

FALLS®
Server v3.1
SYSTEM
ADMINISTRATOR'S
GUIDE

M210429EN-A
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CHAPTER 1

GENERAL INFORMATION

About This Manual

This manual provides system administration information for the FALLS® Server v3.1.

Contents of This Manual

This manual consists of the following chapters:

- Chapter 1, General Information, provides important safety, revision history, contact, and warranty information for the product.
- Chapter 2, Introduction, provides information regarding FALLS concepts, Client/Server relationships, the Sybase™ Server, and MapInfo®/GIS concepts, along with connectivity descriptions.
- Chapter 3, Solaris System Administration, provides information pertaining to system startup and shutdown, logging in, and the Solaris® desktop environment.
- Chapter 4, Administration at the Client, provides information on performing backups, setting permissions, sharing FALLS directories, retrieving lightning data, and other administrative tasks.
- Chapter 5, FALLS WEB Management, provides information on using the FALLS Web Management interface.

Version Information

Table 1 Manual Revisions

Manual Code	Description
40145 REV 9704	Server software version 1.1.0
40145 REV 9910	Server software version 3.0.0
45521-A	Server software version 3.1.0
M210429EN-A	This manual

Related Manuals

Table 2 Related Manuals

Manual Code	Manual Name
40200 Rev B	FALLS® Installation Guide
40119 Rev B	FALLS® User's Guide

Document Conventions

Different typefaces, type styles, and phraseology indicate specific user interactions with the system as illustrated in Table 3 below.

Table 3 Document Conventions

Item	Example
System prompts, source code, and program output are in a mono-spaced typeface.	<code>c:\temp></code>
User input is a bold, mono-spaced typeface.	vo1check
Optional entry is enclosed in square brackets (for example, /v).	format a: [/v]
Descriptive term used in place of user-specific name is in italics and enclosed in angle brackets (for example, table).	the <i><table></i> .map file
Key names are all capital letters.	ENTER
Use of ENTER key at the end of a command	<ENTER>
Key combinations that are held down simultaneously are all capital letters and separated by a plus symbol.	CTRL+X
ASCII values are enclosed in angle brackets.	<CR><LF>
User interface items and command words are in bold.	Click Cancel or use the quit command.

Safety

General Safety Considerations

Throughout the manual, important safety considerations are highlighted as follows:

WARNING

Warning alerts you to a serious hazard. If you do not read and follow instructions very carefully at this point, there is a risk of injury or even death.

CAUTION

Caution warns you of a potential hazard. If you do not read and follow instructions carefully at this point, the product could be damaged or important data could be lost.

NOTE

Note highlights important information on using the product.

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Technical Support

For technical support, return authorization (RMA), repair status, and spare parts, contact the Customer Response Center.

Tel: 1 888 424 9899 (within USA & Canada)
+011 520 294 2145 (international)

E-mail: thunderstorm.support@vaisala.com
thunderstorm.netsupport@vaisala.com

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CHAPTER 2

INTRODUCTION

This manual provides system administration information for the FALLS[®] Server applications. Many of the system administration tasks require that you have a thorough knowledge of the operating systems used by the FALLS Client and FALLS Server.

FALLS Concepts

The Fault Analysis and Lightning Location System[™] (FALLS) is an application used to analyze the effects of lightning on geographical regions or assets. FALLS uses lightning data from one of the following sources:

- National Lightning Detection Network[®] (NLDN[®]) in the USA
- Canadian Lightning Detection Network (CLDN) in Canada
- DA2000[™] connected to an LP Series[™] central analyzer

FALLS is a Client/Server system composed of a Sybase[™] structured query language (SQL) Server and MapInfo Clients.

Client/Server

Client/Server is a term used to describe a distributed application architecture in which portions of the application logic, processing, and data storage are split between Server and Client components. The Server component is usually a shared resource responsible for data management, access control, first-level data processing, and a small

portion of the application logic. The Client components are distributed to each user of the system, and are responsible for the user interface, the majority of the application logic, and some percentage of the data processing.

The FALLS Client/Server system consists of a Sun® Solaris server, and one or more clients running on a Windows® operating system. The connection between the clients and server is a Transmission Control Protocol/Internet Protocol (TCP/IP) network. The TCP/IP network may be comprised of a local area network (LAN), a wide area network (WAN), and/or dial-up point-to-point protocol (PPP) links.

Sybase SQL Server

The Server component of the FALLS Client/Server architecture is a Sybase SQL™ Server. Sybase provides robust, high performance data management, access control, and some of the low-level application logic needed in the FALLS system. Sybase also provides open access across any TCP/IP LAN or WAN through its Open Client™ libraries and/or Database Management System (DBMS) drivers.

The primary means of communicating with a Sybase SQL Server is with SQL commands. SQL commands provide set-based operations for selecting, inserting, and updating data in the various Sybase databases. An example SQL command that would show all parameters for lightning that occurred in a particular time interval follows:

```
select * from strokes where time between "1 Jan 1997" and  
"1 Mar 1997"
```

Sybase uses a method for encapsulating application logic in a procedural form called stored procedures, which are similar to functions in C. Sybase stored procedures accept a parameter list and can return either result sets, as from a **select** statement, or a single value such as an error code. An example of a Sybase stored procedure call follows:

```
exec histetime @ltgsources=12, @addsec=0
```

FALLS makes extensive use of stored procedures to process and aggregate lightning data on the Server. This drastically minimizes the data transfer between Server and Client components for many FALLS operations.

MapInfo GIS as a Client

MapInfo is a geographic information system (GIS) application that provides mapping, spatial analysis, graphing, and basic page layout tools. MapInfo connects to the Sybase SQL Server as a client application, by using the Sybase Open Client library and a DBMS driver.

MapInfo passes SQL statements, such as the above **select** and **exec** statements, to the Sybase server, saving the results as MapInfo tables and plotting them as either map objects or graphs. MapInfo acts as the geographical calculation engine, performing spatial correlations for FALLS exposure and reliability analyses.

MapInfo imports map data that describes assets to be analyzed, or that provides GIS information such as topography and soil data in multiple map data formats. Refer to the MapInfo manual and web site for a list of supported map data formats. Several commercial applications are available that can convert map data formats to one supported by MapInfo.

Supported Operating Systems

The FALLS Server runs on the Solaris 8 operating system.

The FALLS Client runs on the following Microsoft® operating systems:

- Windows® 2000, or Windows® 2000 with Service Pack 2
- Windows NT® 4.0 with Service Pack 3, 4, 5, 6 or 6a
- Windows® 98 Second Edition only

FALLS has not been tested with any other operating systems or Service Pack combinations.

Workstation Requirements

The requirements for the FALLS Server workstation vary depending on the individual customer needs. If you already have a FALLS Server workstation, refer to the workstation manufacturer's documentation for

the specifications. Otherwise, contact your Vaisala sales representative to find out the configuration that best suits your needs.

The minimum requirements for the FALLS Client workstation follow:

- Pentium® class CPU with 100 Mhz clock
- Windows® 2000, Windows NT®, or Windows® 98 operating system
- 128 Mb RAM (256 Mb is recommended)
- 500 Mb free storage for FALLS applications (Data storage is additional)
- CD-ROM and floppy disk drives
- Monitor and video card capable of 800x600 dpi resolution and 256 colors
- Keyboard and pointing device
- TCP/IP network connectivity (for access to local FALLS Server or to Vaisala FALLS Server using SSH/Internet option)
- HTML web browser installed

Configuration Illustrations

The following figures illustrate typical hardware connections to the server, and the FALLS software connectivity.

See Figure 1 on page 11 for an illustration depicting the hardware connections for a local FALLS server.

See Figure 2 on page 12 for an illustration depicting various files and components used by FALLS.

Hardware Connectivity

Figure 1 below depicts the typical hardware connections to a local FALLS Server workstation and optional components.

