

Installing

Remote Access Concentrator Software for UNIX

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This document describes the procedures to install Remote Access Concentrator (RAC) software on a UNIX host system. You should install this software before installing the RAC hardware.

The RAC software includes:

- Remote Access Concentrator software for UNIX.
- The **na** command-line interface Version 3.1.
- Annex Manager 3.1 for UNIX.



This book provides UNIX installation procedures for Remote Annexes and Remote Access Concentrators.




About This Manual

In addition to the Table of Contents, Preface, and Index, this manual contains the following chapters:

- Chapter 1, Before You Begin, describes Remote Access Concentrator (RAC) software for UNIX, and software components, system requirements, and the installation script.
- Chapter 2, Installing the Software, describes the installation procedure for loading RAC software on a UNIX system, including information for mounting the CD-ROM, installing operational images and binary files, and assigning a security regime.
- Chapter 3, Setting Environment Services, describes minor adjustments you make after the installation, including setting environment variables, starting **erpcd**, and starting Annex Manager.
- Appendix A, Reference Information, has many tables with information on system requirements, supported operating systems, binary and source code options, and upgrading the software.

Conventions

This manual uses the following printing conventions:

Convention:	Represents:
<code>special type</code>	In examples, <code>special type</code> indicates system output.
special type	Bold special type indicates user input.
<code>Return</code>	In command examples, this notation indicates that pressing <code>Return</code> enters the default value.
bold	Bold indicates commands, pathnames, or filenames that must be entered as displayed.
<i>italics</i>	In the context of commands and command syntax, lowercase italics indicate variables for which the user supplies a value.
[]	In command dialog, square brackets indicate default values. Pressing <code>Return</code> selects this value. Square brackets appearing in command syntax indicate optional arguments.
{ }	In command syntax, braces indicate that one, and only one, of the enclosed value must be entered.
	In command syntax, this character separates the different options available for a parameter.
	Notes provide important information.
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	Cautions notify you about dangerous conditions.

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Chapter 1

Before You Begin

This chapter provides important information about installing Remote Access Concentrator (RAC) Software for UNIX. You should read this before you begin the install procedure since the installation script prompts you for information to complete the process.

Before starting the installation script, you should be prepared to make the following decisions, or supply the following information:

- Whether to use default directories for installation or specify different directories
- Whether to install man pages
- How you want to load the software. You will need to verify if your operating system and version is supported (see Appendix A for specific platforms and versions):
 - Binary images
 - Source code
 - Both
- Which security regime to use
 - ACP
 - RADIUS
 - SecureID
 - SafeWord
 - Kerberos
 - Deny (access is denied)
 - None (access is unconditionally granted)
 - Native UNIX (consult your UNIX system documentation)

- The type of ISDN connection you have
 - CAS Device Support
 - 4ess
 - Australian T1
 - US T1 with internal CSU
 - European E1
 - US T1
 - All versions

Host System Requirements

To install the software, the host system must have:

- 32 MB of RAM
- 50 MB disk space
- A network-accessible CD-ROM drive

The host RAM requirements vary depending on the platform and the applications that run concurrently with the software. See [Table A-2](#) for information on disk space requirements.

User Access Privileges

Installers must have root privileges to install the software.

Installation Script Conventions

The installation script uses the following conventions.

- Most interactions with the script involve entering a **y** (yes) or **n** (no) in response to a prompt.

- When the script requires your input, the prompt includes a default selection shown in brackets. You can accept the default by pressing the **Return** key (or the **esc** key on PC keyboards).
- You can pause the script at any prompt by entering an exclamation mark (!). This allows you to perform other functions such as checking directory capacity. You can return to the script by typing **exit**.
- The script also provides help text, which you can retrieve at any prompt by entering a question mark (?).

About the Installation Script

When you start the installation, you copy the installation script from the media to a directory on the RAC host. When you invoke the script, it detects the host system machine type and operating system version. Based on this information and on options you choose, the script extracts only selected files from the media.

