

FASTCopy QuickStart Guide

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Preface

Purpose

This manual is intended to guide you through the basic operation of SoftLink's FASTCopy application.

Audience

This manual has been written for FASTCopy novice users with varying degrees of technical expertise. For this reason, certain explanations may seem over-simplified to users with a strong technical background.

Scope

This manual describes the basic FASTCopy command syntax for transferring data between two machines (nodes). To gain a better understanding of FASTCopy's capabilities and for a detailed explanation of the numerous FASTCopy operating modes, please refer to the documentation listed below.

Documentation:

FASTCopy Reference Guide

FASTCopy User Guide

FASTCopy Administration Guide

FASTCopy Release Notes V2.6

How this Manual is Organized

This manual is divided into the following chapters:

Chapter 1	Getting Started – Provides a brief introduction and describes the basic FASTCopy operating environment.
Chapter 2	Basic FASTCopy Commands – Describes how to transfer files to and from network nodes.
Chapter 3	Using FASTCopy Qualifiers – Takes a closer look at the positioning and possible uses of FASTCopy qualifiers.
Appendix A	General Examples – Examples of various FASTCopy operations.
Appendix B	Taming Wildcards – Brief explanation of how to use wildcards in FASTCopy operations.

Chapter 1

Getting Started

In simple terms, FASTCopy transfers files between two machines (nodes) residing on either a LAN or a WAN. The node from which the file(s) originates is called the source node, and the node to which the files are copied is called the destination or target node. One of these two nodes must be the local node, and the other must be a remote node. The FASTCopy application *must be installed on both the local and the remote nodes*. FASTCopy operations are invoked through a UNIX shell, VMS DCL, or Windows MS-DOS command line interface.

FASTCopy can either transfer files from the local node to a remote node (push), or from a remote node to the local node (pull). *FASTCopy cannot transfer files between two remote nodes.*

Basic Operating Requirements

Before using FASTCopy for the first time, verify that:

- FASTCopy software is installed on every machine participating in FASTCopy file transfers.
- The FASTCopy nodes are connected to each other via a LAN/WAN network, or a dial-up connection.
- The FASTCopy nodes are running TCP/IP network protocols.
- Your organization's firewall is configured to allow FASTCopy transfers.
- The FASTCopy TCP/IP port is exclusively available for FASTCopy transfers at all times.

IMPORTANT: The FASTCopy default TCP/IP ports - 5745 or 5746 - are registered with IANA. No other software should be using them as their default ports.

Chapter 2

Basic FASTCopy Commands

This chapter illustrates how to perform FASTCopy file transfers and is divided into the following sections:

- Invoking FASTCopy
- Same platform file transfers
- Cross-platform file transfers

Invoking FASTCopy Commands

FASTCopy file transfer operations are invoked through a command line interface, by typing the command `fcopy` followed by two mandatory parameters, two mandatory qualifiers and any number of optional qualifiers.

IMPORTANT: FASTCopy commands must be issued from the FASTCopy working directory. Always remember to change the path to the FASTCopy working directory.

The Windows default is `C:\ProgramFiles\SoftLink\FASTCopy>`

Mandatory Parameters

The mandatory parameters are as follows:

1. The source file specification(s)
2. The destination file specification

One of these two parameters must also include the name or IP address of the remote node. If the remote node is the source node, it is included with the source file specification(s); if the remote node is the target node, it is included with the destination file specification.

For example, to transfer the file `car.exe` from the `c:\temp` directory of the local node to the `c:\temp` directory of the `nt13` remote node (assuming that both nodes are running Windows), issue the following command:

```
>fcopy c:\temp\car.exe \\nt13\c:\temp\car.exe -user=sam -pass=sam
```

Note: FASTCopy can also transfer files between directories on the local machine. Although not commonly used for this purpose, it may be helpful to practice issuing FASTCopy commands locally.

Optional Qualifiers

The two parameters may be followed by any number of optional qualifiers. Qualifiers serve to activate and control FASTCopy's numerous special features. These range from simple options, such as various ways to select files, to sophisticated capabilities, such as automatic file transfer recovery, guaranteed transfer scheduling and post-transfer processing. Therefore, knowing the functionality and limitations of each qualifier is vital to get the most out of FASTCopy. For a detailed description of qualifiers see page 15 [Using FASTCopy Qualifiers](#).

