying its selection number, as shown:

```
Please select for installation from the following components:

 Components preceeded with a '*' are selected for installation.

 1 : ClearTrack Integration with ClearCase
 a : Select all
 f : Finish selection
 x : Toggle expanded descriptions
 r : Reset selections
 q : Quit

Selection number>> 1
```

4. Proceed to specify **f** to finish selecting the option(s).

5. Answer the questions in the interactive part of **install_release.**

6. Let the script run to completion, so that the software is installed in the directory that you specify. This directory will either be **/usr/atria**, or **/usr/atria** will be a link to it.

Environment Variables and Policy Files for UNIX Users

This section explains the steps you need to take to see that your users' environments are properly set up and that your site's needs (as reflected in the policy files) are accommodated.

1. Make sure that **/usr/atria/bugtrack** is in the executable path of any ClearCase user who will be using the remote integration.

2. In each ClearCase user's environment on systems that do not support ClearTrack, define **BUGTRACK_PROXY_HOST** to specify the hostname of the host on which the trigger scripts are to execute, and **BUGTRACK_PROXY_USER** to set the username for them to run under.

   When the ClearCase user executes a **checkin**, **checkout**, or **uncheckout** command, the appropriate software trigger causes a trigger script to execute via a remote shell command, **rsh** *hostname* **–l** *username script*. The bugtrack proxy variables must be set on systems that don't support ClearTrack, because the variables specify how the remote shell executes. On ClearCase systems that also support ClearTrack,defining the proxy variables will cause an **rsh** to be executed. This is generally not necessary unless you wish the scripts to execute using a different username.

3. Make sure that **/usr/atria/bugtrack** is in the executable path of the ClearTrack host's proxy user. This user is specified in the **BUGTRACK_PROXY_USER** environment variable. The **rsh** program needs to find **/usr/atria/bugtrack** on the ClearTrack hosts.

4. On each ClearTrack host that will run the integration, copy the policy files from their installed locations to locations that the integration looks for. This step not only allows the integration to find them, but it also allows you to customize them, and it keeps new installations from overwriting them.

   The files are initially installed in a **cleartrack** directory, but the integration looks for them in the **bugtrack** directory. To prepare the policy files:

   a. Copy them from their installed locations to the **/usr/atria/bugtrack** directory:

      ```
      # cp /usr/atria/cleartrack/policy_vars.sh /usr/atria/bugtrack
      # cp /usr/atria/cleartrack/local_policy.pl /usr/atria/bugtrack
      ```

   b. Edit them so that the policy environment variables defined there are appropriate for your site policies and system parameters.

5. On the UNIX ClearCase host for the integration:

   a. Copy the local policy file from its installed location to the **/usr/atria/bugtrack** directory:

      ```
      # cp /usr/atria/cleartrack/local_policy.pl /usr/atria/bugtrack
      ```

   b. Edit it to define a directory to be used by the ClearCase scripts to keep temporary files.

   c. See to it that **/usr/atria/bugtrack** is in the users' executable paths.

   d. Prepare VOBs for use with the integration by specifying one or more VOB tags for the installation of connections between the software triggers and the particular scripts they are to run, for example:

      ```
      # /usr/atria/bugtrack/install/vob_prep /vobs/proj
      ```

      See the *ClearTrack Administrator's Manual* for more information.

   e. Instruct other ClearCase users to run **vob_prep** over any of their own VOBs that they want integrated with ClearTrack.

Installing Remote Integration on a Windows NT System

To install remote integration on a Windows NT system:

1. On a UNIX system, populate a release area and install the ClearTrack software onto at least one UNIX system, as previously explained in Chapter 3 and *Running install_release* on page 23.

2. Create a directory on the Windows NT system to contain the files from the next step.

3. NFS mount to, copy, or move the files from the ClearTrack installation directory **/usr/atria/bugtrack/nt_install** *on the UNIX system* to the Windows NT system directory that you created in Step **2**.

4. On the Windows NT system, run the **setup.exe** program that you just copied. A dialog window will appear, and it will take you through the following steps.

