

# FirstClass 8.0 for Linux Administrator's Guide

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This version of the help applies to FirstClass Version 8.0 and all subsequent versions and modifications until otherwise indicated.

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## About this book

This book is a supplement to the standard FirstClass administrator's documentation set. Because FirstClass works seamlessly across platforms, most of the information you will need in order to use FirstClass on a Linux environment is available in those standard documents.

Although using FirstClass on Linux is very much like using FirstClass on any other platform, there are some differences in the way FirstClass is installed and configured on the Linux platform. This book provides the extra information specific to installing and configuring FirstClass in the Linux environment.

This document tells you how to:

- install FirstClass on Linux  
This section provides requirements and instructions for installing the various FirstClass components.
- start your server and log in  
This section explains how to start and log into your FirstClass system and what you will see on the administrator's Desktop.
- configure your system on Linux  
This section explains what the FirstClass installer configures on your system and what you need to check and configure after installation.
- migrate an existing FirstClass system to Linux  
For those already using FirstClass, this section explains how to migrate an 8.0 FirstClass network store from a Mac OS X or Windows platform to Linux.
- administrate FirstClass on Linux.  
This section provides some Linux-specific information helpful for the day-to-day operation of your FirstClass system.

The appendix describes file locations in Linux.

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## Who should read this book

This book is intended for FirstClass administrators responsible for setting up and maintaining a FirstClass system on Linux, whether new to FirstClass or migrating an existing FirstClass system to the Linux environment.

## What you should already know

You should be familiar with the capabilities and terminology of your:

- FirstClass software (server, client, Internet Services, Voice Services [if applicable], and additional components)
- Linux operating system.

## Documentation conventions

The following conventions are used in this guide:

- menu items  
Each level of menu items is separated by >. For example, the Clear item under the Edit menu is shown as Edit > Clear.
- variables  
Text in *italics* represents variables for which you must type your own value.
- script syntax.  
Script syntax text is formatted `like this` to distinguish it from other text.

## More information

For more conceptual information and details about FirstClass in general, the Administration and Internet Services sections of our online help explain the concepts involved in planning, creating and maintaining a FirstClass server environment. The online help provides conceptual configuration information that administrators new to FirstClass will find useful, as well as

step-by-step procedures for completing all administrator tasks.

To access the online help, choose Help > Contents on the administrator's FirstClass Desktop.

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**11** Log out.

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## Installing FirstClass

The installer will attempt to determine appropriate default settings for the System Profile and Internet configuration forms to allow the FirstClass server and Internet Services to work without further configuration. During the installation you will be asked to confirm these defaults. After installation, you should review these forms and verify that all configurations are correct. This process is essential and will not take much time.

Install FirstClass as follows:


- 1** Log in as fcadmin.
- 2** Download the installation file.
- 3** Open a Terminal window (Applications > System Tools > Terminal).
- 4** Navigate to the location to which you downloaded the installer file.
- 5** Enter: `tar xzf filename`



Note

The filename must include its extension(s).

This will produce an installer script and a folder named "files".

- 6** Type `su` to access the root account.
  - 7** Enter the root password when prompted for a password.
  - 8** Type `./installer` to run the installer.
- 
- Note
- The `./` is required.
- 9** Respond to the prompts. In many cases, you need only hit <Enter> to confirm the default responses.
  - 10** Press Ctrl-d or type `exit` to exit from the root shell and return to fcadmin when the installation is complete.
  - 11** If you have not logged out since adding the "adm" group to the fcadmin account, you must log out and log back in as fcadmin before starting the FirstClass server.

During the installation you will be asked if you want to install the FirstClass server and if you want to install Internet Services.

- To install both on the same machine, accept the default [yes] in both cases.
- To install the FirstClass server and Internet Services on separate machines, repeat the installation process on both machines, selecting only the component you want to install on each machine.

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## The /opt/fcsd folder

The fcsd folder (/opt/fcsd) contains the server application and its supporting files. If you installed Internet Services on the same machine as the FirstClass server, the Internet Services files will also be in the folder. Otherwise, they will be in the corresponding fcsd folder on the Internet Services machine.

The /opt/fcsd folder is the equivalent of the FCServer folder on Windows and the /Library/FirstClass Server/ folder on Mac OS X.

Before logging into your FirstClass system, you may want to familiarize yourself with the contents of this folder. Also see [FirstClass File Locations on Linux](#) for information about file locations for non-executable FirstClass files.