Mandatory Qualifiers

In addition to the source and destination file specifications, every FASTCopy file transfer command *must* include a **username** and **password**. The username and password are required to access the remote node or, in the case of a local operation, the local node. The username and password may either be provided by the user in the FASTCopy command line, or defined by the system

administrator in the FASTCopy Security and Administration Files residing on the remote/local node.

Username and password qualifiers

Scenario	Qualifiers
Password and username are <i>not</i> specified in the Security and Administration Files.	<code>-user=username -pass=password</code>
Password and username <i>are</i> specified in the Security and Administration Files.	<code>-nouser -nopass</code>

Although, usually appearing at the end of the command line, the username and password qualifiers can appear anywhere after the `fcopy` command (except in the middle of a file specification).

IMPORTANT: A FASTCopy file transfer operation *will not work* without a valid username and password. However, for simplicity's sake, most of the examples in this guide do not include the username and password qualifiers. These must be added should you wish to test the example commands.

Refer to the *FASTCopy Administrator's Guide* for a comprehensive description of FASTCopy security files.

FASTCopy Command Line Syntax

The following general FASTCopy command syntax applies to all supported systems.

To copy files from a local node to a remote node:

```
> fcopy source_file_spec dest_node:dest_file_spec [qualifiers]
```

Alternatively, to copy files from a remote node to a local node:

```
> fcopy source_node:source_file_spec dest_file_spec [qualifiers]
```

The table below describes the FASTCopy command parameters.

Parameter	Description
source_file_spec	The file(s) that you wish to transfer. The source file specification can comprise of multiple file specifications, each with its own positional qualifier. When specifying multiple files, you must separate each individual file specification with a comma. If a file specification includes a positional qualifier, the comma must follow the positional qualifier. (See page 15, Using FASTCopy Qualifiers for more information).
dest_file_spec	The destination of the files being transferred. If you omit the destination file specification, the source file(s) will be copied to the user's home directory on the destination node. If the source file specification matches that of a file or files already existing on the destination node, FASTCopy will prompt the user for overwrite permission. Note that in UNIX, If you use wildcards in the source file specification, you must include wildcard characters in the destination file specification that match the wildcards in the source file specification. (See page 21, Taming Wildcards for more information.)
source_node	The node from which files are transferred.
dest_node	The node to which files are transferred.
qualifiers	Mandatory (see page 9, Mandatory Qualifiers) and optional command line qualifiers that modify FASTCopy operations.

You must specify a single remote node in the command line. This node can be either the source or destination node. You can either transfer files to, or receive from a remote node.

Note: You cannot copy files between two remote nodes.

Using FASTCopy with No Parameters

In a few special cases, the `fcopy` command is issued without including any file or node specifications. These cases are as follows:

Case 1	Displaying FASTCopy version information.
Command	<code>>fcopy -info</code>
Case 2	Manual recovery of a previous FASTCopy operation.
Command	<code>>fcopy -recover</code>

Case 3	Retrieving information about a previous FASTCopy operation.
Command	<code>>fcopy -dump</code>
Case 4	Executing a command on either the local or remote node.
Command	<code>>fcopy -execute_only -remote_command or -local_command</code>

File Specifications Format

FASTCopy uses the syntax of the local operating system for both source and destination file specifications, even if – as is the case with cross-platform operations - the file specification syntax on the remote node is different. This means that when working on a UNIX machine, you specify files using UNIX syntax, on Open VMS machines, you must use Open VMS syntax, and on Windows machines, you must use Windows file specification syntax.

Below is a list of supported operating systems and their different syntax conventions.

Operating System	OpenVMS
Syntax	<code>node::disk:[dir1.dir2.....]name.type;version</code>
Example	<code>zoltar::disk0[tmp]a.txt;3</code>

Operating System	Windows
Syntax	<code>\\node\disk:\dir1\dir2\.....\name</code>
Example	<code>\\nt13\c:\tmp\a.txt</code>
Example	<code>\\123.123.123.88\c:\tmp\a.txt</code>

Operating System	UNIX
Syntax	<code>node:/dir1/dir2/...../name</code>
Example	<code>sun:/tmp/a.txt</code>

Note: Unlike Windows or OpenVMS syntax conventions, device or disk drives are not normally specified in UNIX file specifications. When working on a UNIX node opposite one of the other platforms, the drive must be specified with the term `dev/` preceding it in the path.