If your platform is supported (see [Table A-2](#)) the installation script allows you to load both the software and Annex Manager in the same session, or in different sessions. The install script (and extracted files) can be stored on the host system hard drive for reinstallation.

Binary Files

The distribution media contains binary files for most supported platforms. When the script detects binary files for the host operating system, it provides the option of installing the binary files or loading the source code and compiling the software at a later time. See [Table A-3](#) for binary and source code options.

Source Code

If there are no binary files available, the script loads the source code and uses an available compiler on the host system to build the image. If the script cannot identify a compiler on your system, it ends the installation session.

[Table A-3](#) lists the operating system versions supported by the software and indicates whether binary files are provided on the distribution media.

Loading and building an image on an unsupported platform is allowed so that you can build on a system that has access to the distribution media and then move the newly compiled files to the actual host.

After making your selection, the script begins loading and, if necessary, compiling. The script saves output from the compilation to the file **Build.out** in the working directory in case you have to troubleshoot the installation.

Annex Manager

Annex Manager runs on most UNIX systems. Software requirements for specific systems are listed in [Table A-4](#). A color monitor or X-terminal is recommended, although you can use Annex Manager with a monochrome X-terminal.



Before installing Annex Manager for the first time, you must define the GUI_AM_DIR variable to a valid directory, or the Annex Manager installation will fail. (See below command.)

Use the following command at the UNIX prompt before loading the install script:

```
setenv GUI_AM_DIR <install directory>
```

The default installation directory usually includes the software version number in the directory name (for example, in this release the default directory is GUI_AMR3.1). You must execute this command any time you change the path of the Annex Manager directory.

Chapter 2

Installing the Software

Loading the Installation Script

The first step in the installation sequence is to access the installation script on the distribution CD-ROM. The script also supports loading software from a hard disk or network file. [Supported Platforms on page A-2](#) lists the platforms supported by the software. If the script cannot identify your host as one of the supported platforms, you can select a platform that closely resembles your host.



The sample installation script used in this chapter is for a SunOS system. The sample commands underneath the numbered instructions (for mounting devices and tarring files) may use different syntax than the commands required by your system. In the sample commands the term “Remote Annex” refers to all models of Remote Annexes and Remote Access Concentrators (RACs).

CD-ROM Installation

To access the installation script distributed on CD-ROM:

1. **Log on as root to a host system with a CD-ROM drive.**

If the installation host does not have a CD-ROM drive, log on to an NFS accessible host.

2. **Insert the distribution CD onto the CD-ROM drive.**
3. **Mount the CD-ROM. The following example is for a Sun host; device names may vary for different hosts.**

```
mount /dev/sro /cdrom
```

4. **Change directory to the top-level directory on the device.**

```
cd /cdrom
```

5. **Change directory to the UNIX installation directory.**

```
cd unix
```

Beginning the Installation

1. Start the installation script by typing:

```
./install
```

The script displays a welcome message:

```
*****  
It is required that you run this script as root.  
*****
```

This command is used to install RAC host tools (boot images, security, command line management) and Annex Manager (X-Motif GUI management application). The versions that will be installed are:

```
Annex Software   R14.1  
Annex Manager    R3.1
```

Support for the following hardware platforms is included in this release:

Platform	Software version
RA6300	R14.1.28
5393	R14.1.28
5399	R14.1.28
8000RAC	R14.1.28
RA2000	R14.1.28
RA4000	R14.1.28
5390	R14.1.28
5391	R14.1.28
RA6100	R14.1.28

At any question prompt you can escape to a shell by typing "!". When you exit that shell you will bounce back to the prompt. Many of the questions will have default answers in square brackets; pressing carriage return will select the default.

```
Do you want to continue (y/n/q=quit) [y]:
```

2. Press the Return key to continue.

The installation script main menu appears.

3. The script then prompts for the software product you are loading.

After installing one product you will be asked if you want to install the other product.