This folder contains the following folders and files:

- desktop folder  
A folder containing the FirstClass objects which have been linked to the Linux desktop. These

are the server and IS start and stop scripts and the status of FirstClass Services script.

- **fcsd**  
The FirstClass core server executable.
- **fcsd.rez**  
The FirstClass server executable's resources.
- **fcsd.log/fcsd.old** files  
These server log files are generated every time you start the server. The .log files contain detailed log entries from the latest run, and the .old files contain the output of the previous run. Because these files recycle every time you start the server, you lose the information after two restarts. Similar information is stored permanently in the server logs in `/var/opt/fcsd/volumes/master/fcns/logfiles`.



#### Note

If you have had previous experience with FirstClass on another platform, you may be used to seeing the information that is recorded in these log files in the FirstClass server console. This information is also available from the Remote Console button on the Server Monitor form.

- **fcfixvol**  
A utility used to properly set the initial permissions on the files and folders in a FirstClass network store after you copy the files from one volume to another or restore from a backup. (`fcflower.pl`) that converts all network store file names to lowercase for use in the Linux file system.
- **fcflower.pl**  
A perl script used when executing `fcfixvol -c all all` that converts all network store file names to lowercase for use in the Linux file system.
- **fctools**  
The FirstClass Tools executable.
- **fcputil**  
The FirstClass fcputil executable.
- **fcputil.fc**  
The FirstClass fcputil settings file, required to connect fcputil to the server.

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## Internet Services folders and files

The following folders and files are also in the `/opt/fcsd` folder if you installed Internet Services on this machine:

- **fcisd**  
The FirstClass Internet Services executable.
- **fcisd.rez**  
The Internet Services executable's resources.
- **fcisd.log/fcisd.old**  
These IS log files are generated every time you start Internet Services. The .log files contain detailed log entries from the latest run, and the .old files contain the output of the previous run. Because these files recycle every time you start IS, you lose the information after two restarts.



#### Note

If you have had previous experience with FirstClass on another platform, you may be used to seeing the information that is recorded in these log files in the Internet Services console or the console log files there.

- **inetsvcs.fc**  
The settings file for Internet Services. This is preconfigured for 127.0.0.1 by default for systems with the FirstClass server and Internet Services on a single machine. If the FirstClass server and Internet Services are on two separate machines, this must be updated with the server's IP address or name. See Configuring the `inetsvcs.fc` file for more information.

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# Starting your server and logging in

In order to do any system administration, whether from the server level or from the client, the server must be running. You will perform most administrative functions when you are logged into the client as the FirstClass administrator.

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## Starting your server

The FirstClass server application resides in `/opt/fcsd`. It is called `fcsd` (FirstClass server daemon). You can start `fcsd` directly but we recommend you use the FirstClass Server Start alias on the Linux desktop. There are aliases on the desktop for all of the following commands:

- FirstClass Server Start
- FirstClass Server Stop
- Internet Services Start
- Internet Services Stop
- Status of FirstClass Services.

You can also start, stop and check the execution status of the server and Internet Services manually with the provided shell scripts as follows:

- 1 Open a Terminal window (Applications > System Tools > Terminal).
- 2 Enter one of the commands below with the syntax `/usr/sbin/fcsctl command`  
If prompted for a password, enter the `fcadmin` user's password.

Possible commands:

### **fcsctl**

- `/usr/sbin/fcsctl start`  
starts the server
- `/usr/sbin/fcsctl stop`  
polite shutdown of the server (shutdown after all users have logged off)
- `/usr/sbin/fcsctl force`  
fast shutdown of the server
- `/usr/sbin/fcsctl status`  
checks server status (running/not running)
- `/usr/sbin/fcsctl pause`  
pauses all mirrors
- `/usr/sbin/fcsctl continue`  
continues all mirrors
- `/usr/sbin/fcsctl help`  
lists possible `fcsctl` commands

### **fcisctl**

- `/usr/sbin/fcisctl start`  
starts Internet Services
- `/usr/sbin/fcisctl stop`  
polite shutdown of IS (shutdown after all connections have logged off)
- `/usr/sbin/fcisctl force`  
stops IS immediately
- `/usr/sbin/fcisctl status`  
checks Internet Services status (running/not running).
- `/usr/sbin/fcisctl help`  
lists possible `fcisctl` commands



#### Note

Only the root user or machine administrators can start or stop the server or Internet Services. No matter who launches these programs, they will start up under the root user and admin group and will then fall back to the real context of the user who launched them,

switching back to root-equivalent access only while opening reserved IP ports. Currently, only one user, fcadmin, is supported, so manually start the server and Internet Services only from that account.

