IBM Sterling Connect:Direct FTP+

Configuration Guide

Version 1.2

This edition applies to the 1.2 Version of IBM® Sterling Connect:Direct® FTP+ and to all subsequent releases and modifications until otherwise indicated in new editions.

Before using this information and the product it supports, read the information in *Notices*, on page29.

Contents

Chapter 1

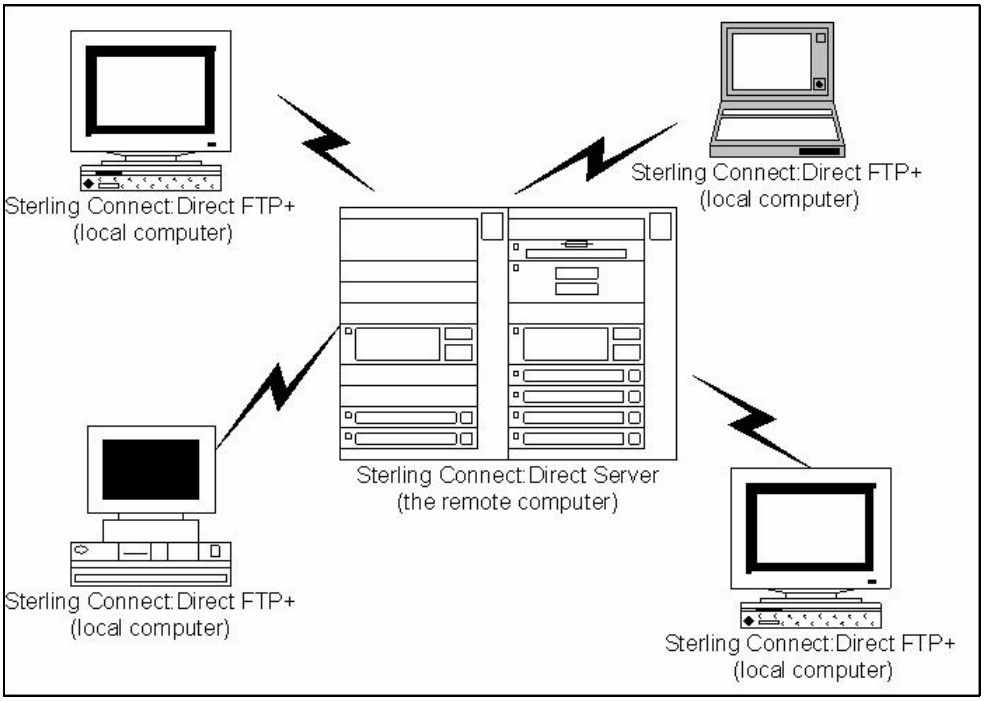
About IBM Sterling Connect:Direct FTP+

IBM® Sterling Connect:Direct® FTP+ provides a simple, reliable, and secure way to transfer files between a Sterling Connect:Direct server and Sterling Connect:Direct FTP+ sites through the following interfaces:

- A graphical interface, similar to common FTP graphical interfaces
- A command line interface that accepts common FTP commands and scripts

Before you can use Sterling Connect:Direct FTP+, configure it to communicate with a remote Sterling Connect:Direct server. Configure Sterling Connect:Direct FTP+ to always communicate with the same Sterling Connect:Direct server, or to communicate with different Sterling Connect:Direct servers during different sessions. However, it can only communicate with a single Sterling Connect:Direct server during a session. After a session ends, you can restart Sterling Connect:Direct FTP+ and establish a new session with a different Sterling Connect:Direct server.

Following is a sample Sterling Connect:Direct FTP+ network:



The local computer is always the computer where Sterling Connect:Direct FTP+ is installed. The remote computer is always the Sterling Connect:Direct server.

What Is Sterling Connect:Direct?

Sterling Connect:Direct moves files containing any type of data across multiple platforms, file systems, and media. Sterling Connect:Direct FTP+ is used by many industries throughout the world to move large volumes of data and to connect to remote offices. Sterling Connect:Direct is installed on a mainframe, UNIX, or Microsoft Windows server at a central processing site and communicates with other Sterling Connect:Direct sites in the business network.

