



SERENA[®]
StarTool[®] I/O Optimizer 3.1.5

Installation and Setup Guide

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Welcome to Serena StarTool IOO

- Product Description** Thank you for choosing Serena® StarTool® IOO (I/O Optimizer), the intelligent buffer management tool for IBM z/OS mainframes. StarTool IOO optimizes total system throughput based on a proven knowledgebase of performance rules, custom user override settings, and real-time detection of actual file usage. StarTool IOO dynamically manages both VSAM and non-VSAM I/O buffering in batch and on-line processing environments.
- Document Objectives** This document describes the functions and features of StarTool IOO and provides user operation instructions. It will help you:
- Start, stop, or query the status of StarTool IOO.
 - Understand the default optimization tables and their intended workloads.
 - Tailor buffer management settings dynamically during IOO execution.
 - Customize optimization rules if necessary.
- Audience** The information in this document is intended for IBM mainframe systems programmers and systems engineers with responsibility for managing global z/OS performance.
- Change Bars** Change bars in the left margin identify substantive changes that have been made to this manual in this release.

Before You Begin

Review the Readme file for new information and corrections that became available after this document was published. You can download the Readme file and other documentation in the IOO documentation suite from the Serena Customer Support Web site.

Conventions

- Terminology** This document adopts the following terminological conventions:
- **StarTool IOO** and **IOO** refer to Serena StarTool I/O Optimizer.
 - *somnode* refers to your library High Level Qualifier (HLQ).
- Textual Conventions** The following textual conventions identify clickable hyperlinks throughout this document:

Convention	Meaning
Blue	Dynamic cross-reference within this document.
Blue monospaced	Hypertext link to the World Wide Web.

Additional textual conventions are used in technical contexts to highlight or delimit special information:

Convention	Meaning
Greater-than symbol >	Separates items in a sequence of menu, submenu, or command selections on a GUI client. Example: Start > Programs > Serena > <i>product_name</i>
Vertical bar	Inside braces, separates mutually exclusive parameter values. Example: SETBLK={NO YES}
Curly braces { }	Required parameter value is to be selected from a list. Example: SETBLK={NO YES}
Square braces []	Optional parameter, usually selected from a list. Example: [, BUFFER=(TRACKS , xx)]
Ellipsis ...	Optional unlimited repetitions in a list.
Bold	Panel title, data entry field name, or menu option. Example: DCF Master Control Panel
UPPERCASE	Key name or keystroke combination in a data entry context. Examples: PF3, the ENTER key.
Monospaced	Source code, JCL, XML tags, or message text. Also marks keyboard data entries. Example: //JOBNAME JOB
MONOSPACED UPPERCASE	Member name, library name, command name, or required value in source code, JCL, or parameter list. Example: I00INIT
<u>MONOSPACED</u> <u>UPPERCASE</u> <u>UNDERLINE</u>	Default value in a parameter list. Example: SETBLK={ <u>NO</u> YES}
<i>Monospaced italics</i>	Variable element in data set names, member names, or parameter lists. Parameter example: STATTHLD= <i>xxx</i> , where <i>xxx</i> indicates a 3-byte value. Data set example: STRIO.V <i>vRrMm</i> , where <i>v</i> = version number, <i>r</i> = release, and <i>m</i> = modification level. (Non-italicized characters are literals.)
Monospaced mixed case Examples: <ul style="list-style-type: none"> ■ ABC* ■ <i>yyyy/mm/dd</i> ■ C'aa' ■ X'nn' 	Pattern for a field value or parameter you enter. Number of characters is significant. Punctuation such as slashes or single-quotes must be reproduced in the position shown. Examples: <ul style="list-style-type: none"> ■ Search string containing the literal ABC and the asterisk (*) wildcard character. ■ Date with four-digit year, two-digit month, and two-digit day separated by required slashes. Leading zeroes required. Example: 2010/01/01 ■ Alphanumeric character string, two characters long, in default character encoding, delimited by required single quotes, and prefixed by literal C. Example: C'AB' ■ Hexadecimal number, two digits long, delimited by required single quotes, and prefixed by literal X, where <i>n</i> = 0 to F. Example: X'FF'

Documentation

IBM Reference *VSAM Demystified* (SG24-6105) is an IBM Redbook that provides conceptual and reference information about IBM's Virtual Sequential Access Method (VSAM) for z/OS. It is useful for understanding many of the optimization principles employed by StarTool IOO.

Product Documentation The StarTool IOO product documentation consists of the Readme file and the following manuals:

Title	Description
<i>Serena® SER10TY™ 4.2 User's Guide</i>	Licensing information and instructions on how to apply StarTool IOO license keys using SER10TY.
<i>Serena® StarTool® IOO Installation and Setup</i>	Installation instructions and migration tips for StarTool IOO.
<i>Serena® StarTool® IOO User's Guide</i>	Functions and operational information for StarTool IOO.
<i>Serena® StarTool® IOO Messages</i>	Lists and describes StarTool IOO messages.

Accessing the Documentation

All product documentation is available for download to licensed customers on the Serena Customer Support Web site at <http://support.serena.com>. A user ID and password are required to log onto the Web site.

To download the documentation, perform the following steps:

- 1 Log onto the Serena Customer Support Web site.
- 2 On the Case Manager page, click the **My Downloads** tab.
- 3 In the field labeled **Please Select Product**, select **StarTool IOO** from the pull-down menu. A table displays the versions of StarTool IOO for which you are licensed.
- 4 In the table entry for the desired version of StarTool IOO, click the **Documentation** link. A list of manuals and other documents is displayed.
- 5 Click on the link for a desired document to download it individually. Alternatively, you can download all PDF documents in a single file transfer by clicking on the link for **All Documents**.