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## Licensing FirstClass

After you install the FirstClass server, you can add optional licenses, such as user licenses. To do this, use the Licence ADD batch administration command.

- 1 Log into FirstClass as the administrator (admin).
- 2 Create a new message.
- 3 Address the message to "batch admin".
- 4 For each license to be installed, in the body of the message enter: LICENSE ADD filename



### Caution

Always add the .KEY file first as it must be installed before other licenses are accepted.



### Note

The filename includes the file extension .key or .lic.

- 5 Attach the license files to the message.
- 6 Send the message.



### Tip

We suggest that you license your server before configuring FirstClass. To configure FirstClass, you must log in as the administrator, and the first time you do this, you will be asked for licensing information in order to register.

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## Registering your server and licenses

When you log in as administrator for the first time, the online registration form will automatically open on the administrator's Desktop. If the form is not open, click the following icon to open it:



You must complete and send this form to Open Text to get access to online software and documentation updates and to be allowed to post support questions to our customer conferences. You can either email the completed preaddressed form (once FirstClass has been configured to send Internet mail) or print the form and mail it to one of the addresses indicated in the message body.

You do not have to complete all the fields on the form and some will already be filled in for you. The help text on the form explains which fields are optional. A copy of this form will be left on your Desktop for your future reference.

Once FirstClass receives your registration, you will be sent information on accessing our online system and given access to customer conferences.

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## Logging in as administrator

The FirstClass installation application adds a special user account for the administrator:


- the user ID is admin
- the password is admin
- the name is Administrator.



### Caution

To preserve the security of your system, you should change the password for the

administrator account as soon as you log in by choosing Collaborate > Change Password. Keep the new password confidential. We recommend that you *not* save the password in your settings file.

-  **Warning**  
You can change the name, password, and user ID associated with the administrator account, but never delete this account. If you do, you won't be able to log in as the administrator, and you will have to re-install your server. We suggest the administrator use a personal account for non-administrator tasks.

While you can log into the administrator account using a web-based client, you must use a FirstClass client to perform all administrative tasks.


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## The administrator's Desktop

In addition to the standard objects that all users see, the administrator's Desktop contains its own set of standard objects.

Do not delete or rename any objects on the administrator's Desktop. If you do, you might not be able to perform necessary administrative tasks. These objects are protected by default to avoid mistakenly deleting them.

-  **Warning**  
If you delete one of the standard user icons from the administrator's Desktop, that object and all its contents will be deleted and it may be impossible to restore the administrator's link. If you accidentally delete an object, you can recover it using the undelete feature before audit runs.

## Desktop objects

### Start here folder

A folder containing important information about setting up and configuring your FirstClass system.

### Mailbox

This is the administrator's Mailbox where system messages will be automatically sent. We suggest the administrator create a personal user account for non-administrative duties and personal email.

### Contacts

This is the contacts folder for the administrator's account, for use in sending messages in your official capacity as administrator. Again, we suggest the administrator create a personal user account for non-administrative duties and personal email.

### FirstClass Registration

This is the form that needs to be completed and sent to Open Text to register your server.

### Groups

A folder containing all the user and conference groups defined on your server.

### General Conferences

A folder in which you can add conferences so users can collaborate effectively. These conferences are only visible to users when you subscribe a user to a conference, add a conference to a user group's Model Desktop, or put a link to a conference in a public place.

### Mail Lists

A folder containing all the public mail lists on your server.

### Core Services

A folder containing the Server Monitor and Server Control forms, as well as the Session Monitor, and the Tasks Monitors.

### Internet Services

A folder where you configure your Internet connections and services.



## **Directory Services**

A folder where you configure your FirstClass Directory Services (FCDS) connections and services.

## **Reports** (Statistics and Billing on legacy systems)

A folder containing Statistics folder, the Log Files folder, and the Statistics Control form. For more information about the statistics and log files contained in these folders, see our online help.

## **Gateways & Services**

A folder containing the gateways defined on your server.

## **FC Resource Registry**

A folder which allows you to store resources such as forms, icons, and sounds on the server, for all your users to access.