With Sterling Connect:Direct FTP+, small businesses can use the power and protection of Sterling Connect:Direct to safely move data between local sites and computers running Sterling Connect:Direct. Sterling Connect:Direct FTP+ provides the following advantages over traditional FTP:

- Assured, reliable data delivery. Sterling Connect:Direct FTP+ has checkpoint and restart capability. If a data transmission is interrupted, the transmission is automatically restarted up to five times. If the local Sterling Connect:Direct FTP+ terminates during a file transmission from a Sterling Connect:Direct server, the transmission must be restarted when Sterling Connect:Direct FTP+ is started again. All activity and statistics are logged, so there are verifiable audit trails of all actions.

- Secure data delivery. Sterling Connect:Direct FTP+ is compatible with the IBM Sterling Connect:Direct Secure Plus, a data encryption product that runs on the remote Sterling Connect:Direct server. Data can be safely sent in an encrypted format, safe from hackers and data thieves.
- Data integrity checking. Sterling Connect:Direct ensures the integrity of the transferred data and verifies that no data is lost during transmission.

Before You Use Sterling Connect:Direct FTP+

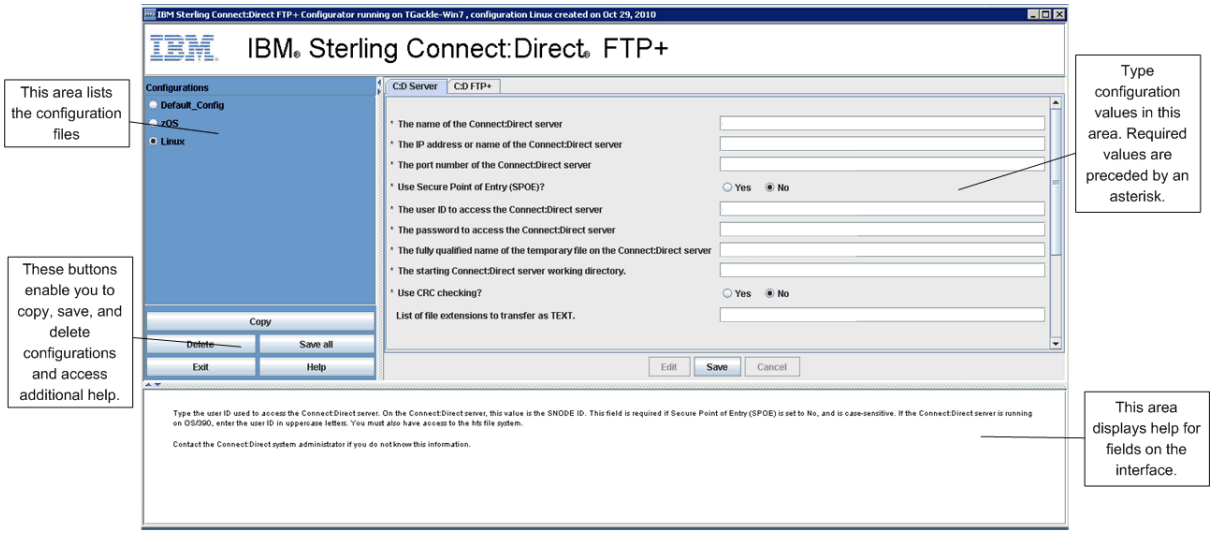
Before you use Sterling Connect:Direct FTP+, complete the following tasks:

- Install and configure Sterling Connect:Direct FTP+ on the Sterling Connect:Direct server. This is usually performed by the system administrator.
- Install Sterling Connect:Direct FTP+ on a local Microsoft Windows or UNIX computer and configure it to communicate with the Sterling Connect:Direct server.

The *IBM Sterling Connect:Direct FTP+ Release Note*s describes how to install Sterling Connect:Direct FTP+. Help on the configuration interface describes how to configure Sterling Connect:Direct FTP+.