Example – UNIX to Windows:

```
> fcopy /tmp/a.txt nt13:/dev/c/tmp/a.txt
```

Cross-Platform Operations

In all of the examples below, the file `a.txt` in the directory `tmp` (which is under the FASTCopy working directory) is being transferred from the local node to a remote node running a different operating system. The local file specification convention is used for both source and destination specifications. The node, directory and file names are the same as in the previous examples.

UNIX to OpenVMS

Action:	Transfer from the UNIX node <code>sun</code> to the OpenVMS node <code>zoltar</code> .
Command:	<code>> fcopy /tmp/a.txt zoltar:/dev/disk0/tmp/a.txt</code>

UNIX to Windows

Action:	Transfer from the UNIX node <code>sun</code> to the Windows NT node <code>nt13</code> .
Command:	<code>> fcopy /tmp/a.txt nt13:/dev/c/tmp/a.txt</code>

OpenVMS to UNIX

Action:	Transfer from the OpenVMS node <code>zoltar</code> to the UNIX node <code>sun</code> .
Command:	<code>\$ fcopy [tmp]a.txt;3 sun::[tmp]a.txt</code>

OpenVMS to Windows

Action:	Transfer from the OpenVMS node <code>zoltar</code> to the Windows NT node <code>nt13</code> .
Command:	<code>\$ fcopy [tmp]a.txt;3 nt13::c:[tmp]a.txt</code>

Windows to OpenVMS

Action:	Transfer from the Windows NT node <code>nt13</code> to the OpenVMS node <code>zoltar</code> .
Command:	<code>c:> fcopy tmp\a.txt \\zoltar\disk0:\tmp\a.txt</code>

Windows to UNIX

Action:	Transfer from the Windows NT node <code>nt13</code> to the UNIX node <code>sun</code> .
Command:	<code>c:> fcopy tmp\a.txt \\sun\tmp\a.txt</code>

Note: When transferring files between an OpenVMS node and a UNIX or Windows node, remember that, unlike VMS, UNIX and Windows are case-sensitive.

Chapter 3

Using FASTCopy Qualifiers

A FASTCopy operation can be modified using optional qualifiers; these qualifiers are used to activate all of FASTCopy's special features, such as compression, verification, post-transfer processing, and delayed scheduling. These features are described in depth in the *FASTCopy Reference Guide* and *FASTCopy Release Notes V2.6*.

Qualifiers can either affect an entire operation, or individual source files. There are two types of qualifiers:

- Global Qualifiers
- Positional Qualifiers

Global qualifiers are typed at the end of the command line and affect the transfer of all files specified.

Positional qualifiers only affect individual source files and are specified in the source file specifications immediately after the file(s) that they affect.

Each qualifier must be preceded by a dash (-) on UNIX and Windows systems, or a slash (/) on OpenVMS systems. The dash/slash is immediately followed by the qualifier's name.

Abbreviating Qualifiers

You can use any abbreviated form of the qualifier name, provided that the abbreviation is unambiguous.

For example, the qualifier **-report** can be specified by **-report**, **-repor**, or **-repo**. However, you cannot use the abbreviation **-rep**, since FASTCopy will not be able to distinguish whether you meant **-report** or **-replace**.

A qualifier can either be specified on its own (**-report** and **-replace** are examples of such qualifiers), or with a value. The value is separated from the qualifier by an "equals" symbol (=). If the value is a string, it can also be abbreviated, again providing that the abbreviation is unambiguous.

For example:

```
-compression=normal
```

can also be written as:

```
-compr=norm
```

but not as:

```
-compr=no
```

since FASTCopy will not be able to distinguish whether you meant `normal` or `none`, both being valid compression values.

Positional and Global Qualifiers

Qualifiers that appear after the destination file specifications are global qualifiers and affect the entire FASTCopy operation. Qualifiers that are specified immediately following the source file specification are considered positional and affect FASTCopy operations on the preceding file specification only. A positional qualifier can also be specified as global, in the same command but with a different value. When the same qualifier is both positional and global, the positional qualifier's value takes precedence over the global qualifier's value for that file specification. However, the global qualifier affects all other file specifications. For more information about positional and global qualifiers, see the examples later in this section.