## **Help**

A folder containing the end user online help files. You can add information to this folder if your users require additional online help material for your system setup.

## **CLUI Help**

A folder containing the Command Line User Interface (CLUI) help text files.

## **Admin Help**

A folder containing all online help files. The administrator's help is only accessible from the administrator's Desktop, and by users in the Sub Admin and Webmasters groups.

## **Multi-Site Setup**

A folder containing forms used in setting up networks consisting of two or more servers, using the Directory synchronization feature.

## **MultiVol Conferences**

Folders containing a list of all the secondary volumes mounted on the server computer.

## **Volumes**

Folders containing a list of all the logical FirstClass volumes on the server computer.

## **Hard Disk**

An external folder that gives you access to the other files on the master volume containing the primary FirstClass network store.

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## **The administrator's Control menu**

The Control menu on the administrator's Desktop provides you with menu options for some of the most common server and Internet Services control tasks. These tasks are described further in our online help. Choose Admin > Control to access this menu. The following information describes these menu items and their functions:

### **Audit**

Begins immediate full audit.

### **Fast Shutdown**

Forces off all users and shuts down the server immediately. Other than the abrupt disconnect logged-in users will see, this should be considered safe at all times.

### **Polite Shutdown**

Sends a message to users warning them and waits for them to log off before shutting down the server.

This is not a practical method of shutting down a server with a large number of users logged in.

### **Restart**

Not applicable to Linux.

### **Logoff All Users**

Disconnects all users without shutting down the server.

### **Logoff Selected users**

Disconnects selected users without shutting down the server.

### **Reset Server Modems**

Reset all modems for Windows environments only. This is not applicable to Linux.

### **Pause Mirroring**

Pauses all mirrors immediately.

### **Continue Mirroring**

Resumes all paused mirrors.

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form.

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## Configuring the inetsvcs.fc file

### Internet Services and FirstClass server on same machine

If Internet Services is installed on the same machine as the FirstClass server, you can connect with either the local machine IP address of 127.0.0.1 (default), or with the specific domain name or IP address for that machine. However, you will still need to follow the configuration instructions below.

If Internet Services is installed on a different machine than the FirstClass server, you must enter the domain name or IP address of your server machine. This tells Internet Services where the FirstClass server is, enabling communication between the machines.

Configure the inetsvcs.fc file as follows:

- 1 Open the FirstClass client login form.
- 2 Click Browse and browse to /opt/fcsd/inetsvcs.fc.
- 3 Click Open to bring that information into the Login form.
- 4 Click Setup and configure the file to connect to the FirstClass server.



Note

The password used must match the gateway password.

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This document is meant for experienced FirstClass administrators who already understand the FirstClass software. This document describes how the FCNS Migrator works, how to prepare for and perform the migration, and how to set up the new FirstClass server.

## Limitations of the FCNS Migrator when used to change platforms

The FCNS Migrator performs most of the difficult migration tasks for you, but the following items will not be migrated automatically. After the migration, these items may need to be corrected, recreated, reinstalled, or restored from backup:

- read-only volumes
- external links to hard disks or CD-ROM files
- database extensions (these provide platform-specific dynamic library executable code)
- modem definition files (these are not supported on all platforms)
- modem, network, or Comm Toolbox (CTB) sessions (these are not supported on all platforms)
- multiple servers (cannot migrate multiple servers at once, or merge multiple servers into one)
- statistics log path
- RAD files

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## Before you start

You need:

- a licensed FirstClass 8.0 network store
- a FirstClass server running free of errors
- a machine that meets the FirstClass system requirements and has enough disk space for the migrated network store
- FirstClass Business Edition/Education Edition software (do not install FirstClass on the destination machine until after the migration is complete)
- the FCNS Migrator software

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## Installing the FCNS Migrator

Double-click the Install FCNS Migrator icon. It creates the FCNS Migrator folder, which contains the application and other items.

The FCNS Migrator application must reside on the same volume as your primary network store. If necessary, drag the application to the primary volume.

## Preparing the server

Once the FCNS Migrator software has been installed, complete the following steps to make sure the server is ready for the migration process.



### Warning

You could lose data if you aren't careful about the preparation.

#### 1 Ensure the following:

- The FCNS Migrator is installed on the same volume as your primary network store.
- Your server starts without errors.
- There is sufficient memory to perform the migration.