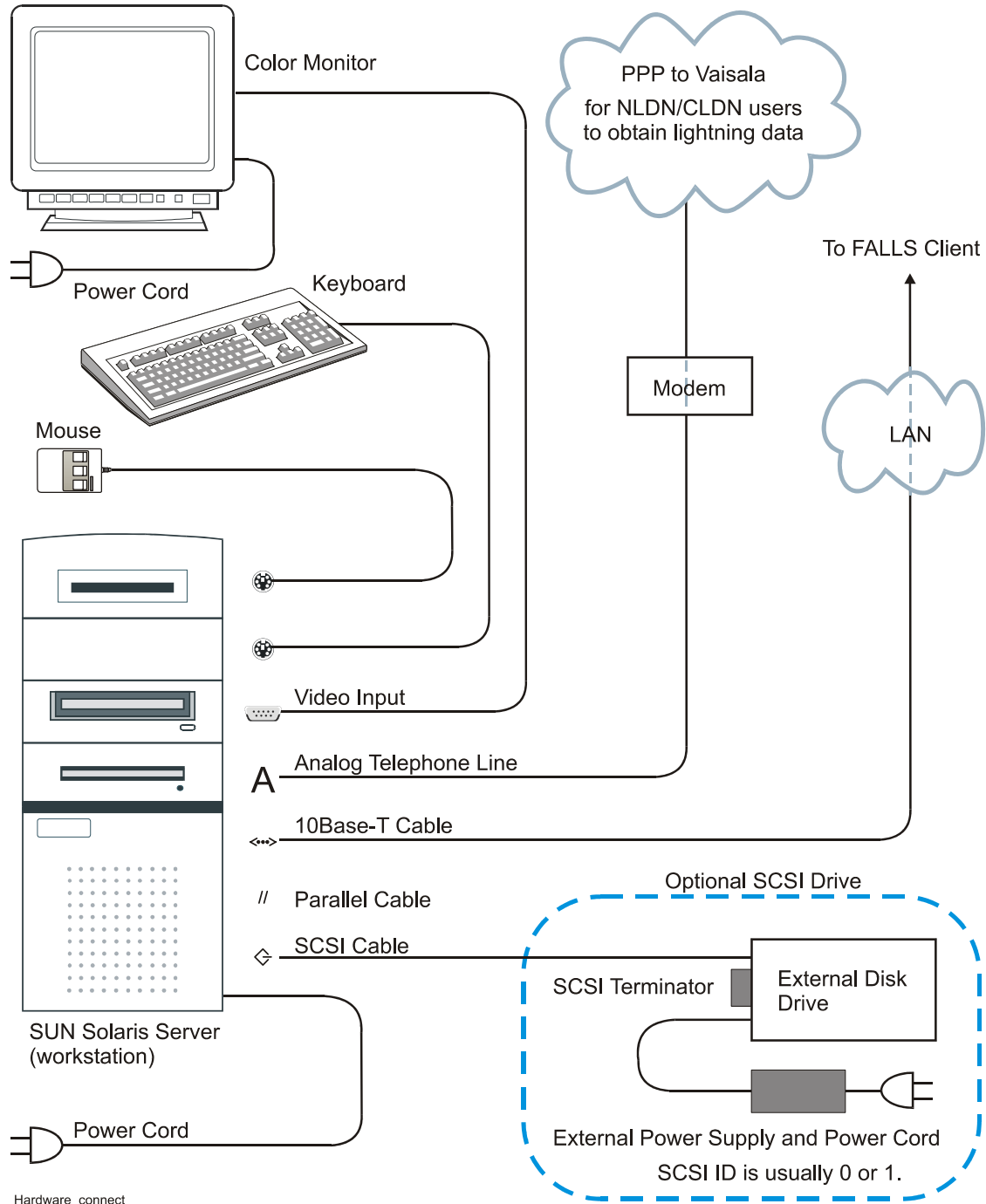


Figure 1 Typical Connections to a Local FALLS Server

Software Connectivity

Figure 2 below depicts various files and software components used by FALLS and a local server.

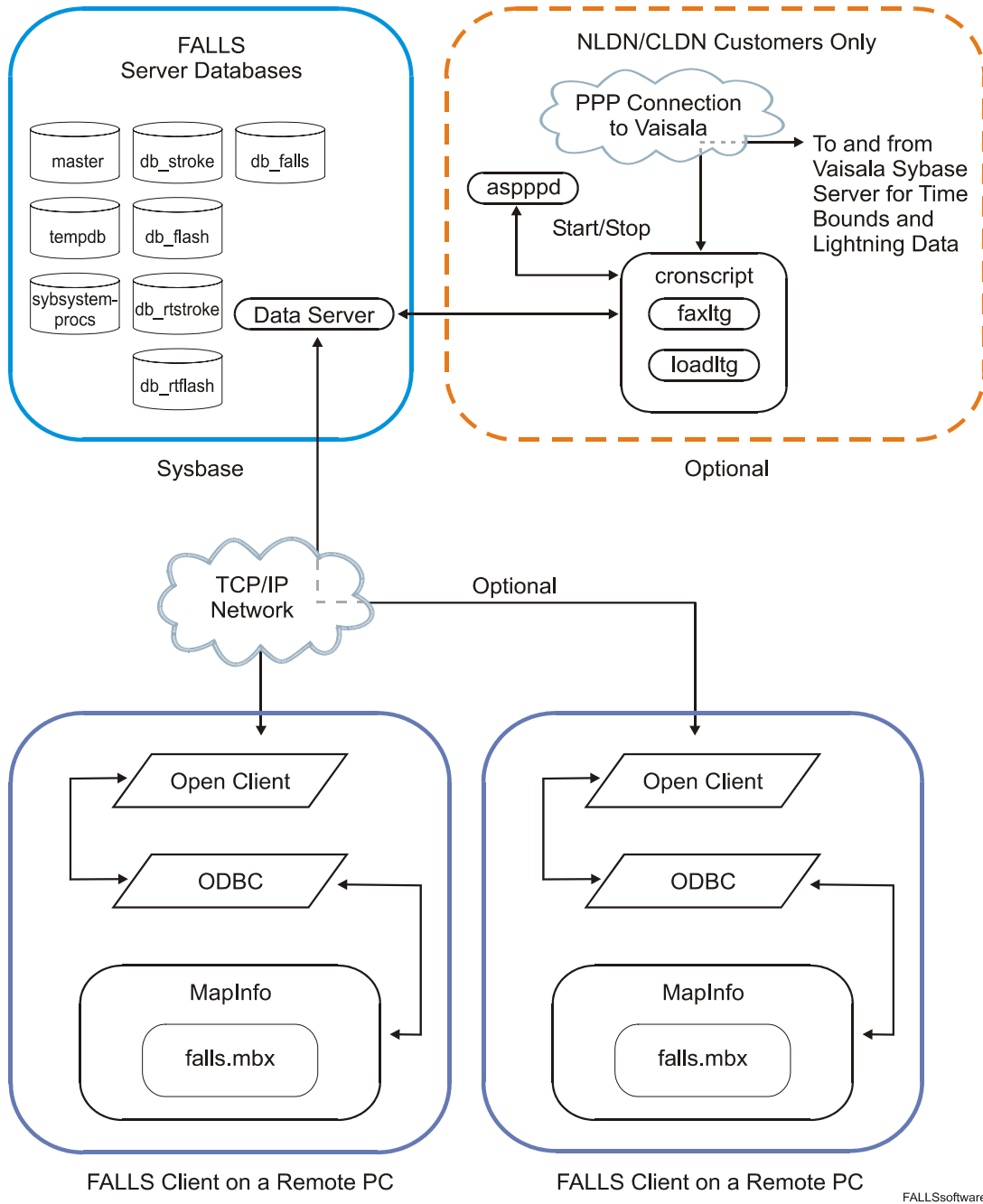


Figure 2 FALLS Software Connectivity

CHAPTER 3

SOLARIS SYSTEM ADMINISTRATION

System Startup and Shutdown

CAUTION

DO NOT SHUT DOWN YOUR SYSTEM BY TURNING OFF THE POWER SWITCH. Failure to shut down your FALLS Server workstation properly can corrupt the file system. See section Shutdown and Reboot on page 15 for proper shutdown procedures.

Startup

Ensure that the system hardware and peripherals for the FALLS Server workstation are installed according to the manufacturers' documentation. Figure 1 on page 11 illustrates the connections for a typical workstation. Ensure that all power cords and cables are connected to a properly grounded power source.

To properly power-on the hardware:

1. Turn on any external accessories for the FALLS Server workstation, such as the modem, the external disk (if present), and the printer (if present).

CAUTION

Always turn on the power for external disks before turning on the power on the FALLS Server workstation. If you do not, databases on any external disks are marked as unusable.

2. Turn on the power to the monitor.
3. Turn on the power for the FALLS Server workstation.

The FALLS Server workstation beeps once, and the monitor will display a white screen. After several seconds, the boot process begins and text messages print to the screen. These messages indicate the various stages of the boot process, along with system utilities initiated.

If any critical errors occur during the boot process, error messages display on the screen. If any error messages display, or if the message **enter root password for System maintenance** displays, call the Customer Response Center. If you have a qualified Solaris System Administrator available, that person may be able to help diagnose the problem.

When the FALLS Server workstation successfully starts, a Solaris login screen similar to Figure 3 below displays.

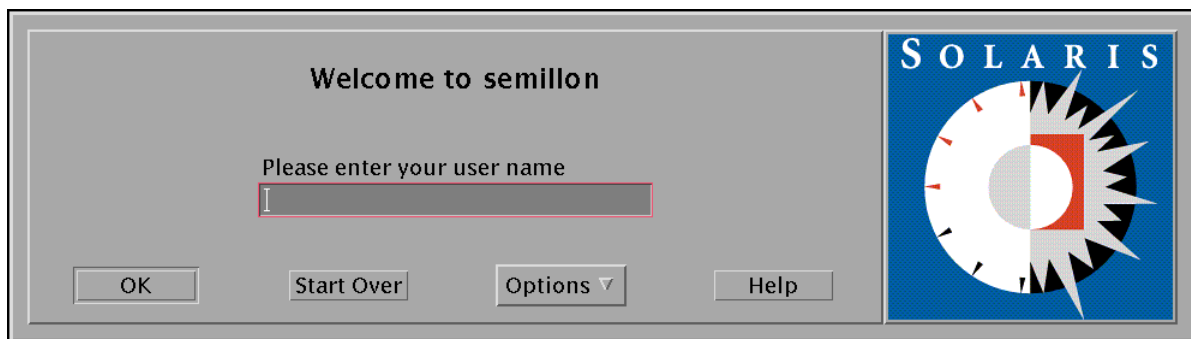


Figure 3 Solaris Login Screen

At this point remote FALLS Clients can log into the system and begin to use the FALLS application. It is not necessary to log in to the FALLS Server workstation for FALLS Clients to begin using FALLS.