Indicate desired action:

- 1) Install Annex Software
- 2) Install Annex Manager
- 3) Quit

Enter desired action [1]:

At this point, you can continue the software installation, install only Annex Manager, or quit the session.

Installing the Software and Operational Images

The first step in the software installation is to name the directories in which the script installs the RAC resources, utilities and operating images. If you choose option 1 from the main menu above, the script displays the following:

For the installation to proceed, we must copy software to a directory on a hard disk on the host. Please enter the name of the directory to be used.

Enter the name of the Annex Software installation directory. Directory name [/usr/annex/ra_R14.1]:

1. If you choose to accept the default, press Return; otherwise enter a path name.

After you choose a directory, the script displays:

```
Annex Software Installation Script
```

This installation shell script will examine your system and possibly ask you questions to generate the needed configuration to allow you to compile the Annex host utilities.

You can abort the script at any time and restart it without any ill effects. Once the install completes the configuration section, you will need to use

"make all" and "make install"

from the "src" directory to later re-build or re-install the utilities.

At any question prompt you can escape the shell by typing "!". When you exit that shell you bounce back to the question prompt. Many of the questions will have default answers in square brackets; typing carriage return will give you the default.

Type carriage return to continue. Your cursor should be here-->

2. Press Return to continue the installation.

The script displays program locations, then determines the UNIX platform:

Locating common programs...

```
ar is in /bin/ar
awk is in /bin/awk
cat is in /bin/cat
cc is in /bin/cc
chown is in /usr/etc/chown
chmod is in /bin/chmod
cp is in /bin/cp
date is in /bin/date
echo is in /bin/echo
expr is in /bin/expr
grep is in /bin/grep
mkdir is in /bin/mkdir
mv is in /bin/mv
ranlib is in /bin/ranlib
rm is in /bin/rm
sed is in /bin/sed:
```

Don't worry if any of the following aren't found...

```
inetd is in /usr/etc/inetd
pack is in /bin/pack
strip is in /bin/strip
```

The platform has been determined to be SUN

Please indicate the directory where the Annex host utilities are to be installed. You will need at least 2892 KB of disk space in this directory. Enter "?" for help.

Where do you want the Annex utilities installed?
Utility directory [/usr/annex]:

3. If you choose to accept the default, press Return; otherwise enter a pathname.

If the directory already exists from a previous version, you are prompted for another path. If you do not specify another path, the script moves the software in the directory to a save directory.

WARNING: The directory already exists. Host tools in this directory will be renamed prior to installation of new versions.



You do not see a warning if you are installing the software for the first time and the software is not yet in the specified directory.

Installing Operational Images

After you choose a directory for software utilities, the script prompts you for a directory name for operational images and boot files.

Please indicate the directory where the Annex operational images and boot files are to be installed. You will need at least 9792KB of disk space in this directory just to install images. In addition you will need 4 to 8 megabytes for dump files for each Annex serviced by this file server. Enter "?" for help.

BFS directory [/usr/spool/erpcd/bfs]:

4. If you choose to accept the default, press Return; otherwise enter a pathname.

WARNING: The directory already exists. Operational images in this directory will be renamed prior to installation of new versions.



You do not see a warning if you are installing the software for the first time and the software is not yet in the specified directory.

Installing Man Pages

The script next prompts you to install man pages. Man pages are optional; you can install them later if you wish.

```
Do you wish to install manual pages at this time? [y]:
```

1. **If you press Return, the script prompts you for the path. Enter n if you do not want to install man pages.**

```
What directory should be used? (q=quit) [under /usr/share/man in man1]:
```

2. **If you choose to accept the default, press Return; otherwise enter a pathname.**

The script asks you to specify naming conventions for storing the pages:

```
How are manual page extensions handled in /usr/man/man1?
```

0. Abort; don't install manual pages
1. They use a fixed extension like ".1"
2. They use the extension of the manual page (i.e., ".1", ".5", ".8" - note that this is not typical)

```
Enter manual page extension type [1]:
```

```
What is the extension used? [1]:
```

3. **Respond to both prompts to specify how man pages are stored on your system.**

If you are unsure which conventions are used on your host, pause the script by entering a ! at either prompt. Check the usage and return to the script by entering **exit**. You can cancel the man page installation by entering **0** at either prompt.