Sterling Connect:Direct FTP+ Configuration Interface

The configuration interface configures Sterling Connect:Direct FTP+ to communicate with a remote Sterling Connect:Direct server. Following is an illustration of the configuration interface.



Use the configuration interface to initially configure Sterling Connect:Direct FTP+. Use either the graphical interface or the command line to send and receive files with Sterling Connect:Direct FTP+.

You can create multiple configurations with the configuration interface. For example, you can create configurations for sessions with different Sterling Connect:Direct servers. Or you can create configurations that enable or disable file encryption.

Chapter 2

Getting Started

Before you can use Sterling Connect:Direct FTP+ it must be configured on the Sterling Connect:Direct server and on the local computer. Use on of the following methods:

- Type information into the configuration interface. Use this method to configure Sterling Connect:Direct FTP+ on the local computer and the Sterling Connect:Direct server.
- Install a configuration file on the local computer that is created at a Sterling Connect:Direct server.

Configuring Sterling Connect:Direct FTP+

To configure Sterling Connect:Direct FTP+:

1. Start the configuration interface:
   - On a Microsoft Windows computer, select **Start>Program Files>IBM Sterling Connect:Direct FTP+> Start Configurator**.
   - On UNIX, change to the Sterling Connect:Direct FTP+ directory, and type **cdftp -C**.

   Note: The **-C** parameter is case-sensitive. You must type a capital **C**.
2. Select the Default_Config file from the Configurations panel.
3. Click **Edit**.
4. Specify the following settings on the C**:D Server** tab to define the remote computer that Sterling Connect:Direct FTP+ connects to.
   - Name of the server
   - IP address or name of the server
   - Port number of the server
   - User ID to access the server
   - Password to access the server

- Fully qualified name of the temporary file on the server
- Starting working directory on the server
- Fully qualified path of the CDFTP jar file

An asterisk (*) before a field means it is required.

5. Click the **C:D FTP+** tab.
6. Specify the following settings.
   - Name of local computer
   - Starting local working directory

   Note: If you configure Sterling Connect:Direct FTP+ on a Sterling Connect:Direct server, you must supply values for the **C:D Server** tab and **C:D FTP+** tab. Treat the server as both the Sterling Connect:Direct server and the Sterling Connect:Direct FTP+ computer.
   You may use the **C:D FTP+** tab settings as a boilerplate configuration to distribute to remote sites.
7. Click **Save**.

   An error box is displayed if you leave a required field blank. If this happens, read the error box, and click **OK**. Type the missing information and click **Save**.
8. Click **Exit**.
9. Click **Yes** on the Exit Confirmation Prompt.
10. To start Sterling Connect:Direct FTP+ on Microsoft Windows, click the Sterling Connect:Direct FTP+ desktop icon.
11. To start Sterling Connect:Direct FTP+ on UNIX, do one of the following:
    - Type cdftp -G to start the graphical interface. Parameters are case sensitive.
    - Type cdftp open to start the command line interface and connect to Sterling Connect:Direct server.

    The status message indicates if Sterling Connect:Direct FTP+ connects to the remote site. The graphical interface displays the remote site's directory on the right.

    If Sterling Connect:Direct FTP+ cannot connect to the remote computer, see Chapter 8, *Troubleshooting*.

Installing a Configuration File

You can create configuration files and distribute them to Sterling Connect:Direct FTP+ sites to reduce data entry errors and ensure consistency throughout a trading network.

Installing a Configuration File on a Microsoft Windows Computer

To install a Sterling Connect:Direct FTP+ configuration file on a Microsoft Windows computer:

1. Copy the file to the Sterling Connect:Direct FTP+ directory (normally c:\Program Files\CDFtp).
2. If the file is Default_Config.ser, start Sterling Connect:Direct FTP+.
3. If the file is not named Default_Config.ser, do one of the following:
   - Rename the file to Default_Config.ser.
   - Type cdftp **-c:***configname* open, where *configname* is the configuration file, that starts Sterling Connect:Direct FTP+ and connects to the Sterling Connect:Direct server.