Shutdown and Reboot

Refer to the Solaris documentation for instructions on shutting down and rebooting your system.

CAUTION

The FALLS Server workstation must be shut down properly. Failure to do so can cause corruption of the system or FALLS-related data. This same corruption can occur if the system loses power. Therefore, it is recommended that the FALLS Server workstation have proper AC power conditioning and a backup power source, or, minimally, an uninterruptible power supply (UPS).

The FALLS Server uses basic shutdown and reboot commands, Table 4 below describes the most commonly used commands.

Table 4 Shutdown and Reboot Commands

Command	Description
<code>init 6</code>	Shut down the FALLS Server workstation and reboot.
<code>init 5</code>	Shut down the FALLS Server workstation and power off. Wait for the FALLS Server workstation's power switch to click before unplugging the workstation. Turn off monitors and external disks manually.
<code>init 0</code>	Shut down the system to the boot prompt (ok). To add new hardware to the system, enter <code>boot -r</code> after the ok prompt. Sun Sparcstations only—to diagnose SCSI connectivity problems, enter <code>probe-scsi</code> after the ok prompt. To power down the FALLS Server workstation, turn off the power switch when the ok prompt is displayed.
<code>shutdown</code>	With no options, this command shuts down the system to single user mode in one minute. Single user mode allows only one login at the console.

The **init 6** and **init 5** commands are used most frequently.

Before adding new hardware, such as a disk or tape drive, contact the Customer Response Center.

If users are accessing the system with Telnet, you may allow a grace period and warn them of a shutdown in progress before the actual shutdown occurs. The following example command would shut down the system in 180 seconds (3 minutes) to **init 0** state, tell users the shutdown is for replacing a disk, and answer yes to the final **Do you want to continue? (y/n)** question when it displays:

```
shutdown -g 180 -i 0 '==== disk replacement ==== ' -y.
```

Logging In

Solaris, like all UNIX operating systems, employs and enforces the concept of login (or user) accounts. Whenever the system is used, a user must log into an account. The user account sets privileges and maintains configurations for multiple users of the same machine. Most FALLS Server workstations configured by Vaisala have three user accounts useful to a System Administrator:

- *root* which is used for software installation, shutting down and rebooting the FALLS Server workstation, and low-level administration tasks
- *sybase* which is used to run the Sybase SQL Server, described in Chapter 2
- *falls* which is used to perform most of the administration tasks described in this manual

NOTE

The UNIX command line is case sensitive. Use the appropriate upper- or lower-case letters for account names and passwords.

Logging in as the root User

Sometimes called the superuser account, the root account is common to all UNIX workstations. This account has access to all files and devices on the FALLS Server workstation. Any erroneous action while in the root account could permanently impair operation of the FALLS Server workstation. Therefore, use the root account with great care. If you are unsure of an action, contact the Customer Response Center first.

Usually, the only time the FALLS System Administrator would log in as the root user is to shut down the FALLS Server workstation. It is recommended that you are physically at the FALLS Server workstation console when logging in as the root user.

To log in to the FALLS Server workstation as the root user:

If a character-based serial terminal is being used, proceed to step 3.

1. If currently logged in to Solaris CDE (section Solaris Common Desktop Environment on page 19) on the system console, log out

by clicking **Exit** on the CDE Front Panel (see Figure 5 on page 21).

2. At the Solaris login screen (Figure 3 on page 14), click **Options** and select **Command Line Login**. The Solaris login screen will disappear and some text displays on the screen.
3. Press ENTER one or more times until the following prompt displays:
login:
4. Type **root** and press ENTER to display the following prompt:
Password:
5. Enter the root password for your system. FALLS Server workstations shipped from Vaisala have an initial root password of *1996APA*.

NOTE

You must log in within 20 seconds of selecting **Command Line Login**, or the Solaris login screen will display.

6. If the Solaris login screen displays while you are attempting to log in, return to step 1. You may need to press ENTER several times to get a login prompt.
7. If you successfully logged in, a # prompt is displayed. Type **id** and press ENTER. The following text displays:
uid=0(root) gid=1(other)
8. If something other than the # prompt is displayed, you have not successfully logged in as the root user. Call the Customer Response Center for help before continuing.

You may now reboot or shut down the FALLS Server workstation, as described in section Shutdown and Reboot on page 15. If you need to perform other Solaris administration tasks, contact the Customer Response Center to ensure that any changes you intend to make do not affect operation of the FALLS Server workstation.

To return to the Solaris login screen without rebooting the FALLS Server workstation, enter **exit** after the # prompt.

Logging in as the falls User

Most administrative tasks can be performed while logged in to the FALLS Server workstation as the falls user. This account is set up during the installation of FALLS and configured by Vaisala.

To log in to the FALLS Server workstation as the falls user from the workstation console:

1. Verify the screen currently displayed on the FALLS Server workstation monitor:
 - a. If the screen is the Solaris login screen (see Figure 3 on page 14), continue with step 2.
 - b. If the screen is a white screen with a # prompt, type **exit**, press ENTER and continue with step 2.
 - c. If you are currently logged in to Solaris CDE (see section Solaris Common Desktop Environment on page 19), click **Exit** on the CDE Front Panel (see Figure 5 on page 21), confirm that you want to log out, and continue with step 2.
2. In the text box, type **falls** and press ENTER.
3. When prompted for your password, type the password for the falls account in the text box and press ENTER. FALLS Server workstations have an initial password of *fallsuser* for the falls account when shipped from Vaisala.
4. If the login attempt failed, a dialog box displays **Login incorrect; please try again**. Click **OK** and return to step 2.
5. If the login attempt succeeded, a white screen displays the **Welcome To Solaris** logo for several seconds, and then the Solaris CDE desktop, described in section Solaris Common Desktop Environment on page 19, displays.

To log in to the FALLS Server workstation as the falls user from a FALLS Client:

- See section Logging in to the FALLS Server Workstation on page 39.

To log in to a FALLS Server workstation that has a character-based serial terminal:

1. Press ENTER to get to the login prompt.
2. Type **falls** and press ENTER.

3. At the password prompt, enter the password for the falls account (typically, it is *fallsuser*), then press ENTER.

If the login succeeded, a screen prompt displays similar to the following:

```
hostname:falls{n}>
```

Solaris Common Desktop Environment

If you are using a FALLS Server workstation with a character-based serial terminal (often referred to as a dumb terminal), proceed to section UNIX Command Line on page 24 for tasks which may be performed at the UNIX command line.

The Solaris Common Desktop Environment (CDE) is included as part of the Sun Solaris operating system. Solaris CDE is a graphical interface which uses the X Windows graphics protocol to display and manipulate windows, access applications, and set configuration options.

Figure 4 on page 20 represents the Solaris CDE desktop as configured by Vaisala for the falls account. The look of your Solaris CDE may

differ from screens illustrated in this manual, because Solaris CDE is customizable and varies based on the Solaris operating system.

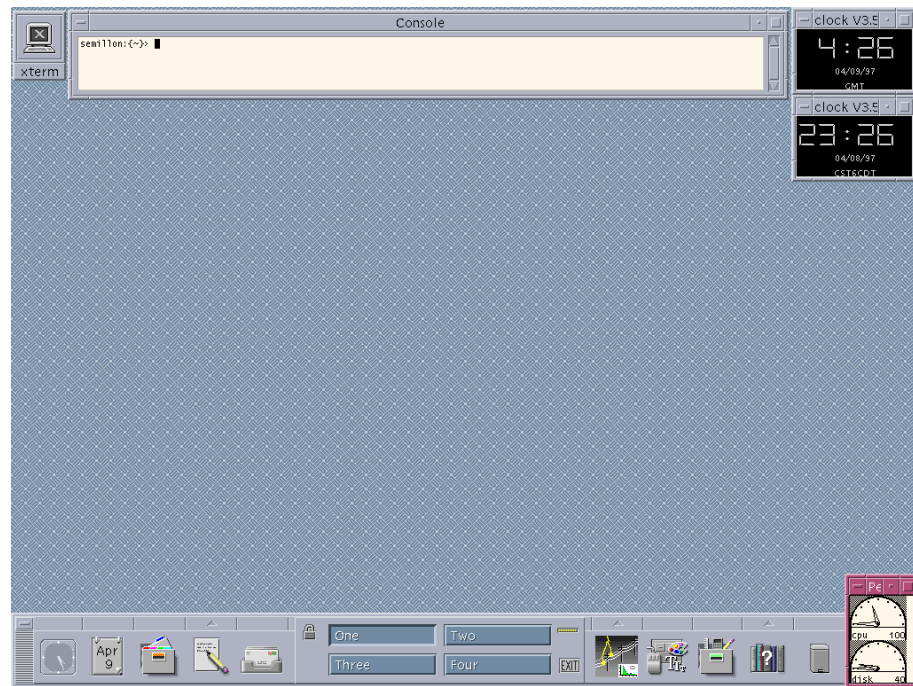


Figure 4 Solaris CDE Desktop

Logging in to Solaris CDE as the falls user is covered in section Logging in as the falls User on page 18. The same login sequence is used for other accounts that may have been configured in a multi-user FALLS environment.