5. Read the read-me file that **setup.exe** offers.

6. Supply a pathname, shown below as *int-home-dir*, for a directory to receive the installation.

7. Let **setup.exe** install the trigger scripts in *int-home-dir***bugtrack\install.**

Environment Variables and Policy Files for Windows NT Users

This section explains the steps you need to take to see that your users' environments are properly set up and that your site's needs as reflected in the policy files are accommodated.

1. Define the environment variable **ATRIAHOME** so that it contains the pathname of the installation directory, for example, **c:\atria**.

2. Make sure that **%ATRIAHOME%\bugtrack** is in the executable path of any Windows NT ClearCase user who will be using the remote integration.

3. In each ClearCase user's environment on the Windows NT system, define **BUGTRACK_PROXY_HOST** to specify the hostname of the host on which the trigger scripts are to execute, and **BUGTRACK_PROXY_USER** to set the username for them to run under.

   When the ClearCase user executes a **checkin**, **checkout**, or **uncheckout** command, the appropriate software trigger causes a trigger script to execute via a remote shell command,

rsh *hostname* **–l** *username script*. The bugtrack proxy variables must be set on systems that don't support ClearTrack, because the variables specify how the remote shell executes.

4. On the UNIX systems that run ClearTrack and on which the trigger scripts will execute, make sure that **/usr/atria/bugtrack** is in the executable path of the proxy user as specified on the Windows NT system in the **BUGTRACK_PROXY_USER** environment variable. The **rsh** program needs to find the **bugtrack** directory on the ClearTrack host, so that the trigger scripts in that directory can be executed.

5. On each UNIX system that runs ClearTrack, copy the policy files from their installed **cleartrack** directory, to the **bugtrack** directory. This step not only allows the integration to find them, but it allows you to customize them, and it keeps new installations from overwriting them. To prepare the policy files for use by the integration:

   a. Copy them from their installed locations to the **/usr/atria/bugtrack** directory:

      ```
      # cp /usr/atria/cleartrack/policy_vars.sh /usr/atria/bugtrack
      # cp /usr/atria/cleartrack/local_policy.pl /usr/atria/bugtrack
      ```

   b. Edit them so that the policy environment variables defined there are appropriate for your site policies and system parameters.

6. On the ClearCase Windows NT host for the integration, see to it that **%ATRIAHOME%\bugtrack** is in the users' executable paths.

7. Run **vob_prep** over any VOBs that you want to be integrated with ClearTrack. See *Preparing VOBs for Use by the Integration* on page 35.

Preparing VOBs for Use by the Integration

Prepare VOBs for use with the integration by specifying one or more VOB tags, for example:

```
C:\> %ATRIAHOME%\bugtrack\install\vob_prep \proj      (Windows NT)
# /usr/atria/bugtrack/install/vob_prep /vobs/proj     (UNIX)
```

See the *ClearTrack Administrator's Manual* for more information.

4.6 Using ClearCase ClearTrack Integration with ClearCase V2.1

Although only ClearCase V3.0 or later may be installed on the same host as ClearTrack V1.0.2 or later, your network may include ClearCase V2.1 installations on other ClearCase hosts on the network. The integration can interoperate with these systems if you take the steps described in this section.

Integration with UNIX ClearCase V2.1 Clients

For each ClearCase V2.1 UNIX client user, see that **/usr/atria/cleartrack/triggers** is in the executable path.

Windows NT ClearCase V3.0 Clients and V2.1 VOB Servers

For each Windows NT ClearCase V3.0 client user who wants to use the integration with a ClearCase 2.1 VOB server:

1. For each 2.1 VOB, run the V3.0 **vob_prep** script, for example:

   `C:\> %ATRIAHOME%\bugtrack\vob_prep \projs`

2. See that each ClearCase V2.1 Windows NT client user's executable path contains **%ATRIAHOME%\cleartrack\triggers**.

4.7 Creating and Verifying the License Database File(s)

On each host that you've selected to be a license server host, create a *license database file*, using the following procedure. This file must contain the license authorization code obtained from Customer Support. (See *Obtaining License Authorization* on page 3.)