Installing Binary Images

Next the script offers you three ways to load and compile the binary images.

```
Binary images exist for this host. You should have a
C compiler so you could install source code and compile
it. The recommended option is to install binary images
only.
```

```
Available installation options are:
```

1. Install binary images only (15MB)
2. Install source code only, but do not compile (19MB)
3. Get both binary images and source code, but do not compile (22MB)
4. Quit

```
Enter installation choice [1]:
```

1. Enter 1 for a normal installation.

```
To continue with this installation you need 15 MB of
disk space in directory /usr/annex/ra_R14.0. Please
ensure that this disk space is available.
```

```
You may quit the installation or you may escape to a
shell now to free up disk space and then continue with
this installation (to do this answer "!" at the prompt
below).
```

```
Are you ready to continue (y/q=quit) [y]:
```

2. Press Return to continue.

```
1) 3Com 6117C-XS
    3Com 6133C-XS
    Model 5390 Communications Server
    Cabletron CSMIMII
    Remote Annex 4000
```

```
2) Remote Annex 5391/CT1
    Cabletron CSMIM-T1
    Remote Annex 6100
```

```
3) Cabletron Micro CS
```

Remote Annex 2000

4) Remote Annex 5393/PRI
Remote Annex 6300

5) Model 5399 Remote Access Concentrator
Model 8000 Remote Access Concentrator

6) Install all images

Please select the annex models you will be using.

You can specify a list separated by spaces or 'N' for none:

3. Enter the number for the product you are using.

If you select options 4 or 5, the script prompts you for your geographic location.

1) US/Canada
2) Australia
3) Taiwan
4) Europe
5) Hong Kong
6) Singapore
7) Install all versions

Please select the geographic location most applicable to you.

You can specify a list generated by spaces or CR for none:



If your region does not fall under any of these geographic locations, Bay Networks recommends that you install all versions.

4. Enter the number of your geographic location.

The install script continues loading software and displays filenames and directories onscreen similar to the following:

```
Calling command: tar -xf /mnt/unix/software.tar bfs/  
afd_list bfs/config.annex bfs/modems.annex bfs/
```



```
penril_image bfs/pri_sng-1_2 bfs/oper.64.enet man
bin/SUN src/examples src/snmp src/erpcd
```

This may take some time.

```
*** Installing Annex images ***
```



As the installation proceeds, the script directs the output to the file **install.out** in the working directory for possible use in troubleshooting.

```
Executing "du -s bin/[A-Z]*"
```

```
2413 bin/SUN
```

To save room on your system, the above directories can be removed. You may want to enter "?" at the prompt below to get more help.

```
Remove these directories (y/n) [n]:
```

5. Enter y to remove the directories, or press Return to leave the directories intact.

The script warns you if a file has been updated. It tells you which files the script has moved, and to what directory.

Warning an updated version of modems.annex has been installed.

NOTICE: These files have been saved prior to installing new versions:

```
afd_list config.annex modems.annex oper.64.enet
penril_image pri_sng-1_2
```

They are in directory /usr/spool/erpcd/bfs/PRE-970709.

```
Renaming directory "save" to "OLDsave"
```

Installing Security

The installation script prompts you for the security regime to use for the RAC. The default selection is an enhanced version of the Access Control Protocol (ACP) Server.