#### 2 Log into FirstClass as admin and do the following:

- Create a new folder on the administrator's Desktop called Migrated Conferences.
  - Approve any volume containing FirstClass network store files.
  - Clear out any unneeded items on your FirstClass system.
- 3 Log out. (There should be no users logged into your system from this point on.)
  - 4 Run a full audit to completion. Ensure there are no errors.
  - 5 Shut down the FirstClass server.
  - 6 Perform a full backup of your network store, including all approved volumes.
  - 7 *Recommended*  
Check the data on approved source volumes with a hard disk diagnostic and repair utility (such as Norton Utilities).

## Migration strategies

There are several ways that you can perform the migration so that the network store structure ends up on the destination machine.

- If you have enough disk space, migrate to a destination volume on your current machine, then transfer the network store to the new platform over a network.
- Migrate to a destination volume on an intermediate file server, then copy the network store to the new machine.
- Migrate directly to the new volume.
- If you are running the FCNS Migrator on Mac OS X, the target "volumes" (folders or aliases to locations on other physical volumes) must be placed in the FirstClass Server/Volumes folder before starting the FCNS Migrator application.

After deciding on a migration option, set up the destination platform's operating system in the way that best suits your needs. See [Using FirstClass Volumes](#) for information.

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## Running the migration



### Warning

If you miss any of the preparation steps, the migration will not complete successfully. You cannot abort the migration process cleanly once it has begun. Do not run the FCNS Migrator application unless you have understood all of the previous instructions, and you are sure you have completed all of the steps in order.



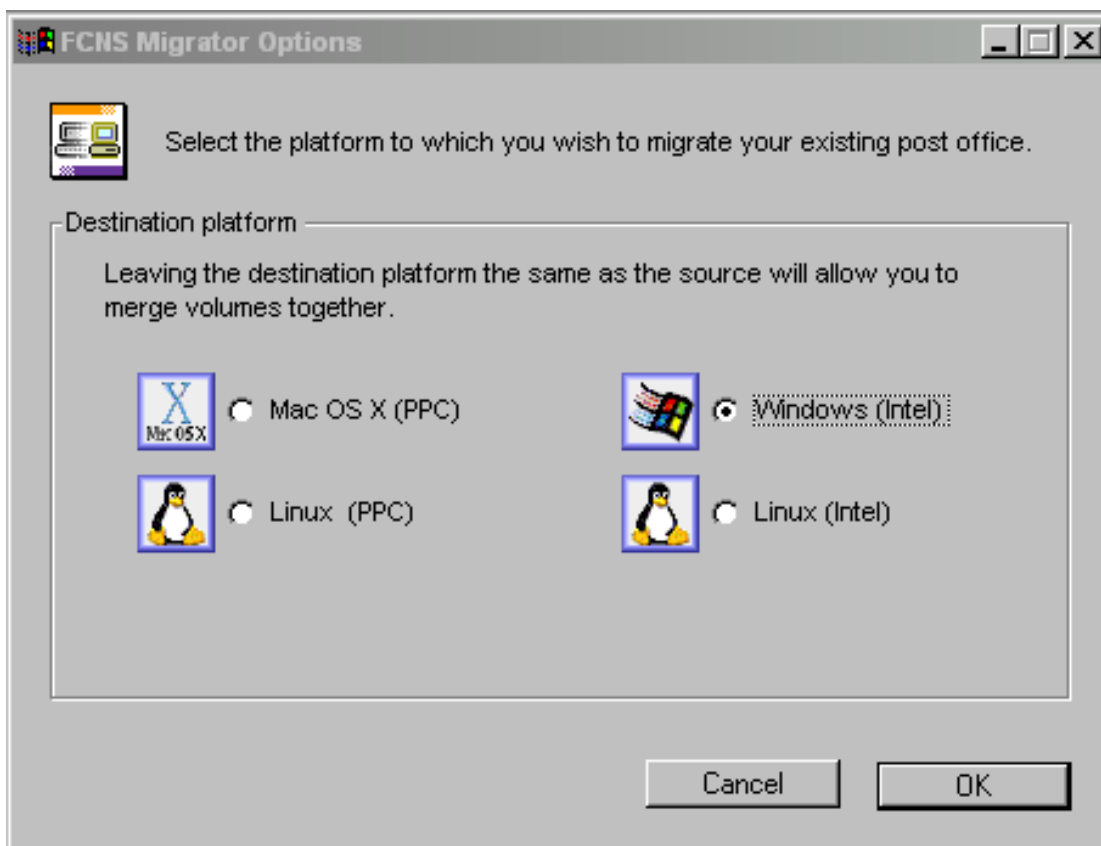
### Note

The network store migration can take a long time. For example, migrating a network store with 120,000 files can take from six to eight hours.