NOTE: You need not stop or start ClearTrack to perform this procedure.

1. For a description of the ClearTrack licensing scheme, read the **clearlicense** reference page in the *ClearTrack Administrator's Manual*. For a description of the **license.db** file format, read the **license.db** reference page in the same manual.

2. Using any text editor, open file **/usr/adm/atria/license.db** (some architectures use **/var/adm/atria**).

3. Enter the license authorization code as a line of text beginning with `-license`, *exactly* as it appears on the form provided by Atria. For example, the following file shows one license authorization code for ClearCase and two for ClearTrack:

```
-license ClearTrack_C ATRIA *.5 19961205 31e469a3.874eba9f.02
-license ClearCase ATRIA *.2 19961231 315e9c08.130ef8e1.02
-license ClearTrack ATRIA *.4 19960601 304496b4.a430ed2f.02
```

4. You may enter one or more `-user` lines after the license authorization to specify users' *license priorities*. For example, the following lines give `susan` priority:

```
–user susan
–user george
```

5. Verify that ClearTrack has been properly licensed by issuing the following command. Use **ClearTrack** if you have regular-user licensing, or **ClearTrack_C** for concurrent licensing. (Note also that capitalization is important.)

```
# /usr/atria/bin/clearlicense –product ClearTrack_C
License server on host "argo".
Running since Friday 10/15/96 16:59:35.
. . .
```

4.8 Regenerating Existing Request Bases

To complete installation of an upgrade to an existing version of ClearTrack, regenerate all existing request bases, or they will not reflect the new ClearTrack functionality, scripts, reference pages, bug fixes, and so on.

To regenerate the existing request bases, see the reference page for **genrbase** and follow its instructions.

4.9 Setting Up Additional Network Regions

If your network needs to be partitioned into multiple network regions, and regions were *not* specified when the individual hosts were installed, see the *ClearTrack Administrator's Manual*.

4.10 Preparing Users for ClearTrack

Once you have installed ClearTrack on a UNIX host, add **/usr/atria/bin** to the users' search path if they do not already use ClearCase. You also need to set up a few other environment variables, as described in this section:

- **XFILESEARCHPATH** for Sun users
- **MANPATH** for users of the on-line reference pages
- **PATH** for users of the ClearCase ClearTrack integration

The XFILESEARCHPATH Environment Variable

Sun users must set the environment variable **XFILESEARCHPATH** to **/usr/atria/config/gui/%T/%N%S:/usr/openwin/lib/%T/%N%S**.

Reference Pages

ClearTrack reference pages are installed by default in **/usr/atria/ctrack_doc/man**. For the **man** command to find and display these pages, users must set the **MANPATH** environment variable to include this path.

If ClearCase is also installed, set **MANPATH** so that **/usr/atria/doc/man** is listed *after* the path for ClearTrack's reference pages. This way, reference pages (such as **license.db**) that describe network services and facilities used by all Atria products are displayed, rather than those that describe the services in a ClearCase context.

NOTE: You must use **man** to display a ClearTrack reference page. There is no ClearTrack equivalent of the ClearCase **cleartool man** command.

To display reference pages for **ctrack_admin** subcommands as follows:

man ca+*subcommand*

For example:

man ca+genrbase

Setting up Users for ClearTrack ClearCase Integration

Because of the new remote execution of software triggers, you need to set up your users' **PATH** environment variable to find the trigger scripts, and to ensure that the policy files **policy_vars.sh** and **local_policy.pl** are found and executed properly.

To do this, see to it that users of the integration include **/usr/atria/bugtrack** in their executable path (if they are using UNIX) or **%ATRIAHOME%\bugtrack** (for Windows NT machines).

ClearTrack Release Notes

5

This section contains notes on ClearTrack V1.0.2 features that are documented incorrectly or not at all in ClearTrack documentation.