   Status messages indicate if Sterling Connect:Direct FTP+ connects to the remote site. The graphical interface displays the remote site's directory on the right.

Installing a Configuration File on a UNIX Computer

To install a Sterling Connect:Direct FTP+ configuration file on a UNIX computer:

1. Copy the file to the Sterling Connect:Direct FTP+ directory (normally <*home*>/CDFtp).
2. If the file is Default_Config.ser, start Sterling Connect:Direct FTP+.
3. If the file is not named Default_Config.ser, do one of the following:
   - Rename the file to Default_Config.ser.
   - Type cdftp -c:*configname* open, where *configname* is the configuration file, that starts Sterling Connect:Direct FTP+ and connects to the Sterling Connect:Direct server.

   The status messages indicate if Sterling Connect:Direct FTP+ connects to the remote site. The graphical interface displays the remote site's directory on the right.

Overriding the Default Sterling Connect:Direct FTP+ Configuration

To override the default Sterling Connect:Direct FTP+ configuration, type cdftp -c:*configname* open, where *configname* is the configuration file to use.

Note: When Sterling Connect:Direct FTP+ is installed on the Sterling Connect:Direct server it must always use the Default_Config configuration file. It will not run if you start it on the server where the configuration file is not named Default_Config.

Chapter 3

Creating a New Configuration File

Create a configuration file by copying an existing file, changing configuration information, and saving it. Configuration files are saved with a .ser extension in the CDFtp directory.

To create a new configuration file:

1. Select the file to copy for your new configuration from the Configurations panel.
2. Click **Copy**.
3. Type the name of the new file in the **Copy configuration** dialog box and click **OK**.

   The configuration file is added to the Configurations panel.
4. Select the new configuration file from the Configurations panel.
5. Click **Edit**.
6. Change the **C:D Server** tab settings as necessary. These settings determine which remote computer Sterling Connect:Direct FTP+ connects to.

   Get the field values from the system administrator at the remote site. An asterisk (*) means the field is required.
7. Click the **C:D FTP+** tab.
8. Change the settings for the Sterling Connect:Direct FTP+ on your computer.
9. Click **Save**.
10. Click **Exit**.
11. Click **Yes** on the Exit Confirmation Prompt.
12. To start Sterling Connect:Direct FTP+ with the new configuration file:
    - Type cdftp -G -c:*configfile* to start the graphical interface, where *configfile* is the new configuration file.
    - Type cdftp -c:*configfile* to start the command line interface and connect to the Sterling Connect:Direct server. Command parameters are case sensitive.

> **Note:** When Sterling Connect:Direct FTP+ is installed on the Sterling Connect:Direct server it must always use the Default_Config configuration file.

Chapter 4

Editing a Configuration File

To edit a configuration file:

1. Change to the directory where Sterling Connect:Direct FTP+ is installed.
2. Start the configuration interface.
   - On Microsoft Windows, select **Start>Program Files>IBM Sterling Connect:Direct FTP+> Start Configurator**.
   - On UNIX, type **cdftp -C** at the command prompt. The **-C** parameter is case-sensitive. Type a capital **C**.
3. Select the file to edit from the Configurations panel.
4. Click **Edit**.
5. Change the settings as necessary. An asterisk (*) means the field is required.
6. Click **Save**.
7. Click **Exit**.

Chapter 5

Deleting a Configuration File

To delete a file:

1. Select the file that you want to delete from the Configurations panel.
2. Click **Delete**.
3. Click **OK** in the **Delete Confirmation** dialog box.

Chapter 6

Creating Configuration Files for Distribution

Rather than have the Sterling Connect:Direct FTP+ client sites input their own configurations, a Sterling Connect:Direct server site can create configuration files and distribute them to clients. This reduces the possibility of typing errors and ensures consistent configurations throughout the Sterling Connect:Direct FTP+ network.