You will need to be familiar with the use of the following:

- Solaris CDE
- File management commands
- Basic pipes and redirections
- Piping in the Terminal window
- OpenWindows File Manager
- File Manager window
- A text editor to open and modify files
- The OpenWindows File Manager and the Terminal window to check for and eject diskettes
- The Terminal application

Because procedures may differ with the version of Solaris, refer to the Solaris documentation for instructions on doing the following:

- Accessing the UNIX command line
- Changing and creating directories
- Listing the contents of a directory
- Opening and closing documents
- Moving a file
- Copying a file
- Renaming a file
- Removing (deleting) a file
- Displaying and/or combining files
- Accessing the manual (**man**) page for a command description

CDE Front Panel

The CDE Front Panel (see Figure 5 below) is at the bottom of the Solaris CDE desktop. The CDE Front Panel contains buttons (controls), managers, and pop-up menus to perform various tasks in Solaris CDE (icons illustrated here are representative).

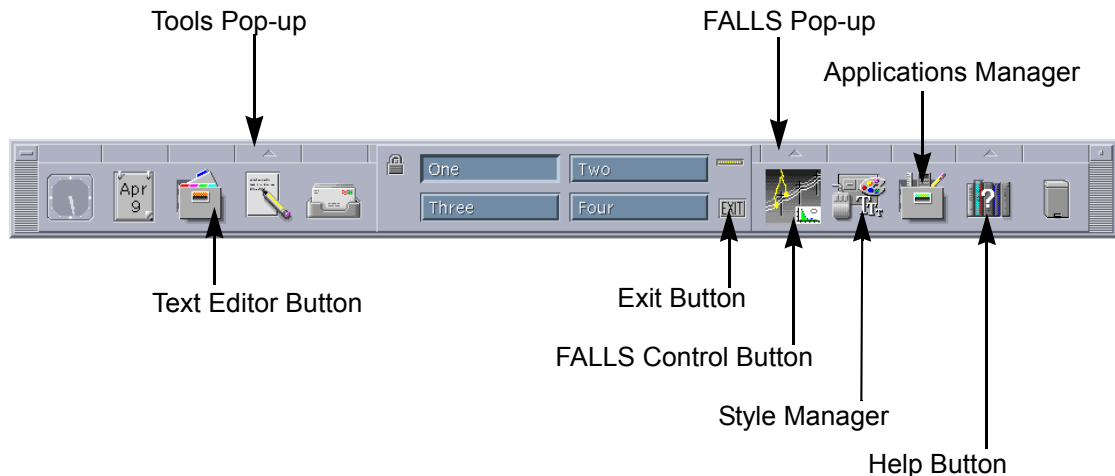


Figure 5 CDE Front Panel

A single-click of the left mouse button activates the Solaris CDE buttons, pop-ups, and managers. Activating a pop-up displays a menu

of additional items that can be selected. Table 5 below describes the features on the CDE Front Panel that are relate to FALLS.

Table 5 **FALLS-Related Features on CDE Front Panel**

Feature	Description
Exit button	Click to log out and exit from Solaris CDE and return to the Solaris login screen.
Style Manager button	Click to select screen colors and fonts, and preserve window locations for the next time you log in. For more information on this feature, click Help on the CDE Front Panel.
FALLS Control button	Click to start the FALLS Control database monitoring application.
FALLS pop-up menu	Click to select the FALLS application and management tools: Stop PPP, Start PPP, FALLS Control, Dial For Data. For detailed descriptions of these tools, see section FALLS Utilities on page 29.
Tools pop-up menu	Click to select the Terminal or Text Editor options. The Terminal option starts the Terminal application, which provides access to the UNIX command line (see section UNIX Command Line on page 24). The Text Editor option starts the Text Editor application, which lets you edit workspace (*.wor) files for FALLS.

System Clock Windows

The Solaris CDE desktop for the falls account usually displays two clock windows in the upper right corner, as illustrated in Figure 4 on page 20. The top clock displays the time in GMT (Greenwich Mean Time). The bottom clock displays the time for the local time zone.

The two clocks are useful for calculating GMT from local time and vice versa when entering and reading dates and times from the FALLS software.

Refer to the Solaris documentation for instructions on setting and displaying the two clocks. Changing the settings for the two clocks has no effect on the settings used by the workstations's internal clock.

NOTE

A time zone format such as EST5EDT represents the following:

EST = abbreviation for Eastern Standard Time zone

5 = number of hours prior to GMT

EDT = automatic switching between Eastern Daylight Savings time and standard time

The US/Eastern and similar time zones perform the daylight saving time transition as well.

Performance Meter Window

The Performance Meter window, usually displayed in the lower right corner of the Solaris CDE desktop (Figure 4 on page 20), has two dials. The top dial displays processor activity and the bottom dial displays disk activity. The short hand in each dial represents a long sampling interval (20–30 seconds), indicating long-term trends. The long hand in each dial represents a short sampling interval, indicating near-instantaneous status. Observe these dials to determine the level of FALLS activities on the system.

Refer to the Solaris documentation for instructions on displaying and monitoring the Performance Meter window.

OpenWindows File Manager

OpenWindows File Manager is a graphical application for managing the files on your workstation. It is different from the CDE File Manager, which is accessed from the CDE Front Panel. OpenWindows File Manager allows management of floppy disks and CD-ROMs, as well as standard file management tasks. OpenWindows File Manager does more than CDE File Manager.

Refer to the Solaris documentation for instructions on using OpenWindows File Manager.

UNIX Command Line

For many tasks associated with administering a FALLS Server workstation, it is convenient and necessary to use the UNIX command line.

NOTE

The UNIX command line is case sensitive. Entering **Cat** is not the same as entering **cat**. Use the appropriate upper- or lower-case letters when entering commands at the UNIX command line.

The UNIX command line prompt for the falls user is similar to the following:

```
semillon:falls{~} >
```

The word before the colon is the name of the FALLS Server workstation. The word after the colon is the type of user. The information inside the braces indicates the active directory. The tilde character (~), shown in the example above, represents your home directory.

NOTE

All users on a UNIX workstation have their own home directory, so that one user does not overwrite or compromise the security of another user's files. For information about other standard directories on the FALLS Server workstation, see section Disk Usage on a FALLS Server Workstation on page 28.

The following sections describe some commonly used commands as they pertain to FALLS.

Summary of Current Activity (w)

The **w** command displays a summary of the current activity on the system, including what each user is doing. To display the summary,

enter **w** in a Terminal window. Figure 6 below shows a sample summary with field definitions.

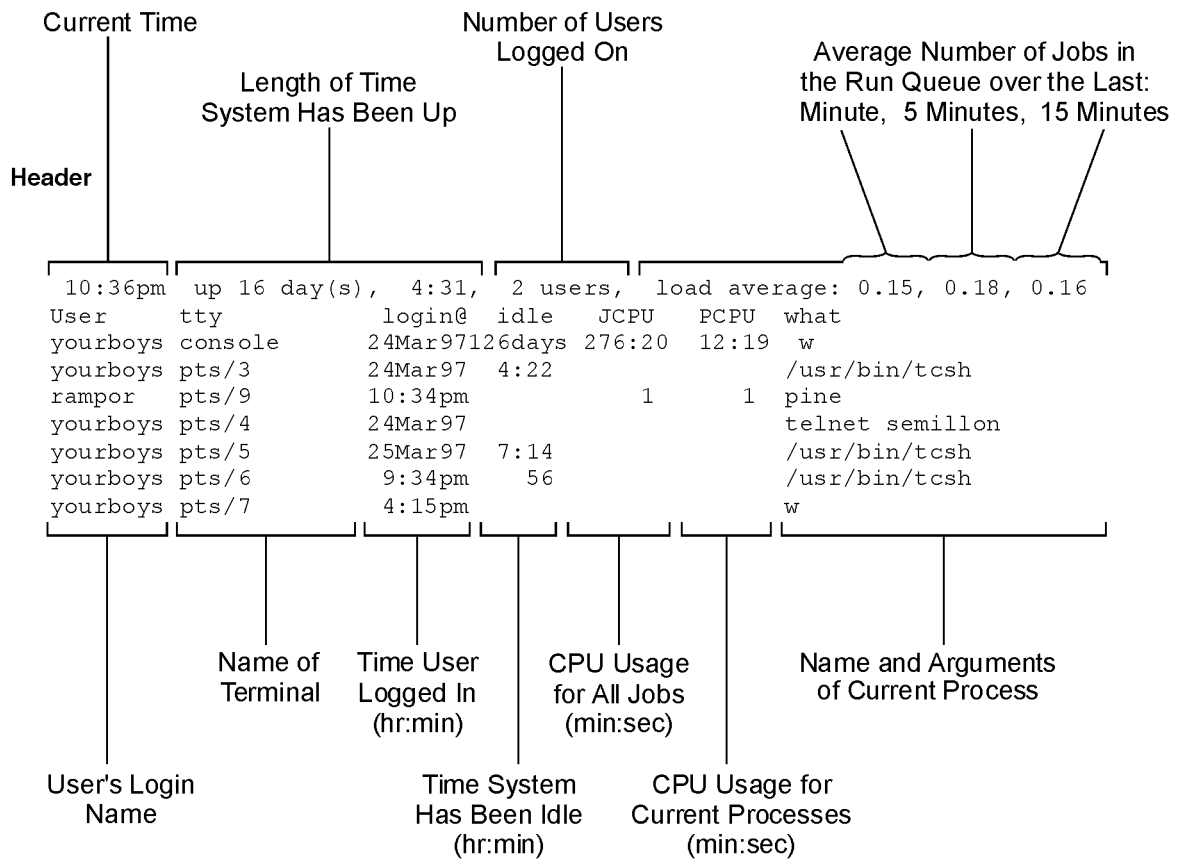


Figure 6 Sample Summary of Current Activity

The example in Figure 4 on page 20 shows that user **yourboys** is logged in at the console and has five Terminal windows (**pts/#**) open. Three Terminal windows are running the T-Shell (**/user/bin/tcsh**), one is connected to semillon by the **telnet** command (**telnet semillon**), and one is running the **w** command.