The access control protocol server (ACP) that handles security requests depends on data in a file named `acp_regime`. This file does not exist and must be created with a line that specifies a security policy for your site.

```
What is your default security regime:
  1) acp
  2) native UNIX
  3) Secure ID
  4) safeword
  5) kerberos
  6) deny (access will be denied)
  7) none (access is unconditionally granted)
  8) radius
Enter security regime [1]:
```

1. **Press Return to select acp, or enter the number of the security regime you prefer.**

For this security regime you must enter additional information.

```
Enter the name of the password file for the acp regime.
Password file [/usr/annex/acp_passwd]:
```

2. **If you choose to accept the default, press Return; otherwise enter a pathname.**

Do you want the host restrictions specified in `acp_restrict` to apply to PPP and SLIP (IP) connections as well as to CLI telnet and rlogin connections?

```
Do you want restrictions to apply to PPP and SLIP? [n]:
```

3. **Press Return if you do not want the restrictions applied to PPP and SLIP packets. Enter y to ensure that PPP and SLIP packets will not go to access-controlled resources unless they are authenticated.**

If you respond `n`, the `acp_restrict` file is modified to indicate that restrictions only apply to CLI connections. This filters out the packets from otherwise unauthorized traffic and allows the packets to go to the resources. The script makes a backup of the previous `acp_restrict` file in the same directory as the modified file.

```
Do you want the erpcd daemon to provide access control
(y/n) [y]:
```

4. **Press Return to allow erpcd to provide access control, or type n to disable erpcd access control.**
5. **If you select acp, you must edit the acp_regime file after it is created by the installation procedure.**

Change the line:

```
: acp
to:
```

```
:acp:/usr/annex/acp_passwd
```

where the filename following `:acp:` is the full pathname of the **acp_passwd** file.

The script displays the status of updated file copies (if any). Then the script prompts you to install the updated files.

```
Copies of the following files have been updated:
```

```
eservices
```

```
services
```

```
Do you want to install any of these files (y/n) [y]
```

6. Press Return to install the files, or n to finish the installation.

```
NOTICE: NIS was found to be running.
```

```
You must update the NIS services database manually.
```

```
As a guide use the services listed in file save/modified/services.
```

```
The following files/databases remain to be updated:
```

```
services
```

Installing Erpcd

If the script detects **erpcd** (expedited remote procedure call daemon), it prompts you to start up the new **erpcd**, or keep running the old **erpcd**.



If you specify a directory other than the default, you must specify that directory when starting **erpcd**. See [Starting erpcd on page 3-2](#) for more information.

```
There is an erpcd daemon already running.
```

```
Do you want to kill the daemon and start up the new version? (y/n) [y]:
```

7. Press Return to load the new erpcd.

It takes a few minutes to start up the new version of **erpcd**, during which time **erpcd** services are unavailable. After the new **erpcd** starts, the script notifies you that it is done.

```
Starting-up the new version of the erpcd daemon.
```

```
Annex Software Installation Script
```

```
*****
***                                     ***
*****
```

Installing Annex Manager

At this point the main software installation is complete. However, the script prompts you to install Annex Manager. You can install immediately before or after installing the RAC software, or during a separate installation script session.



If you have not yet defined the GUI_AM_DIR variable to the default directory, exit the script to the UNIX prompt and issue the proper command before installing Annex Manager. See [Environment Variables on page 3-1](#) for command syntax.

The installation script requires several decisions such as naming a directory for the utility, identifying ownership and users, and determining whether to merge data from previous Annex Manager versions. In addition to running the script, installing the utility involves setting some environment variables and specifying permissions.

1. **At the following prompt press Return to install Annex Manager.**

```
Do you wish to install the Annex Manager? (y/n/q=quit)
[y]:
```



If you are installing Annex Manager by itself, you must invoke the installation script from the media as described in [Loading the Installation Script on page 2-1](#).