The current ClearTrack documentation consists of:

- *ClearTrack Applications User's Manual*, for ClearTrack V1.0 and later
- *ClearTrack Administrator's Manual*, for ClearTrack V1.0.1 and later
- *ClearTrack Installation and Release Notes*, for ClearTrack V1.0.2 and later (i.e., the release notes that you are now reading)
- On-line reference pages

5.1 Changes for ClearTrack Applications User's Manual

The changes in this section have been carried over from ClearTrack V1.0.1 and apply to the V1.0 version of the *ClearTrack Applications User's Manual*, which is not being re-released.

Referencing Environment Variables in Queries

The *ClearTrack Applications User's Manual* does not document the syntax used in queries to reference Unix environment variables. That syntax is:

${*env_var***}**

You can use this syntax in saved queries and in those you enter interactively. The following examples specify requests owned by the current user:

- In the **Owner** field:

  ```
  ${USER}
  ```

- In the **Queries ► Define ► Edit...** window:

  ```
  (owner=short-text '${USER}')
  ```

- In a saved query file:

  ```
  owner:${USER}
  ```

(You may wish to note this in Section A.1, *Expressions*, and perhaps on pages 5 and 10.)

Default Operators for Field Types

When you are in **Query** mode, the fields in ClearTrack applications are associated with default operators. The *ClearTrack Applications User's Manual* does not document these defaults:

- For fields of type **boolean**, **date, file** (and the **file** type **attachment**), **int**, **list-of**, **one-of**, and **short-text**, the default operator is **=** .
- For fields of type **long-text** (and the **long-text** type **journal**), the default operator is **match**.

(You may wish to note this in Table 6, *DML Comparison Operators*.)

The 'this week' Built-in Date Expression

The built-in date expression, **this week**, is documented in *ClearTrack Administrator's Manual* but not in the *ClearTrack Applications User's Manual* nor in on-line documentation.

The expression **this week** means the current week, beginning Monday at midnight (which is the second following Sunday at 11:59:59 p.m.).

Other date expressions that were not documented include **this second** (**now**), **this day** (**today**), **this hour**, **this minute**, and their equivalents such as **last week**, **next week**, **last hour**, **next hour**, **last minute**, **next minute**, and so on.

(You may wish to note this in Section A.6, *Date Fields*.)

5.2 Changes for *ClearTrack Administrator's Manual*

Except for the first change reported below, which was reported in the *ClearTrack Installation and Release Notes* for V1.0.1, the changes in this section primarily involve Appendix E and Appendix F of *ClearTrack Administrator's Manual* for ClearTrack V1.0.1. These changes are a result of the new facility for remotely-executed trigger scripts. (This new facility is described more fully in Chapter 2 of these release notes.)

sample1.pdl

The description of **sample1.pdl** in Chapter 4 of *ClearTrack Administrator's Manuall* does not mention that there are related, on-line example queries and reports, or the **applications** file in the directory **/usr/atria/Ctrack_examples/sample1**.

(You may wish to note this on page 45, which introduces the chapter.)

Additional ClearTrack-Dependent Integration Scripts

There are a few new scripts whose following descriptions you may want to add to the list of trigger scripts on page 217 of *ClearTrack Administrator's Manual*:

- **clrcase.pl**—Contains functions for the ClearCase side of the integration, to handle setting ClearCase attributes, retrieving policy from the Unix side, and so on.
- **clrtrack.pl**—Contains functions specific to ClearTrack, for example, updating the ClearTrack history files and retrieving summary information to enter into ClearCase when requested by policy settings.
- **validate_request**—Validates ClearTrack request numbers entered by a user.
- **getpolicy**—Executes the **policy_vars.sh** file (on the ClearTrack side) and passes back the policy items required by the remote system.

- **get_summary**—Retrieves the summary field information for entries referenced by ClearCase (for inclusion in ClearCase comments when required by policy setting).
- **bt_inform**—Updates ClearTrack's bug tracking mechanism, the *bug tracker,* with a history record and sends mail when errors are encountered. Updates **resolved_in** field when checking in files that reference this request.