Another user, **rampor**, is logged in to the workstation and is running **pine**, a command line mail reader.

See the **man** page for the **w** command for more information on the time formats used.

CPU Usage (top)

The **top** command displays and updates information about the top CPU processes. In other words, the top process is the one using most of the CPU on your system. If your machine is really slow, you can use **top** to find out what is keeping the CPU busy. To use it, enter **top** in a Terminal window. A sample output of **top** is displayed below:

```
last pid: 20709; load averages:  0.27,  0.24,  0.21
22:50:40
71 processes:  71 sleeping, 1 on cpu
Cpu states:  0.0% idle, 38.7% user, 10.5% kernel, 34.0% iowait, 16.8% swap
Memory: 28M real, 1200K free, 82M swap, 67M free swap

  PID USERNAME PRI NICE  SIZE  RES STATE   TIME  WCPU   CPU COMMAND
  508 sybase    28  0   19M 6324K sleep 30:33  4.67%  5.45% dataserver
20707 yourboys -14  0 2084K 1676K cpu    0:02  6.02%  5.02% top
  285 root      34  0   19M 3536K sleep 80:53  4.36%  4.61% Xsun
  128 root      33  0  4800K 1776K sleep 54:30  0.47%  0.50% rpc.nisd
  118 root      33  0  1980K  968K sleep 18:06  0.24%  0.31% rpcbind
  461 yourboys  23  0  5536K 1924K sleep  1:08  0.19%  0.20% dtterm
  460 yourboys  23  0  7240K 1152K sleep  2:13  0.03%  0.14% dtfile
19781 yourboys  23  0  1588K  904K sleep  0:02  0.07%  0.06% fm_flb
  120 root      33  0  1540K  600K sleep  1:14  0.01%  0.05% keyserv
  141 root      33  0  1864K 1008K sleep  1:51  0.03%  0.05% inetd
19409 yourboys  13  0  1368K  768K sleep  0:04  0.12%  0.04% tcsh
  459 yourboys  23  0  6508K 1908K sleep  3:35  0.05%  0.02% dtwm
 1081 yourboys  24  0  3616K 1004K sleep  3:19  0.05%  0.02% perfmeter
  188 root      -2  0  2276K 1176K sleep  1:54  0.05%  0.02% nscd
  303 root      23  0  2952K  760K sleep  0:53  0.01%  0.00% rpc.ttdbserver
```

The above output indicates that a **dataserver** run by **sybase** user is using the most (**5.45%**) CPU time.

To exit the top application:

- Type **q** and press ENTER.

To get help on all the keystroke commands in the top application:

- Type **?** and press ENTER.

Display Disk and File Usage (df)

The **df** command reports the number of free disk blocks and files. The **df** command displays the amount of disk space occupied by mounted file systems, directories, or resources; the amount of used and available space; and how much of the file system's total capacity is used.

NOTE

Sybase file systems like the FALLS databases are unmounted (also called raw file systems), and are *not* displayed by the **df** command. You must use Sybase commands to determine disk space used by FALLS databases. See section Sybase Tasks on page 32 for more information about Sybase.

To use the **df** command, enter **df -k -F ufs** in a Terminal window. In the example below, the fullest file system is /export at 59% capacity. As a file system approaches 100% capacity, perform file maintenance to delete or move files, or add another disk drive.

```
sybase:{~} > df -k -F ufs
Filesystem      kbytes    used   avail capacity  Mounted on
/dev/dsk/c0t3d0s0    96455   25735   61080    30%      /
/dev/dsk/c0t3d0s3   384847  163184  183183    48%     /usr
/dev/dsk/c0t3d0s5   855062  452472  317090    59%     /export
/dev/dsk/c0t3d0s4   432839  161652  227907    42%     /opt
```

Display Directory Disk Usage (du)

The **du** command displays the amount of disk space allocated to directories. The disk space shown for a directory includes each subdirectory of that directory as well. The following example shows a command that displays disk usage in kilobytes (**-sk**) for all files (*) one page at a time (**| more**) as shown in the sample response.

```
sybase:{~} > du -sk * | more
1      SybaseKill
680    core
13     semiMemoryUsage
3      sybase.server
```

The following example shows a command that displays the same information sorted by disk usage in reverse order (largest to smallest).

```
sybase:{~} > du -sk * | sort -nr | more
680    core
13     semiMemoryUsage
3      sybase.server
1      SybaseKill
```

Disk Usage on a FALLS Server Workstation

The Solaris operating system uses the UNIX File System, sometimes called the Berkeley Fast File System. This file system is common to most UNIX operating systems such as Linux, HP-UX, and AIX. UNIX does not use drive letters like the A: or C: used by Windows or DOS. UNIX operating systems store all files and other objects in various directories under the root, or /, directory. A partition from any physical disk attached to the workstation can be mounted as any directory.

To see which physical disk partitions are associated with which directories:

- Enter `df -k -F ufs`.

Typical Directory Hierarchy

Table 6 below lists the primary directories located below the root (/) directory on a Solaris system.

Table 6 Solaris Directories

Directory	Description
/	The root directory
/cdrom	CD-ROM drives are mounted here in subdirectories.
/etc	Solaris configuration files
/export/home	Physical location for users' home directories on FALLS Server workstations configured by Vaisala
/floppy	Floppy disks are mounted here in subdirectories.
/home	Users' home directories are auto-mounted under here when they log in. The FALLS user could always refer to his or her home directory as /home/falls, regardless of its physical location.
/opt	Optional installed software. This is where the Vaisala software packages are installed; in directories such as /opt/GAIfalls, /opt/GAIgnu, etc.
/tmp	Temporary files. The directory acts as a RAM disk with very fast response times. Rebooting the FALLS Server workstation clears the directory.
/usr	Contains most of the Solaris operating system, including documentation, libraries, and executables
/var	Contains most of the system spool area for print jobs, e-mail, and other variable files

There are other directories, such as /proc and /dev under the root directory that are not directly relevant to basic administration tasks on your FALLS Server workstation. Any good book about the Solaris operating system describes these directories in detail.

Directories Installed with FALLS

The configuration of a FALLS Server workstation includes the Solaris operating system plus additional software packages installed and configured by Vaisala. Many of these additional packages are installed in the /opt directory with some files located in other directories on the workstation. Table 7 below lists the directories for the additional software packages in a typical FALLS installation. Not all directories appear in the table as they are specific to the version of the FALLS Server.

Table 7 FALLS Directories

Directory	Description
/opt/GAIfalls	FALLS-related scripts, executables, log files, database configurations, etc.
/opt/GAIfweb	FALLS Admin web software
/opt/GAIwgetty	Serial port software
/opt/GAIntp	Network time protocol software
/opt/GAISyb125	Sybase, as re-packaged by Vaisala
/opt/GAIcpl	Tool Command Language utilities, libraries, and documentation. These are needed for FALLS scripting, such as cronscript .
/opt/VAIpppd	PPP software
/opt/VAIsybooks	Sybase documentation
/export/home/falls	Usually auto-mounted as /home/falls, this is the home directory for the falls account. In addition, it can be used as a skeleton directory for other FALLS users in a multi-user setup.
/export/home/sybase	Usually auto-mounted as /home/sybase, this the home directory for the sybase account. It is not used very often.

To check how much space each of these directories uses, enter a **du** command such as **du -sk /opt/GAIfalls**.

The system response to the above command is a value in kilobytes (the **k** option above) that represents the space used by the /opt/GAIfalls directory.

FALLS Utilities

The FALLS Server workstation includes utilities to do the following:

- Start and stop a PPP connection
- Update the FALLS lightning databases with the most current data

You can run these utilities from either Solaris CDE or a UNIX command line as described in the following sections.

Starting and Stopping a PPP Connection

FALLS uses the Point-to-Point Protocol (PPP) for the data connection between the FALLS Server workstation and Vaisala. The PPP connection can be started and stopped from either the CDE Front Panel or the UNIX command line. See section Starting and Stopping FALLS Web Management on page 49 for details on using a remote web browser to perform this task.

NOTE

The PPP connection is needed only by FALLS customers receiving lightning data from the NLDN or CLDN.

Using the CDE Front Panel

The **Start PPP** and **Stop PPP** menu items are located in the **FALLS** pop-up menu on the CDE Front Panel (Figure 5 on page 21).

- Selecting the **Start PPP** menu item initiates the connection to Vaisala.
- Selecting the **Stop PPP** menu item closes the connection to Vaisala.