Creating Multiple Configurations with the Copy Function

You can create multiple configuration files by copying an existing configuration file, changing the configuration information, and renaming the file.

To create three new configuration files named client1, client2, and client3 for distribution.

1. Select the file to copy from the Configurations panel.
2. Click **Copy**.
3. Type the name of the new file (**client1**) in **Copy configuration** and click **OK**.

   The Client1 configuration file is added to the Configurations panel.
4. Select the **Client1** configuration file from the Configurations panel.
5. Click **Edit**.
6. Change the following **C:D Server** tab settings:
   - The User ID to access the Sterling Connect:Direct server
   - The password to access the server
   - Fully qualified name of the temporary file on the Sterling Connect:Direct server
7. Click the **C:D FTP+** tab.
8. Change the following **C:D FTP+** tab settings:
   - Name of the local computer
   - User ID for Sterling Connect:Direct Processes

9. Click **Save**.
10. Repeat steps 1 through 8 for the client2 and client3 sites, changing information and renaming the configuration files for each site.

    You should now have four configuration files in the CDFtp directory:

    - Default_Config.ser
    - client1.ser
    - client2.ser
    - client3.ser
11. E-mail each configuration file to the appropriate Sterling Connect:Direct FTP+ client site, with instructions to copy the configuration file into the CDFtp directory and rename it to Default_Config.ser.

Creating Multiple Configurations with the cdftp -C:*configbuild* Command

Use the cdftp -C**:***configbuild* command to create multiple configuration files for implementations with a large number of Sterling Connect:Direct FTP+ clients. This command uses a configuration template and a text-based build file to create configuration files, which can then be sent to client sites.

To create three new configuration files named client1, client2, and client3 for distribution.

1. Use the configuration interface to create a configuration named Template. (Name it whatever you want.)
2. Modify the Template configuration settings as necessary for your site. Type variables in the following fields:

Tab	Field	Variable
C:D Server	User ID to access the Sterling Connect:Direct server	&userid.
	Password to access the server	&password.
	Fully qualified name of the temporary file on the server	<*Plug-in directory*>\&userid..tmp (Note the two periods after $userid.)
C:D FTP+	Name of this local computer	&netmap.
	User ID for Sterling Connect:Direct Processes	&userid.

3. Save the Template configuration file.

4. Use a text editor to create and save a configuration build file named build.cfg. Assign any name to the file.
5. Insert the following text into the build.cfg file. Bold text indicates the values to change for each client.

```
#client1's unique configuration
copy Template
&userid=client1
&password=cl1password
&netmap=WIN.CLIENT1
save client1
#client2's unique configuration
copy Template
&userid=client2
&password=cl2password
&netmap=WIN.CLIENT2
save client2
#client3's unique configuration
copy Template
&userid=client3
&password=cl3password
&netmap=WIN.CLIENT3
save client3
```

   See *Configuration Build File Variable Rules* on page 22 for build file syntax.
6. Save the build.cfg file in any directory. In this example, it is saved in the c:\directory.
7. Change to the installation directory.
8. Type cdftp -C:c\build.cfg at a prompt. Specify the complete path to the file.

   Using this example, Sterling Connect:Direct FTP+ builds three configuration files based on the values in the template and the build.cfg file. You should now have five configuration files in the CDFtp directory:

   - Default_Config.ser
   - client1.ser
   - client2.ser
   - client3.ser
   - Template.ser
9. E-mail each file to the Sterling Connect:Direct FTP+ client site, with instructions to copy the file into the CDFtp directory and rename it to Default_Config.ser.

Configuration Template Variable Rules

All variable statements in the configuration template consist of an ampersand (&), a user-defined variable name, and a period. For example:

- &userid.
- &netmap.

Variable names are case sensitive. For example, &userid and &USERID are different variables. Variables can be used for any text field but not for a numeric field.

Be careful when specifying a variable as part of a file name. For example, assuming that the &userid. value is user1, c:\&userid.txt results in c:\user1txt, with no period separating user1 and txt. In this case, the variable definition should have two periods. For example, c:\&userid..txt, which results in c:\user1.txt.