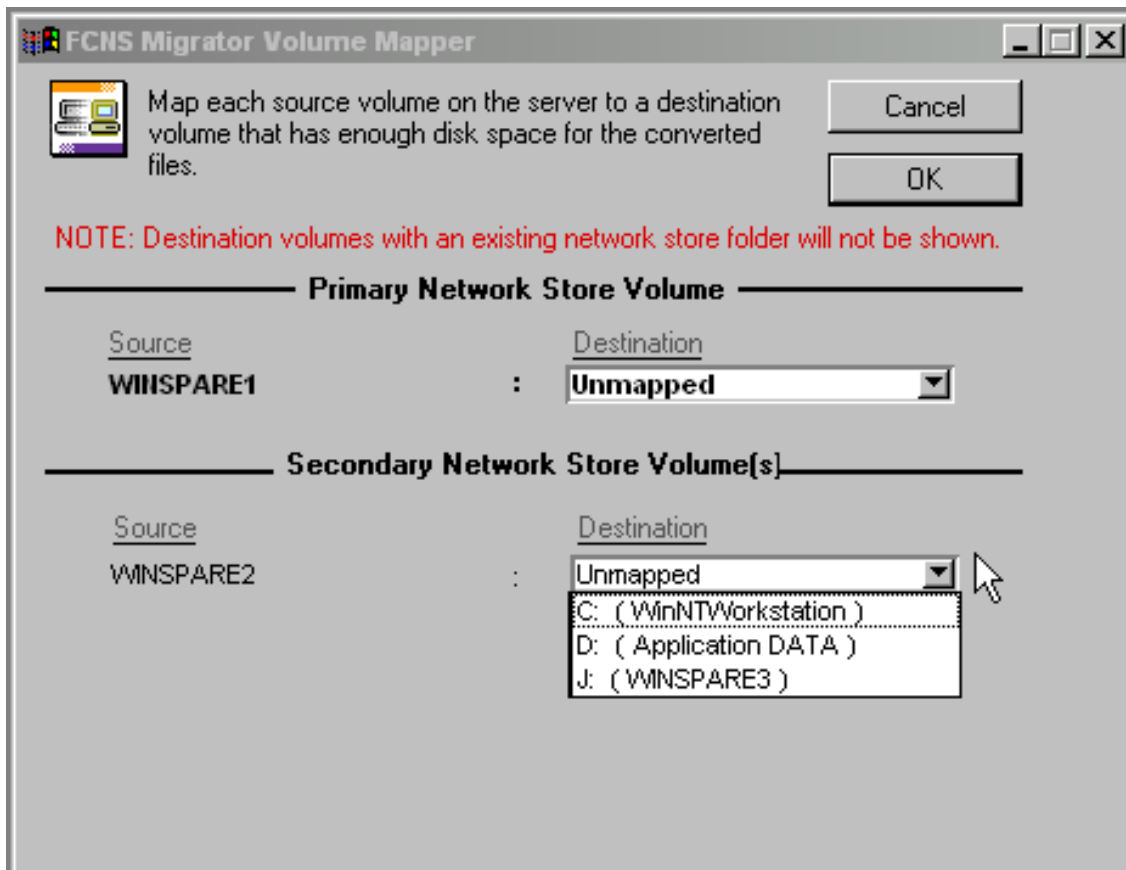
- 1 Close all other applications.
- 2 Double-click the FCNS Migrator icon to run the FCNS Migrator application.
- 3 Click Continue at the Welcome screen.



- 4 Choose the platform to which you want to migrate. The default is to merge network store volumes on your current platform.