For the installation to proceed, we must copy software to a directory on a hard disk on the host. Please enter the name of the directory to be used.

```
Enter the name of the Annex Manager installation
directory.
```

```
Directory name: [/usr/annex/gui_am_R3.1]:
```

2. **If you choose to accept the default, press Return; otherwise enter a pathname.**

The script displays information about the variable GUI_AM_DIR. If the script detects a previous version of GUI_AM_DIR, it displays the following message:

```
Beginning Annex Manager R3.1 Installation
```

```
The environment variable GUI_AM_DIR is set to '/usr/annex'. The installation script will merge data from the current installation (unknown) in '/usr/annex' into the installation directory, 'usr/annex/gui_am_R3.0'.
```

```
If this is correct press 'c' to continue. Otherwise,
```

```
- abort by pressing 'a'
```

```
- make the necessary changes for your correct installation
```

```
- restart the installation process
```

```
Continue (c/a)
```

3. Press c to continue, or a to abort and make changes.

The script detects your operating system.

```
The installation program has detected that you are currently running the SunOS operating system.
```

```
Is this correct (y/n) [y]
```

4. Verify the identification by pressing the Return key.

Now the script addresses Annex Manager access privileges.

Specifying Access Privileges

The script prompts you for access privileges. By default, the owner is **root** and the group id is **bin**.

```
The installation program will change the ownership of Annex Manager files to root.
```

```
Only owners of certain configuration files may modify those files.
```

```
To have the installation script change the ownership to another user id, enter the username now or press return to accept root.
```

```
Enter Username [root]:
```

```
The installation program will change the group id of Annex Manager files and directories to group 'bin'. Only members of this group can add data files.
```

To have the installation script change the group id, enter the group id now, or press return to accept bin.
Enter Group id [bin]

1. Enter a group id, or press Return to accept the default.

Annex Manager will be installed in /usr/annex/
gui_am_R3.1

If this is the correct directory press 'c' to continue or 'a' to abort the installation.

Continue or Abort (c/a) [c]

2. Press c to install the Annex Manager according to your preferences, or press a to abort.

The script installs the software and displays the status onscreen. You will see similar messages as the following:

```
Installing Annex Manager R3.1 into 'usr/annex/  
GUI_AM_R3.1'...
```



If the GUI_AM_R3.1 directory already exists from a previous installation, the script prompts you to abort the install and back up the existing directory. The script allows you to remove (overwrite) the existing directory and continue the install.

```
Extracting data files...
```

```
Extracting SunOS version of executable and uid...
```

```
Error: Cannot merge old data.
```

```
'/usr/annex/bin' does not exist.
```

In order for users to configure the Annex (use Set, Execute Script, Copy, Boot, and Reset commands) you must enter their user names in the user access list automatically.

```
This is the current access list
```

```
root
```

```
Do you want to add other names to the user access list  
(y/n) [y]
```

3. If you press Return the script prompts you to add additional usernames. This allows each user complete access to Annex Manager files and functionality. If you choose not to add names to the user access list, press n.

The script processes the user access list and then prompts you for a color scheme.

```
Enter user name (one per line) to permit set access.
Type "<CR>", "." or ^d on a line by itself to end.
Enter a ? to print the current access list
```

```
User name [<CR> to end]:jsmith
```

```
What default color scheme do you want (c=color/m=mono)
[c]
```

4. Press Return or m for monochrome viewing.



If you are reinstalling Annex Manager, the script asks whether you want to replace the old version of Annex Manager. If you are installing for the first time, skip step 5 and go to [Environment Variables on page 3-1](#).

5. If you want to replace the old version press Return or enter n.

```
Do you want to replace the old version (/usr/annex/
unknown) with /usr/annex/gui_am_R3.1 (y/n) [y]
```

```
Finishing installation...
```

```
Installation complete.
```

To run Annex Manager, you need to set your environment as follows:

1. If you have changed the recommended installation directory, set the GUI_AM_DIR environment variable to /usr/annex/gui_am_R3.1
2. Put the /usr/annex/gui_am_dirR3.1/bin directory in your path
3. Set the DISPLAY environment to point to the host where you want Annex Manager to appear.

You can put these commands in your.cshrc,.login,.profile or some other equivalent script.