As a PPP connection is established, any error messages are displayed on the Console window and status messages are written to the PPP log file, \$FALLSHOME/logs/cronscript.log.

Using the startip and stopip Commands

Table 8 on page 30 provides the UNIX commands for starting and stopping a PPP connection. The table also includes how to stop monitoring the startip.log and stopip.log files. Entry of the commands is at the command line in a Terminal window.

Table 8 **Commands to Start and Stop PPP Connection**

Function	Command or Action
Initiate a connection to the Vaisala Server	<code>startip -verify &</code>
Verify connection and monitor progress with the startip.log file	<code>tail -f \$FALLSHOME/logs/startip.log</code>
Stop monitoring the log file	Press CTRL+C
Close the connection to Vaisala	<code>stopip &</code>
Monitor progress as the connection is closed	<code>tail -f \$FALLSHOME/logs/stopip.log</code>
Stop monitoring the log file	Press CTRL+C

Retrieving Lightning Data

FALLS Server workstations receiving lightning data from the NLDN or CLDN are configured to dial Vaisala for data automatically every night after 0500 GMT.

To see when your FALLS Server workstation dials for data:

- Enter `crontab -l | grep cronscript`

A sample system response to the above command follows:

```
35 6 * * * /opt/GAIfalls/scripts/cronsript.csh
```

This system response means the workstation dials for data every day (the * * *) at 0635 GMT (the **35 6**). To modify the automatic data loading time, please contact the Customer Response Center.

NOTE

The FALLS Server applications installed on a DA2000 access the most current lightning data from the lightning detection network on a continual basis. Therefore, manual retrieval of lightning data is not needed.

Retrieving Data Using CDE

Lightning data can be retrieved in between the scheduled times if necessary.

To retrieve lightning data when logged in to Solaris CDE:

1. Click the **FALLS** pop-up menu and select **Dial For Data**.
After several seconds, messages regarding the PPP connection are printed in the Console window.
2. To view more extensive information about the data being downloaded, open a Terminal window and enter the following:

```
tail -20f $FALLSHOME/logs/cronsript.log
```
3. To stop monitoring the log file, press CTRL+C.
4. To view the current time bounds (see section Listing Lightning Database Time Bounds on page 33) of all the lightning databases, open a Terminal window and enter the following:

```
timebounds
```

Retrieving Data Using the Command Line

Lightning data can be retrieved in between the scheduled times if necessary.

To retrieve lightning data using the command line:

1. Open a Terminal window.
2. At the prompt, enter the following:
`cronscript.csh &`
3. To monitor the progress of this script as it retrieves the data, enter the following:
`tail -20f $FALLSHOME/logs/cronscript.log`
4. To stop monitoring the log file, press CTRL+C.
5. To view the current time bounds (see section Listing Lightning Database Time Bounds on page 33) of all the lightning databases, enter the following:
`timebounds`

Sybase Tasks

The following tasks involve the Sybase lightning databases:

- Listing the start and end times (time bounds) for the lightning databases
- Listing users logged in to Sybase
- Killing a FALLS analysis (database query)
- Recovering temporary space used in the FALLS database

The following sections describe the UNIX commands used to accomplish the above tasks.

Listing Lightning Database Time Bounds

The **timebounds** command lists the start and end times for each FALLS lightning database. A sample system response to the **timebounds** command follows:

```
ltgsource source_name          stime          etime
-----
  1 Real-Time Flashes          05/12/1996 00:00:00    04/30/1997 19:49:04
  2 Real-Time Strokes          08/01/1996 00:00:00    04/30/1997 19:49:08
  3 Reprocessed Flashes        01/01/1990 00:02:44    04/29/1997 23:59:57
  4 Reprocessed Strokes        01/01/1995 00:00:07    04/29/1997 23:59:57
Curr. time is:                  04/30/1997 19:49:47 GMT
```

The example above shows that the Real-Time databases end at 19:49 on April 30, 1997 and the Reprocessed databases end at 23:59 on April 29, 1997.

This information is also displayed on the Data and Status web pages using the FALLS Web Management Interface.

Listing FALLS Users Logged in to Sybase

The **fallswho** command lists all the FALLS users logged in to Sybase. The command can be entered at a Terminal window or while logged in as falls user with Telnet from a remote FALLS Client. A sample system response to the **fallswho** command follows:

```
spid  status  login  program  cmd          cpu  physical_io
-----
  13  recv  sleep  larry    FALLS200    AWAITING COMMAND          1      1
  15  recv  sleep  moe      FALLS200    AWAITING COMMAND          1      5
```

The example above shows that the users **larry** and **moe** are logged in to Sybase using FALLS v2.0.0, and are idle users (**AWAITING COMMAND**).

The FALLS Web Management Interface accesses this information with the **Users** link.

When a FALLS analysis is running, the **physical_io** column usually displays numbers in the hundreds or thousands. The **cmd** column displays a value like **SELECT** or **INSERT**.

Killing a FALLS Analysis

To cancel a FALLS analysis that you started:

1. Enter **fallskill** in a Terminal window.
You are prompted for the Sybase Administrator password. This password is obtained from your Sybase Administrator or the Customer Response Center.
2. Enter the password and press ENTER to display a list of all the FALLS users logged in to the Sybase SQL Server. This list is similar to the list illustrated in section Listing FALLS Users Logged in to Sybase on page 33 for the **fallwho** command.

NOTE

To abort the **fallskill** command at any time, press CTRL+C, and then press ENTER.

3. Identify the **spid** of the process running a FALLS analysis that you want to kill.
Usually, the **spid** with the largest value in the **physical_io** column is the one currently running a large FALLS analysis.
4. When prompted, enter the value from the **spid** column for the Sybase process that you want to kill, or press CTRL+C to cancel.

The Users web page of the FALLS Web Management Interface provides for this task as well (see section Viewing User Connections on page 51).

Recovering Temporary Space in the FALLS Database

Occasionally, it may become necessary to recover some of the temporary space used in the FALLS database (db_falls). This occurs when a large regional analysis was executed over a particularly long time period, and, for whatever reason, was never completed.

To recover temporary space used in the FALLS database:

1. Enter **cleandbfalls** in a Terminal window.
2. Enter the login name of the FALLS Database Administrator when prompted. On FALLS systems configured by Vaisala, this name is *fallsadmin*.
3. Enter the password for the FALLS Database Administrator when prompted.

On FALLS systems configured by Vaisala, this password is the same as the password for the Sybase Administrator.

If the login to Sybase was successful, several commands are issued to Sybase. Depending on the amount of data in your FALLS database, this cleaning procedure may take anywhere from 10 seconds to 10 minutes. When the cleaning procedure is complete, the **Space has been freed in the Falls database** message displays.

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CHAPTER 4

ADMINISTRATION AT THE CLIENT

Critical Files and Directories to Back Up

The FALLS Client employs several key components. It is important to back up those components to recover from hardware failures, unintended deletions, configuration changes, or other related problems.

Backing up the Windows Registry

Although several components do, FALLS does not directly use the Windows registry. All information regarding installed software and ODBC/DBMS configuration is saved in the registry.

Refer to your Windows operating system documentation, or Windows Help for instructions on backing up a Windows registry.

Backing up Sybase Open Client

The Sybase Open Client libraries and configuration files are in the directory specified during installation. The default directory is \Syb. In this directory, only the \Ini subdirectory is critical for backup, since it saves the configuration defined during the SQLEDT installation step.

The Sybase software may be reinstalled using the FALLS Client for Windows installation CD.

Backing up the FALLS Installation Directory

Backups of users' private FALLS installation directories on a given Windows workstation should be done frequently. The default directory is \Falls. Before backing up this directory, you may want to delete temporary files from the \mitables subdirectory.

The most critical components of the FALLS Client and recommended for backup, are the asset tables located in falls\mitables\assets*.*.

Temporary files that can be deleted safely include:

- ltg_pts.*
- ltg_dtls.*
- ts_ltg.*
- density.*
- pdensity.*

Setting Permissions

The permissions discussed here are the ones used by the Windows operating systems to define user access, and what a specific user can do. They are not the permissions used by FALLS.

Permissions, called an Access Control List (ACL), can be defined for the FALLS directory. You can define access controls so that a user cannot delete or alter the files of another user, either when logged in on the same workstation or shared across a network. Refer to your Windows operating system documentation, or Windows Help for instructions.

Sharing FALLS Directories

Networked FALLS users can share assets, templates, and other data with the built-in file sharing of the Windows operating systems. You can select what to share, and set the permissions. This is part of the access control mentioned in section Setting Permissions above. Refer

to your Windows operating system documentation, or Windows Help for instructions.

NOTE

For the Windows NT and Windows 2000 operating systems, sharing must be set up while logged in as an Administrator user.

Using Telnet at the FALLS Client Workstation

The Telnet application lets you perform many system administration tasks on the FALLS Server workstation from the FALLS Client workstation:

- Starting and stopping a PPP connection
- Updating the FALLS lightning databases with the most current data
- Listing the start and end times (time bounds) for the lightning databases
- Killing a FALLS analysis (database query)
- Recovering temporary space used in the FALLS database

Logging in to the FALLS Server Workstation

To log in to the FALLS Server workstation as the falls user from a FALLS Client workstation, you must know the host name or the IP address of the FALLS Server workstation. This information is on the FALLS Client Configuration Sheet (see the FALLS® Client Installation Guide). If you cannot find this information, contact the Customer Response Center.