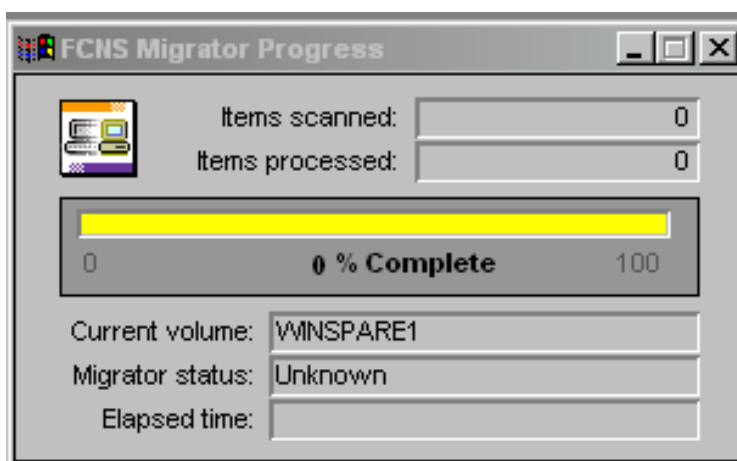


- 5 The volume mapper dialog appears.

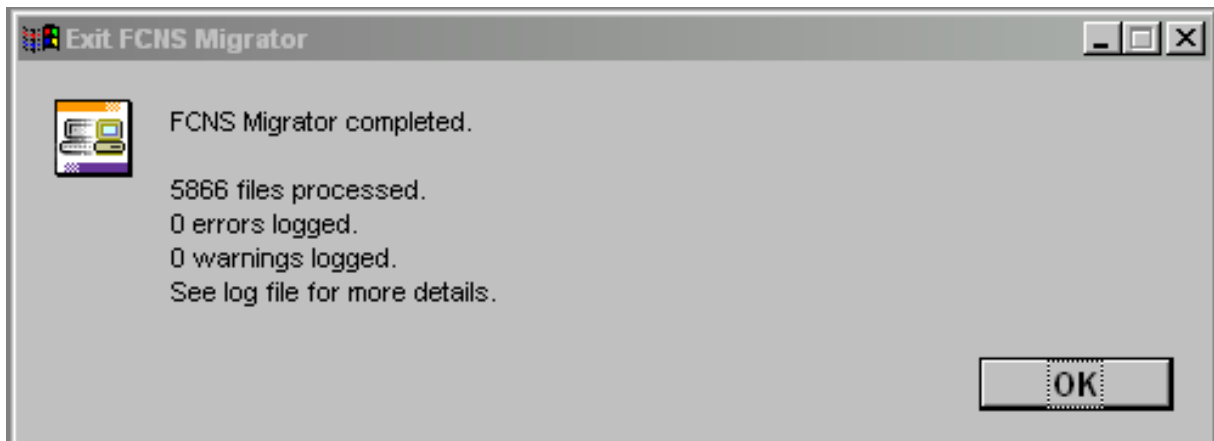


Each source volume listed on the left migrates to the destination volume you choose on the right. Whether you migrate directly to a new machine or to an intermediate volume, make sure it has enough space; the migrated network store folder will be about the same size as the original network store folder, but a merged network store folder may be significantly larger.

- 6 Once the volumes are mapped, click OK. The FCNS Migrator progress window and status bar display the progress of the migration.



When the Exit FCNS Migrator dialog appears, click OK to complete the migration.



- 7 Check the FCNS Migrator log file (POM.Log in the same folder as the FCNS Migrator) for errors.
- 8 If you have migrated to Linux, run `fcfixvol -c all all` from a terminal window to set file permissions and ownership, and to set all files to lowercase (see [Setting Network Store File Permissions and Ownerships using fcfixvol](#) for more details).
- 9 Back up the migrated network store.

This must be done before installing and starting the server for the first time.

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## Setting up the new server

Once you have performed the migration and done the backup, set up your new server:

- 1 If necessary, copy the new network store to desired location on the machine that will be the FirstClass server.
- 2 Install the FirstClass server.



Note

The installer will automatically detect that you have an existing network store.

Click OK and select the option to use the existing network store.

- 4 If you log daily server statistics in the Reports folder (Statistics and Billing folder on legacy systems), you have to modify the path to the statistics log on the Statistics Control Form after the migration.
- 5 Start the server.
- 6 Move all conferences in the Migrated Conferences folder to their logical locations and delete the Migrated Conferences folder.

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## Troubleshooting

This section lists some problems you might encounter, and suggests solutions for them.

### Missing volumes

If you run the FCNS Migrator without mounting all approved volumes, an error message appears. If this occurs, mount the additional volumes and run the FCNS Migrator again. You should also run an audit if you have recently moved or renamed any volumes.

### Disk space issues

After you map the volumes and click OK, the FCNS Migrator adds up the disk space used on each source volume and checks that there is enough room on each destination volume.