To run the Annex Manager, type 'gui_am' at the shell prompt. Consult the README file for release information.

```
All Products installed.
```


Chapter 3

Setting Environment Services

After running the installation script, you must perform several other tasks to get the RAC software up and running. You must set environment variables to run Annex Manager.

Environment Variables

The following sample commands set the environment variables to the default installation directory **/usr/annex/gui_am_R3.1**:

```
setenv DISPLAY <host name>:0
```

For C-shell:

```
setenv PATH ${PATH}:/usr/annex/gui_am_R3.1/bin
```

For Bourne and Korn shells:

```
setenv PATH=$PATH:/usr/annex/gui_am_R3.1/bin
export PATH
```

If you changed the Annex Manager installation directory, you must also set the GUI_AM_DIR variable to that directory:

```
setenv GUI_AM_DIR <installation directory>
```

Tms-Database

In order to update the tms-database files, you must execute the command below. This command ensures that the software recognizes the previous tms-database files.

```
tms convert -m
```

Starting Annex Manager

To start Annex Manager, enter:

```
gui_am
```

This command can be incorporated into the shell start-up scripts.

If you are maintaining a previous version of Annex Manager for use with RACs not running R14.0 or R13.3, you must reset the `GUI_AM_DIR` variable to the older version's installation directory and then start the Annex Manager from the appropriate `/bin` directory.

Starting erpcd

If you installed the supplied binary files in directories other than the default selections, you must use the `-f` and `-s` switches to redirect **erpcd** to the other directories. The `-f` switch identifies where the software utilities are installed; the `-s` switch identifies the operating images file.

```
erpcd -f <utilities directory> -s <operating images file>
```

For example, if you loaded the utilities in `/usr/annex/util` and the operating images in `/usr/annex/boot`, start **erpcd** with this command:

```
erpcd -f /usr/annex/util -s /usr/annex/boot
```

Appendix A

Reference Information

System Requirements

Depending on the specific host, the software requires from 12 to 24 megabytes of disk space for installation and operation. [Table A-1](#) estimates disk requirements for various installation options and operating modes.

Table A-1. Disk Requirements for Installation and Operation

Option	Disk Requirements
Install pre-compiled binary files	8 MB
Load source code and compile	12 MB
Install pre-compiled binary and source files	12 MB
Install Annex Manager	10 MB (additional)
Log RAC activity	8 MB allocated for each memory dump

Supported Operating Systems

The following sections describe the UNIX operating systems that the software and Annex Manager support.

Table A-2. Supported Platforms

Operating System Version	Files Available
BSDI 2.1	Binary files and source code
Digital Equipment Corporation UNIX 4.0	binary files and source code
Hewlett-Packard HP-UX 9.05, 10.10	binary files and source code
IBM AIX 4.1.4	Binary files and source code
Red Hat 3.0.3 LINUX (1.2.13 kernel)	Compile files only
Red Hat 4.0 LINUX (2.0.18 kernel) (see note following table)	Binary and compile files
SCO 3.2	Binary files and source code
SGI IRIX 6.2	Source code only
SunOS 4.1.3, 4.1.4	Binary files and source code
Solaris 2.4, 2.5.2	Binary files and source code

Table A-3. Binary and Source Code Options

Condition	Options
The software supports the platform and there is a binary image available.	Install the binary files only. or Load the binary files and the source code but do not compile. or Load only the source code to be compiled later.
The software supports the platform, but there is no binary image available.	Load the source code and build the image using the resident compiler. or Load the source code and build the image later.
The software supports the platform, but there are no binary files and the script could not identify a compiler on the host system.	Quit the installation process.
The script did not detect a supported operating system.	The script presents a menu of possible host systems. Select the operating system that is most like your host system. As you proceed with the compilation of the source code, the script prompts you with questions to further qualify the characteristics of the operating system. or Quit the installation.