Examples of Qualifier Usage

FASTCopy qualifiers can be used in a variety of different ways, examples of which are provided below.

- [Specifying Multiple Source Files with Positional Qualifiers Only.](#)
- [Specifying Multiple Source Files with Positional and Global Qualifiers.](#)
- [Pulling a File from a Remote Node with Global Qualifiers.](#)

Some of the following examples include wildcards. If you are not familiar with wildcard usage, please see Appendix B [Taming Wildcards](#).

Specifying Multiple Source Files with Positional Qualifiers Only

UNIX	<pre>> fcopy "/usr/john/*.c -comp=power -veri=sync , /usr/bob/*.h - comp=none" "remote:*.back"</pre>
WINDOWS	<pre>c:> fcopy \usr\john*.c -comp=power -veri=sync , \usr\bob*.h - comp=none \\remote*.back</pre>
OpenVMS	<pre>% fcopy [usr.john]*.c /comp=power /veri=sync , [usr.bob]*.h /comp=none remote:*.back</pre>

This command performs the following twofold operation:

1. Copies all files matching `*.c` from the subdirectory `john` to the remote destination, using `power` compression and ensuring synchronized write of the output files for verification purposes.
2. Copies all files that match `*.h` from the subdirectory `bob` to the same destination, with no compression, and no verification.

Specifying Multiple Source Files with Positional and Global Qualifiers

UNIX	<pre>> fcopy "/usr/john/*.c -compression=power ,/usr/bob/*.h " "remote:*.back" -comp=non -verify=compare</pre>
WINDOWS	<pre>c:> fcopy \usr\john*.c -compression=power ,\usr\bob*.h \\remote*.back -comp=non -verify=compare</pre>
OpenVMS	<pre>% fcopy [usr.john]*.c /compression=power ,[usr.bob]*.h remote:*.back /comp=non /verify=compare</pre>

This command performs the following threefold operation:

1. Copies all files matching ***.c** from the subdirectory **john** to the remote destination using **power** compression.
2. Copies all files matching ***.h** from the subdirectory **bob** to the same destination, with no compression.
3. Compares all files (from both source file specifications) after the transfer, since **-verify=compare** is positioned as a global qualifier.

Pulling a File from a Remote Node with Global Qualifiers

UNIX	<pre>> fcopy BOSTON:/usr/sam/project/test.dat my_test.dat -compression=power -user=sam</pre>
WINDOWS	<pre>c:> fcopy \\BOSTON\usr\sam\project\test.dat my_test.dat - compression=power -user=sam</pre>
OpenVMS	<pre>\$ fcopy BOSTON::[usr.sam.project]test.dat my_test.dat /compression=power /user=sam</pre>

This command performs the following operation:

- ◆ Copies the file **test.dat** from the **project** subdirectory on the **BOSTON** node to a new file named **my_test.dat** on the local node. The **-compression** qualifier indicates that the **power** compression method will be used. The **-user** qualifier indicates that the login on the remote node will use the username **sam**. Since no password is specified, FASTCopy will prompt the user for a password.

Qualifiers with Multiple values

Some qualifiers can accept more than one value. For example, the qualifier **-verify** can accept the values **sync** and **compare**. Multiple values must be enclosed in quotation marks (" ") and each quotation mark must be preceded either by a backslash (UNIX and Windows) or two more quotation marks (OpenVMS).

Example

UNIX and Windows	<code>-verify=\"sync, compare\"</code>
OpenVMS	<code>/verify= \"sync, compare\"</code>

Appendix A

General Examples

The following examples include wildcards. If you are not familiar with wildcard usage, please see Appendix B [Taming Wildcards](#).

Transferring and Renaming a Single File

UNIX	<code>> fcopy test.dat VENUS:newtest.dat</code>
WINDOWS	<code>c:> fcopy test.dat \\VENUS\newtest.dat</code>
OpenVMS	<code>\$ fcopy test.dat VENUS::newtest.dat</code>

This command performs the following twofold operation:

1. Copies the `test.dat` file from the current working directory to the remote user's default directory on the **VENUS** node.
2. Renames it `newtest.dat`.