Obsolete and Removed Files

Because of the new integration of remotely-executed trigger scripts, some related files have been replaced, or are no longer useful. You may want to mark the following files as obsolete in the list of trigger scripts on page 217 of *ClearTrack Administrator's Manual*:

- **cleartrack.pl**—A perl package that implements some common subroutines for the ClearCase integration trigger scripts.
- **co_inform, ci_inform, unco_inform**—Files that performed functions now performed by **bt_inform**.

Additional Environment Variables

New environment variables related to integration are shown in Table 7, below. They should be noted in the policy variable section of Table 23 on page 220 of *ClearTrack Administrator's Manual*.

Table 7 New Environment Variables for the Policy File

Variable	Description	Values
BUGTRACK_PROXY_HOST	If set, ClearTrack scripts are invoked via **rsh** *hostname script . . .*	Set *hostname* to execute ClearTrack scripts remotely.
BUGTRACK_PROXY_USER	Set both proxy vars to invoke bugtrack scripts via **rsh** *hostname* **-l** *username script*.	Set this to *username* to be used to run the **rsh** script.
SAVE_SUMMARY_ON_CI	Save ClearTrack summaries on checkin operation.	True or false

Table 7 New Environment Variables for the Policy File (Continued)

Variable	Description	Values
SAVE_SUMMARY_ON_CO	Save ClearTrack summaries on checkout operation.	True or false
SUMMARIZE_BUGS	Appends ClearTrack summary field to checkin/out comments.	Name of script that implements this function.

Also, you might add a note to page 217 of *ClearTrack Administrator's Manual* that the **SUMMARIZE_BUGS** variable points to a script that appends ClearTrack summary fields to **checkin/checkout** comments, and that **SAVE_SUMMARY_ON_CI** and **SAVE_SUMMARY_ON_CO** specify whether or not to actually do it.

Clarification of Setting Environment Variables

Appendix F of the *ClearTrack Administrator's Manual* doesn't make it clear that the environment variables such as **CTRACK_NOLOG** should be set in the user's **.cshrc** or **.profile** file.

5.3 Changes in the Reference Pages

The reference pages published in *ClearTrack Administrator's Manual* have been superseded by new on-line versions available with ClearTrack V.1.0.2.

5.4 ClearTrack Installation and Release Notes

The hard copy version of *ClearTrack Installation and Release Notes* supersedes the on-line version, in the event of discrepancies between the two versions.

Status of Software Change Requests

6

6.1 Known Problems

This section describes some noteworthy problems in ClearTrack Release 1.0.2.

#10625 Cannot insert negative integer value into request base

#11883 Server allows clients to see each other's partial transactions

It is possible for a client to see another client's partially-completed write transaction. For the GUI, this usually isn't a problem; however, for customers who try to use ClearTrack as a general-purpose database, this might be a security problem.

#12219 Available Keys list in Sort window loses correct scroll bar scale

The **Available Keys** list in the Sort window loses correct scroll bar scale and will not allow scrolling, once you re-open the **Sort** window after having deleted sort keys in it.

Click on one of the list items to fix the scroll bar, but be sure to replace the item in the list.

#12743 You can lose edits by typing <CTRL-D> before leaving the field

If in the first field you touch (before the **Cancel** button is active), you type <**CTRL-D**>, you will lose your edits. The reason is that ClearTrack does not know that anything has changed yet and <**CTRL-D**> is bound via X-defaults to be an accelerator for entering **Display** mode.

#13156 Deletion of attachment does not enable Cancel button

If you delete an attachment, the **Cancel** button should be enabled immediately, preventing you from backing out of the change. However, if you change modes after the deletion, ClearTrack detects the change, an alert box pops up, and the **Cancel** button is then enabled, allowing you to back out of your change.

#13184 Setting the SCHEMESEARCHPATH changes GUI properties

By setting the **SCHEMESEARCHPATH** environment variable to **/usr/lib/X11/Schemes:/usr/atria/config/ui/Schemes:/usr/atria/config/gui/Schemes,** the appearance of the **xcleartrack** window (GUI) changes. This effectively prevents users from customizing the **xclearcase** X Window System resources.

#13248 ccfunc.sh does not check for type of error from validate_bug

The user does not have enough ClearTrack licenses and the resultant message is confusing: "validate_bug failed."