Before loading the software on systems running LINUX 2.0 kernels, you may need to edit an **include** file as described in the following procedure.

If you are loading the software on LINUX hosts with kernel version 2.0, you must edit the **/usr/include/time.h** file as follows:

1. **Open the file and search for the “const” keyword.**
2. **Change “const” to “__const” as shown.**

```
extern int nanosleep __P((__const struct timespec *__rtp
```

3. **Save the file and exit.**

Table A-4. Host-Specific Annex Manager Software Requirements

System	Operating Environment
Sun	Annex Manager runs on SPARC systems under SunOS 4.1.3 and 4.1.4, and under Solaris 2.4 and 2.5.1. For SunOS versions earlier than 4.1.3, the following patches are required: Patch number 100444-48 OpenWindows 3.0: OpenWindows V3.0 Server Patch 3000-86 Patch number 100492-01_09 OpenWindows 3.0: jumbo patch for olwm 3.0
HP-UX	Annex Manager runs under HP-UX 9.05 and 10.10 on HP 9000 Series 700 workstations.
IBM	Annex Manager runs on IBM RS/6000 workstations under AIX 4.1.4.
SCO	Annex Manager runs under SCO/UNIX Release 3.2 and 5.0, and the X windowing system. You should have a 486 CPU with 16 MB of RAM, 20 MB megabytes of disk space available, and a CD-ROM drive or a 3.5 inch diskette drive to install the software.

Upgrading from Previous Versions

You can install this version of software on a system already serving as a host without disrupting operation of **erpcd** or other RAC host functions. The installation script creates a separate, version-specific directory for the new software. If you install the same version of the software and Annex Manager, the script creates separate directories for new and old copies of the same version.

When all software is loaded, the script asks whether you want to use the new version of **erpcd** or wait. Whichever option you choose, the change-over takes a few minutes (during which **erpcd** operations are not available). If there is a problem with the newly installed software, you can revert back to the previous version, which is now stored in the **save** directory. When you are satisfied with the new version, you can remove the older version from the host system.

The script also allows you to save existing settings when installing Annex Manager on a host that has an earlier version. As with the installation of the RAC operating software, the script creates a version-specific directory for the new software. If you choose, the script extracts parameter settings from the previous Annex Manager and merge them with the new Annex Manager.



For the script to merge data from the currently installed Annex Manager into the new version, you must set the environment variable `GUI_AM_DIR` to the directory in which the current version is installed.

For example, if Annex Manager is installed in **/usr/annex/gui_am_R3.1**, enter the following command before starting the installation script:

```
%setenv GUI_AM_DIR /usr/annex/gui_am_R3.
```

Reinstalling the Software

You can reinstall the software or Annex Manager using the installation script and tar files that were copied to the hard drive during the initial installation.

To reinstall the software:

1. **Log on the host system as root.**

```
su
Password:
```

2. **Change to the install directory.**

```
cd /usr/annex
```

3. **Start the install script.**

```
setup/install
```

4. **When the script prompts you for the type of installation, enter 4 for *Reinstall from previously extracted software on hard drive*.**

```
What type of install will be performed?
1. Floppy Disks
2. Tape
3. Tarfile previously copied to hard disk
4. Reinstall from previously extracted
   software on hard drive
5. Quit
```

```
Enter the install source type [1]: 4
```

5. **At the next prompt, specify the installation directory for the location of the extracted files.**

```
Enter the name of the Annex Software Installation
Directory
Directory Name: /usr/annex/ra_R14.0
```

Continue the installation as described in [Beginning the Installation](#) on page 2-2.

The CD-ROM Media

The host system software is distributed on CD. Make sure the host system on which you are installing has a CD-ROM drive, or a network with a mounted CD-ROM system. The media contains:

- Installation script
- Pre-compiled binary files for supported platforms
- The software man pages
- Source code for RAC host software
- Downloadable images
- Executable versions of Annex Manager and supported platforms
- X-Motif resources and related files for Annex Manager

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