Transferring Multiple Files

UNIX	<code>> fcopy "*" PRTLND:/tmp</code>
Windows	<code>c:> fcopy *.* \\PRTLND\tmp</code>
OpenVMS	<code>\$ fcopy *.* PRTLND:[tmp]</code>

This command copies all files within the user directory matching the wildcard `"*"` from the local node to the relative directory `tmp` on the **PRTLND** remote node.

The new files will have the same names as the copied files. Note the following:

- If you are executing the command from the UNIX C-Shell, you must enclose the file specifications in quotes to prevent the C-Shell from misinterpreting any wildcards.
- If you initiate FASTCopy through the Application Programming Interface from a user program, you *must* omit the quotes.

Transferring and Renaming Multiple Files

UNIX	<code>> fcopy "*.c" "PRTLND:*.back"</code>
OpenVMS	<code>\$ fcopy *.c PRTLND:*.back</code>
WINDOWS	<code>c:> fcopy *.c \\PRTLND*.back</code>

This command performs the following twofold operation:

1. Copies all files matching the specification `*.c` in the local node's current working directory to the remote node `PRTLND`.
2. Renames all copied files `*.back`.

Specifying Multiple-Source Files

UNIX	<code>> fcopy "/usr/john/*.c,/usr/bob/*.h" "remote:*.back"</code>
Windows	<code>c:> fcopy \usr\john*.c,\usr\bob*.h" \\remote*.back</code>
OpenVMS	<code>\$ fcopy [usr.john]*.c,[usr.bob]*.h remote:*.back</code>

This command performs the following threefold operation:

1. Copies all files matching `*.c` from the subdirectory `john` to the remote destination.
2. Copies all files matching `*.h` from the subdirectory `bob` to the same destination.
3. Renames all copied files `*.back`.

Appendix B

Taming Wildcards

FASTCopy supports the use of wildcards (keyboard meta-characters) in file specifications. This allows you to designate multiple files using a single meta-character. When selecting which files to transfer, you can include wildcards anywhere in the source file specification to select all files whose names match the given pattern.

To copy all files specified in the source file specifications to the destination and keep the same file names:

Operating System	Method
OpenVMS or Windows	Type * or *.* in the destination file specification.
UNIX	Type * in the destination file specification.
All systems	Do not specify a filename in the destination file specification.

UNIX and Windows NT wildcards include ? (any single character) and * (any string of characters).

Using Wildcards with UNIX Shells

On UNIX systems, if you use wildcards in a source file specification and include a destination file specification, the destination file specification must contain an equal number of wildcards as the source file specification. During transfer, when the target file name is parsed, the strings matching the wildcards in the source file specification replace the corresponding wildcards in the target file name.

When you use wildcards with the `fcopy` command in a UNIX shell environment, you must enclose the entire file specification (input and/or output) in double quotes or precede the wild card character with a '\ ' (backslash). This prevents the shell from interpreting the command incorrectly.

Example Transfers

This example assumes your source directory contains the following files: `aa`, `ab`, `a.a`, `abc.a`, `audrey`, `bb`, `bc`.

File Specification	Matching Files
<code>a*</code>	<code>aa</code> , <code>ab</code> , <code>a.a</code> , <code>abc.a</code> , <code>audrey</code>
<code>a?</code>	<code>aa</code> , <code>ab</code>

The table below displays the result of transferring **a*** to **new***.

Original Filename	Filename after Transfer
aa	newa
ab	newb
a.a	new.a
abc.a	newbc.a
audrey	newudrey

Using Wildcards with OpenVMS

OpenVMS wildcards include the wildcard % (any single character) and * (any string of characters within a field).

On OpenVMS systems, the target file specification can contain a * (asterisk) wildcard in either the name *or* the type field. This is replaced by the complete matching field in the source.

Note: Unlike in UNIX, you cannot use strings containing wildcards in a field - only a string or a wild card.

Example Transfers

This example assumes your source directory contains the following files: **aa**, **ab**, **a.a**, **abc.a**, **audrey**, **bb**, **bc**.

File Specification	Matching Files
a*	aa, ab and audrey.
a*.*	aa, ab, audrey, a.a and abc.a.
a%	aa and ab.

The table below displays the result of transferring **a*.*** to **new.***.

Original Filename	Filename After Transfer
aa	new
ab	new
a.a	new.a
abc.a	new.a
audrey	new