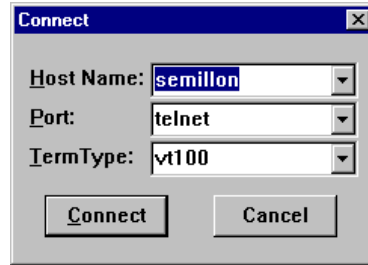
The Telnet interface varies with the Windows operating system. Refer to your Windows operating system documentation, or Windows Help for instructions.

To connect to the FALLS Server workstation using Telnet from a FALLS Client:

1. Start Telnet to display the **Telnet** window.
2. Open a connection to the FALLS Server workstation:

For Windows 98 and Windows NT:

- a. Select the **Remote System** option from the **Connect** menu to display the **Connect** dialog box (see Figure 7 below).

**Figure 7 Telnet Connect Dialog Box**

- b. Enter the name or IP address of the FALLS Server workstation (see the Configuration Sheet from the FALLS® Client Installation Guide) in the **Host Name** field, and click **Connect**.

For Windows 2000:

- a. At the Telnet command line, type **open** followed by the IP address of the FALLS Server workstation, and press ENTER. An example command follows:

```
open 192.101.77.44
```

3. If you successfully connected, the login prompt displays in the Telnet window. If you failed to connect, contact your local Network Administrator or the Customer Response Center to help diagnose the problem.
4. At the login prompt, type **falls** and press ENTER to get the Password prompt.
5. At the Password prompt, enter the password for your falls user account. FALLS Server workstations shipped from Vaisala have an initial password of *fallsuser* for the falls user account.
6. If you successfully logged in, a prompt ending in a greater than sign (>) displays. In the sample response below, the prompt is **semillon:{~} >**.

```
UNIX(r) System V Release 4.0 (semillon)
```

```
login: falls
Password:
semillon:{~} >
```

7. At the prompt, type `id` and press ENTER. The system response is similar to the following:

```
uid=600(falls) gid=600(falls)
```

The numbers shown in the above system response may differ on your FALLS Client workstation, but the response should indicate **falls** in parentheses.

You are now at the UNIX command line. Some UNIX commands that can be used are described in section UNIX Command Line on page 24.

Refer to your Windows operating system documentation, or Windows Help for instructions on ending a Telnet session.

Starting and Stopping a PPP Connection

NOTE

The PPP connection is needed only by FALLS customers receiving lightning data from the NLDN or CLDN.

FALLS uses the Point-to-Point Protocol (PPP) for the data connection between the FALLS Server workstation and Vaisala. The PPP connection can be started and stopped from the FALLS Client workstation by using Telnet to access the UNIX command line on the FALLS Server workstation.

To open the PPP connection using Telnet:

1. Use Telnet to log in to your FALLS Server workstation (section Logging in to the FALLS Server Workstation on page 39).
2. Start the PPP connection to Vaisala by entering the following command at the UNIX command line:

```
startip -verify &
```

3. To verify connection and monitor progress with the `startip.log` file, enter the following command:

```
tail -f $FALLSHOME/logs/startip.log
```

4. To stop monitoring the log file, press CTRL+C.

To close the PPP connection using Telnet:

1. If not already connected to the FALLS Server workstation by Telnet, follow the procedure in section Logging in to the FALLS Server Workstation on page 39.

2. To stop the connection to Vaisala, enter the following command at the UNIX command line:

```
stopip &
```

3. To monitor progress as the connection is closed, enter the following command:

```
tail -f $FALLSHOME/logs/stopip.log
```

4. To stop monitoring the log file, press CTRL+C.

Retrieving Lightning Data

FALLS Server workstations receiving lightning data from the NLDN or CLDN are configured to dial Vaisala for data automatically every night after 0500 GMT. Lightning data can be retrieved in between the scheduled times using Telnet on the FALLS Client workstation.

NOTE

The FALLS Server applications installed on a DA2000 access the most current lightning data from the network on a continual basis. Thus, the following procedure is not used for those FALLS Servers.

To retrieve lightning data using Telnet:

1. Use Telnet to log in to your FALLS Server workstation (section Logging in to the FALLS Server Workstation on page 39).

2. Enter **cronscript.csh &** at the UNIX command line.

3. To monitor the progress of this script as it retrieves the data, enter the following command:

```
tail -20f $FALLSHOME/logs/cronscript.log
```

4. Press CTRL+C to stop monitoring the log file.

5. To view the current time bounds (see section Listing Lightning Database Time Bounds below) of all the lightning databases, enter **timebounds** at the command line.

Listing Lightning Database Time Bounds

The time bounds for the lightning databases can be listed from the FALLS Client workstation by connecting to the FALLS Server workstation with Telnet.

To view the lightning database time bounds using Telnet:

1. Use Telnet to log in to your FALLS Server workstation (section Logging in to the FALLS Server Workstation on page 39).
2. Enter **timebounds** at the UNIX command line. A sample system response follows:

```
ltgsource source_name          stime          etime
-----
1 Real-Time Flashes           05/12/1996 00:00:00     04/30/1997 19:49:04
2 Real-Time Strokes           08/01/1996 00:00:00     04/30/1997 19:49:08
3 Reprocessed Flashes         01/01/1990 00:02:44     04/29/1997 23:59:57
4 Reprocessed Strokes         01/01/1995 00:00:07     04/29/1997 23:59:57
Curr. time is:                04/30/1997 19:49:47 GMT
```

The example above shows that the Real-Time databases end at 19:49 on April 30, 1997 and the Reprocessed databases end at 23:59 on April 29, 1997.

Killing a FALLS Analysis

If a FALLS analysis is taking too long to run, you may want to cancel (kill) it. This can be done from a FALLS Client workstation by connecting to the FALLS Server workstation with Telnet. You may need to use a different FALLS Client workstation to kill the analysis because FALLS may not release the FALLS Client workstation running the analysis.

To kill a FALLS analysis using Telnet:

1. Use Telnet to log in to your FALLS Server workstation (see section Logging in to the FALLS Server Workstation on page 39).
2. Enter **fallskill** at the UNIX command line.

You are prompted for the Sybase Administrator password. This password is obtained from your Sybase Administrator or the Customer Response Center. Typically, it is *1995ts* for Vaisala installations.

3. Enter the password to display a list of all the FALLS users logged in to the Sybase SQL Server. This list is similar to the list shown in section Listing FALLS Users Logged in to Sybase on page 33 for the **fallswho** command.

NOTE

To abort the **fallskill** command at any time, press CTRL+C, and then press ENTER.

4. Identify the **spid** of the process running a FALLS analysis that you want to kill.
Usually, the **spid** with the largest value in the **physical_io** column is the one currently running a large FALLS analysis.
5. When prompted, enter the value from the **spid** column for the Sybase process that you want to kill, or press CTRL+C to cancel.
When a valid **spid** is entered, that Sybase process is terminated (killed).

Recovering Temporary Space in the FALLS Database

You can recover temporary space in the FALLS database from the FALLS Client workstation by connecting to the FALLS Server workstation with Telnet.

CAUTION

Running **cleandbfalls** while any user is performing an analysis will delete data from all running analyses and may cause FALLS Clients to crash, or produce database errors. It is important to run this command when no users are running FALLS.

To recover temporary space in the FALLS database using Telnet:

1. Use Telnet to log in to your FALLS Server workstation (see section Logging in to the FALLS Server Workstation on page 39).
2. Enter **cleandbfalls** at the UNIX command line.
You are prompted for the login name of the FALLS Database Administrator. On FALLS systems configured by Vaisala, this name is *fallsadmin*.
3. Type the login name of the FALLS Database Administrator.
You are prompted for the password for the FALLS Database Administrator. On FALLS systems configured by Vaisala, this password is the same as the password for the Sybase Administrator.
4. Type the password for the FALLS Database Administrator.

If the login to Sybase was successful, several commands are issued to Sybase. Depending on the amount of data in your FALLS database, this cleaning procedure may take anywhere from 10 seconds to 10 minutes. When the cleaning procedure is complete, the **Space has been freed in the Falls database** message displays.

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CHAPTER 5

FALLS WEB MANAGEMENT

The FALLS Web Management package, GAiffweb, provides a means for FALLS Clients to perform common administration tasks on the FALLS Server workstation using a web browser (see Figure 8 below). Such tasks include examining disk and CPU utilization on the server, starting and monitoring a download of lightning data, and adding new logins.