#13781 Short-circuit operators (&& and ||) do not work properly in actions

The evaluation order of expressions for the operators **AND** ("&&") or **OR** ("||") is incorrect in the action section, but okay in the rules section. For instance, the right-hand side of the **OR** expression is evaluated incorrectly.

#13865 Core from reading named query after resaving another query

#13873 Sometimes the y-axis label is missing from the graph

#13984 Summary type reports truncate the bug ID value to 4 digits

#14341 List-of one-of does not put values selected into the field

Selecting a "one-of parties" from the pop-up menu doesn't enter it into the field. If you then enter an invalid value, ClearTrack gets a segment fault.

#14576 Equivalent queries produce different results

#14817 Can't get fixed width fonts in Query Results Window on HP-UX

ClearTrack's app-defaults file in the Scheme/Lascaux overrides any settings in app-defaults files in **$HOME** or in the bugbase directory. To avoid this: edit the app-defaults file in the Scheme directory and comment out the font resource setting for query results there.

#15231 genrbase fails if ctrack_sec file is in rbase db directory

3. **genrbase** fails if the **ctrack_sec** file is in the **rbase db** directory, contrary to expectations from the *ClearTrack Administrator's Manual* for creating a **ctrack_sec** file.

#15332 When I add a field with the following syntax

The message "Can't create drop sites which are children of a simple drop site" appears if, for example, you create a scrolled type of object as the first object in a view.

A temporary widget gets created the first time a field of any type is constructed to get some initial resource values. If the first widget happens to be a scrolled widget, the temporary widget is not a valid child and the warning is issued as a result. Other than producing the message, the behavior is harmless and the application will continue to function properly.

6.2 Problems Fixed in this Release

This section lists previously reported problems that have been fixed in this release.

Table 8 Problems Fixed in ClearTrack Release 1.0.2

Bug Number	Fixed	Not Fixed	Will not Fix	Description
8869			X	keyboard input on the OSF/1 X Window System server was not handled well by ClearTrack
9780	X			Lock command confusion reading reference page
12042			X	you cannot specify a relative path with the **–hpath** argument
12058	X			if an RDF file refers to a non-existing field, the report goes into an infinite loop
12453	X			multiple invocations of graphs cause **xcleartrack** to core dump

Table 8 Problems Fixed in ClearTrack Release 1.0.2

Bug Number	Fixed	Not Fixed	Will not Fix	Description
12698			X	**Help►Index** window will not move to the foreground
12702	X			electing a graph in an empty request base (or one with no match) causes a core dump
12706			X	the attachments field does not "forget" previous data and displays itself improperly
13005	X			the server seems to hang occasionally when graphing large data sets
13013			X	remote installations from merged release area as non-root user fail
13070	X			**inst_utils.sh** should add **XKeysymDB** if not found
13109	X			install program does not notify users of all software being installed
13192	X			hp10_pa merged install fails with syntax error
13407	X			**xcleartrack** dumps core and seg faults
13433	X			**xcleartrack** can’t connect to database
13673	X			**xcleartrack** graph flashes on then disappears
14907	X			**XKeysymDB** not shipped with ClearTrack

Operating System Patches

A

A.1 Operating System Patches

Although ClearTrack runs at the application and not kernel level, Atria Customer Support runs it in the same environment as ClearCase. Consequently, you may need to install operating system patches from your hardware vendor in order to provide the same environment.

- To run ClearTrack on systems with ClearCase V3.0, see *ClearCase Installation and Release Notes* for the relevant patch instructions. The operating system patches for ClearTrack V1.0.2 are the same as those for ClearCase V3.0, so if you have already installed the OS patches required for ClearCase V3.0, skip this section.
- If you install ClearTrack as a stand-alone product:
  - Consult Table 9 for help in obtaining the patches. Please do not contact Atria Customer Support regarding questions or problems concerning these web sites.
  - Consult Table 10 and Table 11 to make sure that you have all the right patches.