Configuration Build File Variable Rules

All variables in the configuration build file consist of an ampersand (&), a variable name, an equals sign (=), and a subsitution value. For example:

- &userid=client1
- &netmap=WIN.CLIENT2

The variable name is case sensitive. For example, &userid and &USERID are considered two different variables.

Sterling Connect:Direct FTP+ removes all leading and trailing spaces from the substituting value.

The build file can also have comments, which must be on a separate line and begin with a number sign (#).

Chapter 7

Encrypting Files

You can enable Sterling Connect:Direct® FTP+ to send encrypted files to the remote computer and to decrypt files received from the remote computer, using Sterling Connect:Direct Secure Plus, which is data encryption software that is installed on the remote Sterling Connect:Direct server.

You use the configuration interface to enable encryption. When you enable encryption, all files are encrypted when they are sent. You cannot specify encryption for specific files.

Information You Need for Encryption

To configure Sterling Connect:Direct FTP+ for encryption, collect the following information from the system administrator at the Sterling Connect:Direct server site:

- Does the connection to the Sterling Connect:Direct Secure Plus server use Secure Sockets Layer (SSL) protocol or Transport Layer Security (TLS) protocol?
- The Sterling Connect:Direct Secure Plus private key password
- The Sterling Connect:Direct Secure Plus key certificate file name
- The Sterling Connect:Direct Secure Plus root certificate file name

Sterling Connect:Direct Secure Plus must be active on the remote Sterling Connect:Direct server.

You can also use Sterling Connect:Direct Certificate Wizard to create certificates for your local computer. It is included with Sterling Connect:Direct FTP+.

Enabling Data Encryption

To enable data encryption:

1. Select the configuration you want to edit from the Configurations panel.
2. Click **Edit**.
3. Click **Yes** on **Use Secure+ for file transfers?**
4. Click **Yes** on the **Use Secure+ SSL Protocol (otherwise TLS)** field if the connection to the Sterling Connect:Direct server uses SSL protocol. If your connection uses TLS protocol, click **No**.
5. Type information in the following fields:
   - The Sterling Connect:Direct Secure Plus private key password
   - The Sterling Connect:Direct Secure Plus key certificate file name
   - The Sterling Connect:Direct Secure Plus root certificate file name

   See the field Help for information about each field. Get the values for these fields from the system administrator at the remote site.
6. Click **Save**.

   Files are now sent as encrypted data.

Creating Alternate Configuration Files

You can create two separate configurations, one with encryption enabled and one without. When you start Sterling Connect:Direct FTP+, specify which configuration to use.

For example, assume that you created two configurations: FTPENC (with encryption enabled) and FTPNoENC (with encryption disabled). Type cdftp -G -c:FTPENC.ser to start Sterling Connect:Direct FTP+ with data encryption, and cdftp -G -c:FTPNoENC.ser to start Sterling Connect:Direct FTP+ without data encryption.

Disabling Encryption

To disable encryption:

1. Select the configuration to edit from the Configurations panel.
2. Click **Edit**.
3. Click **No** on **Use Secure+ for file transfers?.**
4. Click **Save**.

Chapter 8

Troubleshooting

Problem	Solution
Sterling Connect:Direct FTP+ does not transfer files with the Sterling Connect:Direct server.	The Sterling Connect:Direct server system administrator should verify that the Sterling Connect:Direct FTP+ client is set up in the server's network map. If the Sterling Connect:Direct FTP+ client is set up in the server's network map, verify the following configuration settings: ◆ The port number of the Sterling Connect:Direct server. This is the port used for Sterling Connect:Direct node to node transfers, not the API port. ◆ The user ID to access the Sterling Connect:Direct server. This is a defined SNODEID. On a Sterling Connect:Direct for z/OS server, this must be in uppercase. ◆ The user password to access the Sterling Connect:Direct server. This is a defined SNODE password. On a Sterling Connect:Direct for z/OS server, this must be in uppercase. ◆ The fully qualified installation directory name of the plug-in. This is the path to the Sterling Connect:Direct FTP+ Plug-in on the Sterling Connect:Direct server. ◆ Path to the license key on the Sterling Connect:Direct server.
File transfer takes a long time.	Check the logging level. The higher the logging level, the more data is tracked, and file transfer takes longer. For optimal performance, the logging level should be set to 0. The logging level is specified in the following places: ◆ The **Initial Debug Value** field on the **C:D FTP+** tab of the configuration interface ◆ The **debug** command issued through the command line interface ◆ The **-d** parameter to the **cdftp** command when Sterling Connect:Direct FTP+ is started