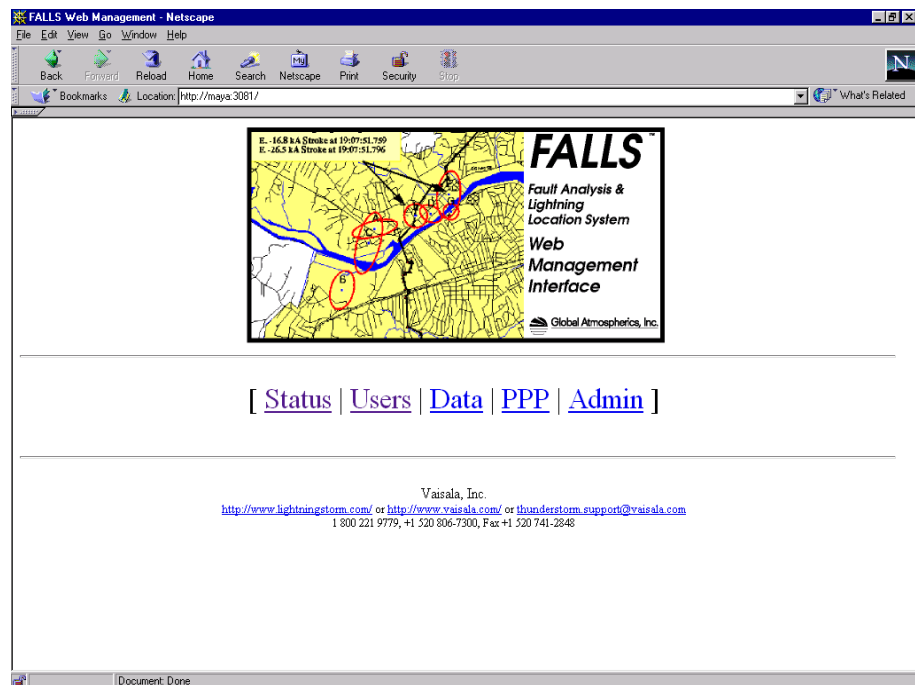


Figure 8 Sample FALLS Web Management Screen

Several security measures are used to prevent compromising the FALLS Server workstation:

- The web server runs on a high-numbered non-standard port to prevent casual browsing.
- The web server runs entirely as the falls user, not root.
- User names and passwords are required for all pages other than the home page.
- Optional IP address restrictions may be enforced.

Accessing FALLS Web Management

To access FALLS Web Management from a FALLS Client workstation:

1. Point your browser at `http://<serverip>:3081/` where *<serverip>* is replaced with the IP address of the FALLS Server workstation. This address may be obtained from item [14] on the FALLS Configuration Sheet. An example follows:

```
http://192.101.77.44:3081/
```

It is recommended that you enter the IP address and not the host name; as the FALLS Server IP address is less subject to change than are host names. This is particularly true of the Vaisala Sybase server that supplies lightning data to NLDN and CLDN customers.

2. When the home page for FALLS Web Management displays (see Figure 8 on page 47), bookmark the page with a useful name, such as FALLS Web Management.
3. If prompted for a password, use the password provided to you by the Vaisala field technician who installed your workstation, or contact the Customer Response Center.
4. Click the appropriate link and follow the instructions on each web page.

Viewing the Log File

If any errors occur while FALLS Web Management is running, the errors are logged in the `$FALLSHOME/www/logs/error_log` file.

To view the last twenty lines of the error log file:

- Enter the following command at the command line prompt:

```
tail -20 $FALLSHOME/www/logs/error_log
```

Web server access and referer (Client web browser) information is not logged to help minimize file and space management.

Starting and Stopping FALLS Web Management

Under normal circumstances the FALLS Web Management server (FALLS Server workstation) automatically starts at boot time and stops when the FALLS Server workstation is shut down.

To stop the FALLS Web Management Service:

1. Log in to the FALLS Server workstation as the root user (see section Logging in as the root User on page 16).
2. Enter the following at the command line prompt:

```
/etc/init.d/falls.webserv stop
```

To start FALLS Web Management Service:

1. Log in to the FALLS Server workstation as the root user (see section Logging in as the root User on page 16).
2. Enter the following at the command line prompt:

```
/etc/init.d/falls.webserv start
```

FALLS Web Management Links

The following sections describe the use and purpose of the FALLS Web Management links.

Viewing Server Status

Click the **Status** link to access the following options related to the status of the FALLS Server workstation:

- Is PPP Running?

Displays whether the PPP connection to Vaisala has been started. If running, this indicates that either a lightning data load is in process or that a call has been placed to the Customer Response Center requiring access to your FALLS Server workstation.

NOTE

The PPP connection is needed only by FALLS customers receiving lightning data from the NLDN or CLDN.

- Lightning Database Time Bounds

Displays the current start and stop times of all lightning data on your FALLS Server workstation. Note that times indicated are in GMT.

- Lightning Database Space Usage

Indicates the amount of space used by your lightning databases. If your space usage is above 90%, it may be necessary to add more disk space to your FALLS Server workstation or delete old lightning data. In either case, contact the Customer Response Center. LP networks with Real-Time databases at 95-96% full are updated and managed automatically by DA2000 threshold procedures.

- File System Usage

Displays the disk partitions used for files on your FALLS Server workstation and the utilization percentage. If the percentage utilized grows above 90%, contact the Customer Response Center.

- Workstation Status

Displays the current name, load, and user logins on your FALLS Server workstation.

Viewing User Connections

Click the **Users** link to access the following options related to the FALLS user connections:

- View Sybase connections

This web page displays the FALLS users currently logged in to the FALLS Server workstation. It also calculates basic usage statistics in the **I/O** column. This lets you determine which users are currently running a large FALLS analysis.

- Kill a FALLS connection (analysis)

At times it may become necessary to cancel a long-running FALLS analysis. For example: The user mistakenly entered a time interval of one year instead of one day. If you know the Sybase Administrator password, you can cancel the analysis.

To kill a FALLS analysis using FALLS Web Management:

1. Point your browser at `http://<serverip>:3081`. Where `<serverip>` is the IP address of the FALLS Server workstation.
2. Click the **Users** link.
3. Enter the Administrator user name and password.
4. Enter the desired **spid** (typically based on user name or I/O) from the displayed list in the **SPID for FALLS user** field.
5. Enter the Sybase Administrator password (root user) in the **System Administrator Password** field (typically *1995ts* for Vaisala installations), and click **Kill FALLS SPID**.

Downloading Data

Click the **Data** link to access the following options related to downloading lightning data:

- Lightning Database Time Bounds

Displays the current start and stop times of all lightning data on your FALLS Server workstation. Note that times indicated are in GMT.

- **Dial for Data** button

Presents the option to dial-up Vaisala for data (used when immediate data delivery is needed). NLDN and CLDN FALLS customers may use this button to update their data to the latest available. Click **Dial for Data** to initiate a PPP connection, start the

data download, and display a progress log. To refresh the display and the progress log, click **Reload** on the browser.

NOTE

The **Dial for Data** button is needed only by FALLS customers receiving lightning data from the NLDN or CLDN.

Starting and Stopping a PPP Connection

NOTE

The **PPP** link is needed only by FALLS customers receiving lightning data from the NLDN or CLDN.

Use your web browser to connect to the FALLS Web Management home page, and click the **PPP** link. Click the **PPP** link to access the following buttons related to a PPP connection:

- Start PPP connection

Makes a PPP connection to Vaisala. Typically, you would start PPP so that Vaisala can perform maintenance on your FALLS Server workstation.

- Stop PPP connection

Stops the current dial-up connection to Vaisala. This also cancels a lightning data load after several minutes of delay for the data loading connection to time out.

Viewing FALLS Administration Options

Click the **Admin** link to access the following options related to FALLS system administration:

- Password management options

This web page lets you add and remove user names and change user passwords for FALLS.

Use this page when adding a new FALLS Client, which you want to identify by name in the running **Users** list (see section Viewing User Connections on page 51). Pick a user name and password for the new Client, typically matching the Client's existing network password, and follow the instructions on the web page. A similar procedure lets you change a user password or remove a user.

- IP address options

You can restrict access to this FALLS Web Management server by using the IP address options described in section Accessing FALLS Web Management on page 48. Use these options if you are concerned about the security of allowing any network user to cause your FALLS Server workstation to dial for data or perform other actions. The instructions on the web page describe how to configure these options.

CAUTION

Be sure that *at least one* workstation to be used for administering FALLS Web Management is allowed in these lists. If you exclude all workstations by IP address, you need to contact the Customer Response Center to reconfigure access to your FALLS Web Management server.

Manually Configuring the Web Server

The **Admin** link on the FALLS Web Management home page takes you to a web page for performing the most common web- and server-administration tasks. Use this web page before attempting manual configuration of the FALLS Web Management server.

The configuration files are:

- access.conf

Contains the permissions settings for all web pages and the Common Gateway Interface (CGI) scripts to be served. This file will never be edited manually, since it is rewritten every time changes are made from the Admin web page while the FALLS Web Management server is running. If you want to add permissions to other directories, edit the access.conf.in file, which is the template used while rewriting the access.conf file.

- httpd.conf

Contains the basic server configuration information. Lines that you may want to change from the default are: Port and ServerName.

- srm.conf

Contains the directory names for the web pages and CGI scripts to be served. This file will remain unchanged in most cases.

- users

Contains the user names and encrypted passwords for access to the web server.

This file is managed automatically by the Admin web page. Adding user names and passwords to this file does not grant login access by Telnet or to the FALLS application.

To manually configure the FALLS Web Management server:

1. Log in to the FALLS Server workstation as the falls user (see section Logging in as the falls User on page 18) to perform manual configuration.
2. At the UNIX command line, enter the following command:

```
cd $FALLSHOME/www/conf
```
3. After changing any of the configuration files, you must signal the FALLS Web Management server to re-read its configuration files, using the following command (back-ticks (`) must be used):

```
kill -HUP `cat $FALLSHOME/www/logs/httpd.pid`
```

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