8008

Table 9 Operating System Vendors' Web Sites

Vendor	World Wide Web URL
Sun	**http://sunsolve.sun.com**
Hewlett-Packard	**http://us.external.hp.com**
SGI	**http://www.sgi.com/Support/patch_intro.html**

Table 10 Operating System Patches (Part 1 of 3)

Patch #	Release	Purpose	Notes
Patches for SunOS4			
100075	4.1.3	fix **rpc.lockd** assertion failed panic	recommended for all ClearCase hosts
100444 (Rev 74 or later)	4.1.3, 4.1.3_U1B 4.1.4	fix OpenWindows 3.0 bugs 1103061, 1107070, 1116897. Motif problems, vertical font problems, X Input Extension problems	*required for all hosts on which ClearCase GUI programs will be executed. Atria Engineering strongly recommends that you check now with Sun to see if there is a later rev and continue to check in the future.*
100492	4.1.3, 4.1.3_U1B, 4.1.4	fix to **olwm**	*required for all hosts on which ClearCase GUI programs will be executed*
100173 (Rev 12 or later)	4.1.3	fix bug 1034328 Jumbo NFS patch, especially useful for dataless workstations	recommended for all ClearCase hosts.
102177	4.1.3_U1		
no patch required	4.1.3_U1B		
101784-03	4.1.3_U1	fix **rpc.lockd** assertion failed panic	recommended for all ClearCase hosts
102394	4.1.4	fix problems with locking, NFS interruptible mounts, security hole	*required for all ClearCase hosts*
102264	4.1.4	fix **rpc.lockd** assertion failed panic	*required for all ClearCase hosts*
Patches for Solaris			
101945 (Rev 38 or later)	2.4	Jumbo kernel patch	*required for all ClearCase hosts*
Patches for HP-UX 9 (Series 700)			
PHCO_6225	9.x	fixes to **tar**	recommended for all ClearCase hosts
PHCO_7747	9.x	cumulative **libc** patch	*required for all ClearCase clients.* prevents **automount** problems
PHCO_8008	10.20	fixes **mount**	*required for all ClearCase clients*

Table 10 Operating System Patches (Part 2 of 3)

Patch #	Release	Purpose	Notes
PHNE_4003	9.x	**NETSTAT** programmatic access with **RD_ONLY** (check with vendor if you are not sure of your network interface type)	*required if system has EISA interface for FDDI*
PHNE_5959	9.x		*required if system has SLIDER built-in network interface for FDDI*
PHNE_7072	9.x	cumulative fix to problem with **automount –M** hanging	recommended for all ClearCase hosts
PHSS_5723	C compiler Rev 9.61 or later	fix problems that prevent **install_release** from creating a new kernel with the MVFS	*required for all ClearCase hosts with Rev 9.61 or later of the C compiler*
PHSS_7691	9.x	cumulative **libc** patch	*required for all ClearCase hosts.* fixes **dld** problems that could prevent **albd.server** from being loaded
Patches for HP_UX 9 (Series 800)			
PHCO_6214	9.x	fixes to **tar**	recommended for all ClearCase hosts
PHCO_7748	9.x	cumulative **libc** patch for **seekdir()** and **telldir()**	recommended for all ClearCase hosts — *required if using SoftBench*
PHKL_5350	9.04	fix **fsync()** indirect blocks not written to disk	*required for all ClearCase hosts*
PHKL_6761	9.04	kernel megapatch	*required for all ClearCase hosts*
PHKL_7373	9.04	LVM and autochanger/ magneto-optic fixes	recommended for all ClearCase hosts
PHNE_7072	9.x	NFS/NIS megapatch	recommended for all ClearCase hosts
PHNE_7317	9.04	fixes ARPA transport defects	recommended for all ClearCase hosts — *required if using SoftBench*
PHSS_5723	C compiler Rev 9.61 or later	fix problem in C compiler that prevents **install_release** from creating a new kernel with MVFS	*required for all ClearCase client hosts with Rev 9.61 or later of the C compiler*

Table 10 Operating System Patches (Part 3 of 3)