Problem	Solution
Receives an *SAFB013I* error when Sterling Connect:Direct FTP+ tries to retrieve a directory listing from an Sterling Connect:Direct for z/OS server.	SAFB013I indicates there is a security problem with retrieving the listing from the HFS file on the Sterling Connect:Direct server. Do one of the following to resolve this: ◆ The system administrator should verify that the user ID of the Sterling Connect:Direct for z/OS job has RACF authority to access the BPX.SERVER resource. To determine this, the Sterling Connect:Direct system administrator should run a Process on the Sterling Connect:Direct for z/OS server that copies an HFS file from the SNODE, using the same user ID and password as the SNODEID and SNODE password. If this fails with an SAFB013I message, then the user ID of the Sterling Connect:Direct for z/OS job does not have sufficient access to the BPX.SERVER resource. The security administrator should use RACF to grant the user ID the necessary access. ◆ If the Process submitted in the previous step is successful, The the Sterling Connect:Direct system administrator should verify that the **User ID to access the Sterling Connect:Direct server** and **Password to access the Sterling Connect:Direct server** fields on the configuration interface are in upper case. ◆ For Sterling Connect:Direct for z/OS 4.3 or earlier with Sterling Commerce APAR 26702, the system administrator should add STAT.SNODEID=YES to the initialization parameters.
Receive an *LSMG246E - Full path specification not allowed for this operation* message when transferring files with Sterling Connect:Direct for UNIX or Sterling Connect:Direct for Microsoft Windows server.	If the user is restricted to certain directories on the Sterling Connect:Direct for UNIX or Sterling Connect:Direct for Microsoft Windows server, the temporary file on the remote Sterling Connect:Direct server must reside within a restricted directory. The temporary file is specified in the **Fully qualified name of the temporary file on the remote Sterling Connect:Direct server** field on the **C:D Server** tab of the configuration interface.
Secure file transfers do not occur.	The Sterling Connect:Direct Secure Plus settings on the Sterling Connect:Direct server and Sterling Connect:Direct FTP+ client must match. Verify the following settings: ◆ The SSL or TLS specification on the Sterling Connect:Direct FTP+ client must match the Sterling Connect:Direct Secure Plus parameter file on the Sterling Connect:Direct server. ◆ The Sterling Connect:Direct FTP+ node must be defined in the Sterling Connect:Direct Secure Plus parameter file, even if the Sterling Connect:Direct FTP+ client does not use Sterling Connect:Direct Secure Plus. ◆ The certificate for the Sterling Connect:Direct server must be in the trusted roots file on the Sterling Connect:Direct FTP+ client. ◆ The Sterling Connect:Direct FTP+ client certificate must be in the trusted roots file for the Sterling Connect:Direct server, if client authentication is requested.

Problem	Solution
Security properties not found, using default message is displayed when Sterling Connect:Direct FTP+ starts.	This message is produced by the Java Virtual Machine (JVM), not Sterling Connect:Direct FTP+. It may be caused if more than one JVM installed. It does not affect Sterling Connect:Direct FTP+ operation and can be ignored.
Spaces in the graphical interface display as boxes when Sterling Connect:Direct FTP+ runs in an X Windows emulator.	This is due to X Windows configuration and behavior. Contact the X Windows emulator vendor for a solution.

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