- If a volume is on a network drive, the amount of disk space cannot be determined.



- If the source volume contains other files in addition to the FirstClass network store, the FCNS Migrator includes these files when estimating the space required on the destination volume.

If you see an error for either of these reasons, check the amount of free disk space yourself. Remember that the migrated network store folder will be about the same size as the original network store folder, but a merged network store folder may be significantly larger.

### **Numerous errors**

A few errors may show up in the FCNS Migrator log file if network store links were broken, or if another type of file was stored in the network store folder. However, if you have a high number of errors (over 2% of files), check that your destination volume did not run out of space during the migration. If you lost data for this reason, delete the new partial network store, make more space available, and run the migration again.

### **Mismatched file counts**

Your log file might show that the number of items migrated is lower than the initial count. This is not a problem; it happens because some items in the Server folder are not migrated (such as modem files, log files, RAD files, or files that aren't FirstClass files).

### **Server crash at first audit**

If the new server crashes the first time an audit runs, there was probably corrupt data in your network store before migration. You must rectify this on the original machine and then start the migration process again.

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volume, and will show up in the FirstClass Volumes list on the administrator's Desktop. An additional entry corresponding to the root of the Linux file system will automatically appear in the FirstClass Volumes list.

## Uses of logical volumes

In addition to being able to refer to multiple specific physical drives from FirstClass, logical FirstClass volumes can be used to partition users and/or conferences into logical groups, such as a separate logical volume for Internet news groups, that can later be split into separate physical devices. To do this physical split at a later date, you would move the files to the desired location and replace the FirstClass folder with a link to the other location in the file system.

Logical volumes also allow multiple formerly migrated server volumes to be merged onto one or more physical drives. To do this, put the network stores in separate folders under the Volumes folder.

And finally, they also leverage one of the greatest strengths of UNIX-based systems, the logical union of different objects under the single umbrella known as the root file system. Defining a FirstClass volume as either a folder in the file system or a link to an arbitrary location in the root file system allows for maximum flexibility.

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## Setting network store file permissions and ownership using fcfixvol

Any time you copy a network store from one volume to another or restore from a backup, you must afterward use the fcfixvol utility to set the permissions on the files and folders in the network store.

Use fcfixvol as follows:

- 1 Ensure you are logged in as fcadmin.
- 2 Open a Terminal window (Applications > System Tools > Terminal).
- 3 Enter the following at the prompt:

```
cd /opt/fcsd
```

- 4 Enter the following at the next prompt:

```
./fcfixvol <volume> <fcns>
```



### Note

To apply to all volumes, or all network stores on a volume, substitute "all" for either parameter. For example, to apply this command to all network stores on all volumes, use:

```
./fcfixvol all all
```

Other examples:

```
./fcfixvol master all
```

```
./fcfixvol master fcns8001
```

Running fcfixvol with a missing argument displays all possible values for that argument on that FirstClass system.

The process may take several minutes depending on the number and size of the network store volumes. The terminal will display the name of each network store it has recognized and tell you when it has finished setting the permissions and ownership on each.

## Setting files to lowercase using fcfixvol

To also set all files to lowercase, add the argument -c (f./fcfixvol -c <volume> <fcns>)

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## Collecting activity statistics

FirstClass lets you collect daily server and Internet statistics on selected user activities. This can help you see how users are using their FirstClass environment and may also help when

troubleshooting an ongoing system problem.

Information about the types of statistics you can track, how to specify which statistics you want to track and how to view user statistics files is available in our online help.

For FirstClass on Linux, the statistics folder path you set when completing the Statistics Control form must be an fcadmin:admin writable directory. The recommended path is

/opt/fcsd/stats.

After creating such a folder, configure this path in the server as follows:

- 1** Open the Reports folder on the administrator's Desktop.
- 2** Double-click the Statistics Control form.
- 3** Enter the exact path in the Statistics folder path.

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- /opt/fcsd/stats  
If desired, you must manually create this folder, as described in Collecting activity statistics. The above is the recommended path for this folder. It is not created by default.
- /usr/sbin/fcsctl
- /usr/sbin/fcisctl  
the server and Internet Services control scripts used from a Terminal shell, and by the desktop icons. These are not normally visible from the Linux desktop.



**Note**

This folder also includes many Linux system files that should not be modified or deleted.

- /mnt  
usually lists all mount points for Linux volumes. Do not confuse /mnt with /var/opt/fcsd/volumes.

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