Patch #	Release	Purpose	Notes
PHSS_7691	9.x	cumulative **libc** patch	*required for all ClearCase hosts.* fixes **dld** problems that could prevent **albd.server** from being loaded
Patches for HP-UX 10 (Series 700 and 800)			
PHKL_6902	10.10	Fix for data corruption with FDDI	*Required if system has any network interface for FDDI*
PHNE_6317	10.10	cumulative **mux** and **pty** patch	Recommended for all ClearCase hosts
Patches for IRIX 5			
patch870	5.3	MFS rollup patch	*Required for all ClearCase hosts with view or VOB storage located on an MFS file*
patch1092	5.3	BSD rollup patch including fixes for TLI. Fix **automount** hang due to locking problem in NFS client.	*Required for all ClearCase hosts*
patch1102	5.3	NFS rollup patch. Fix **automount** hang while using exported MVFS	*Required for all ClearCase hosts*
patch1255	5.3	Kernel rollup patch	*Required for all ClearCase hosts*
patch1264	5.3	XFS rollup patch	*Required for all ClearCase hosts with view or VOB storage located on an XFS file*
patch1268	5.3	kernel rollup patch	*Required for all ClearCase hosts.*

Layered Software Packages

In some cases, correct ClearTrack processing requires installation of a layered (so-called optional) software package. Before installing ClearTrack on a host, consult Table 11 to determine whether you need to install any such packages.

Table 11 Optional Software Packages Required by ClearTrack

Host Type	Package Name	Description
SunOS 4	**/usr/5bin** **/usr/5include** **/usr/5lib**	System V compatibility package
SunOS 4.1.x	options VDDRV	SunOS kernel configuration option
Solaris 2	SUNWsprot	*SPARCompilers Bundled tools*: Includes default **make.rules** file
	SUNWbcp	binary compatibility
	SUNWscpr	source compatibility, root
	SUNWscpu	source compatibility, user
Solaris 2.4. 2.5, 2.5.1	SUNWmfrun	Motif RunTime kit to run Atria GUIs
HP-UX 9	Motif: Version 1.2	Graphical user interface toolkit
	X Window System: X11R5	Window system
	(optional) SoftBench: V3.0	Tool messaging environment
HP-UX 10	Upgrade. **UPG-TLINK**	Compatibility links for file system
IRIX 5, 6	**nfs**	Network File System
	dev.hdr.lib	Development Environment Headers
	dwb	Documentor's Workbench

Licensing Forms for Atria Software Products

4000-120-E

License Registration Form

Software products from Atria Software, Inc. include a license enforcement mechanism. As described in the product's Installation and Release Notes, 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 Atria Software, Inc. at **(617) 676-2510**. You will receive your authorization code via return FAX as soon as possible.

Atria 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. Authorization Numbers (if purchasing from HP only): _____
9. License server host ID:_____

   Enter command **clearlicense –hostid**; if ClearCase is not yet installed:

SunOS 5:	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
OSF/1:	use last four pairs of hex digits of "Ethernet Interface, hardware address" in **/var/adm/messages**
UnixWare or *Windows NT*:	install ClearCase and enter command **clearlicense –hostid**
MP-RAS	run **ildconfig**; use 12-digit number displayed in NODE field for first csma/cd adapter.
SINIX	run **/usr/ucb/hostid**

10. New licenses requested or additional licenses required:

    ClearTrack only: Number of concurrent-user licenses: _____

Request to MOVE Product Licenses

Please complete and sign the following form. Upon completion, FAX to Atria Software at **(617) 676-2510**.

I certify that Atria'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/ZIP _____
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 _____

   Enter command **clearlicense –hostid** on license host; if ClearCase is not yet installed:

   SunOS 4: run **/bin/hostid** to determine 8-digit hex number
   SunOS 5: 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
   OSF/1: use last four pairs of hex digits of "Ethernet Interface, hardware address" in **/var/adm/messages**
   UnixWare or *Windows NT*: install ClearCase and enter command **clearlicense –hostid**
   MP-RAS: run **ildconfig**; use 12-digit number displayed in NODE field for first csma/cd adapter.
   SINIX run **/usr/ucb/hostid**

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