Using the PDF Documentation

Downloading Adobe Reader

All electronic manuals are delivered in Adobe Portable Document Format (PDF). To view PDF documents, you need Adobe® Reader® software. Version 7.0.5 or higher is recommended. Adobe Reader is freely available from the Adobe Web site at:

<http://get.adobe.com/reader/>.



TIP Be sure to download the *full version* of Adobe Reader. The more basic version does not include the cross-document search feature.

- PDF Document Features
- The PDF manuals and the Adobe Reader include the following features to simply use of the documentation and to make information easy to find:
- **Bookmarks.** All of the online manuals contain predefined bookmarks that make it easy for you to quickly jump to a specific topic. By default, the bookmarks appear to the left when you open an online manual.
 - **Links.** Cross-reference links within an online manual enable you to jump to other sections within the manual and to other manuals with a single mouse click. These links appear in blue.
 - **Printing.** While viewing a manual, you can print the current page, a range of pages, or the entire manual.
 - **Advanced search.** Starting with Version 6, Adobe Reader includes an advanced search feature that enables you to search across multiple PDF files in a specified directory. (This is in addition to using any search index created by Adobe Catalog — see step 3 below.)
- Multiple Document Search
- Adobe Reader Version 6 and higher supports multiple document search. To search across multiple PDF documents concurrently, perform the following steps:
- 1 In Adobe Reader, select Edit > Advanced Search (or press SHIFT+CTRL+F).
 - 2 In the text box, enter the keywords for which you want to search.
 - 3 Select the **All PDF Documents in** option, then browse to select the folder in which you want to search. (If you have a document open that has an Adobe Catalog index attached, you can leave the **In the index named...** option selected to search across all the manuals in the index.)
 - 4 Optionally, select one or more of the additional search options, such as **Whole words only** or **Case-Sensitive**.
 - 5 Click the **Search** button.
- For more information, see Adobe Reader's online help.

Technical Support

Online Support Serena Software provides online technical support through the Serena Customer Support Web site, located at <http://support.serena.com>. A user ID and password are required to log onto the Web site.

From the Serena Customer Support portal, you can:

- View the knowledge base of frequently asked questions and helpful product hints.
- Access our FTP server to download product fixes and documentation.
- Subscribe to one of our mailing list servers to receive the latest product information by e-mail.
- Search our issue-tracking system for information about existing technical problems.
- Report a new issue.
- Query the issue-tracking database to obtain the status of an open issue you reported.

E-mail and Telephone Support E-mail and telephone support are also available to licensed customers. The latest contact information can be found on the **Contacts** page of the Serena Customer Support Web site.

Designated Representative For product questions or change requests, you may need to contact a designated representative within your company before calling Serena Customer Support.

Chapter 1

Installing StarTool IOO

This chapter describes how to install StarTool IOO.

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Introduction

StarTool IOO 3.1.5 is distributed on CD or you can download an image of the distribution files from the Serena Support Web site. The following StarTool IOO and SERCOMC libraries are included on the distribution CD or downloaded media:

Library	Contents
StarTool IOO Libraries	
STRIOO.V3R1M5.CLIST	CLISTs for controlling Dynamic Control Facility (DCF) functions.
STRIOO.V3R1M5.JCL	JCL for controlling StarTool IOO.
STRIOO.V3R1M5.LOAD	StarTool IOO load modules.
STRIOO.V3R1M5.MAC	StarTool IOO Assembler macros that you can customize.
STRIOO.V3R1M5.MSGS	StarTool IOO messages.
STRIOO.V3R1M5.PANELS	ISPF panels used for StarTool IOO.
STRIOO.V3R1M5.SKELS	StarTool IOO skeletons that are used in file tailoring.
STRIOO.V3R1M5.SRC	StarTool IOO source code that you can customize.
SERCOMC Libraries	
SERCOMC.V3R1M5.CNTL	JCL for applying the StarTool IOO license
SERCOMC.V3R1M5.LOAD	SERCOMC load modules
SERCOMC.V3R1M5.XML	XML NAMES file used for licensing.

Upgrading from Earlier Releases

There is no path to upgrade from an earlier release of StarTool IOO to StarTool IOO 3.1.5. Simply follow the instructions in this chapter to perform a full install of StarTool IOO 3.1.5.

In addition, you may want to perform the following optional tasks:

- Convert existing Dynamic Control Facility (DCF) data and port it into StarTool IOO 3.1.5.
- Convert existing IOO optimization rules tables for use in IOO 3.1.5.

Refer to the *StarTool IOO User's Guide* for more information about these tasks.

Unloading the Distribution Files

Take the following steps to copy the files from the StarTool IOO distribution media to your workstation:

- 1 Insert the distribution CD into your CD ROM drive. The autorun feature invokes the StarTool IOO 3.1.5 installation wizard.

or:

Execute the IOO314Setup.exe file if you downloaded the distribution files from the Serena Support Web site.

The StarTool IOO 3.1.5 installation wizard starts.

- 2 Follow the directions that the installation wizard displays. You will need to supply the following information:
 - The location on your desktop computer where the installation files are to be copied. The default location is:
C:\Program Files\Serena\Startool IOO 3.1.5\
 - The symbolic name or dotted IP address of the host computer where the StarTool IOO product files are to reside.
 - The Host Log-on ID. This is the TSO userid of the user who will be installing the product on the host. This userid must have authority to allocate files on the target host.
 - The Transmitted File HLQ. This is the high-level qualifier for the sequential distribution files that will be uploaded to the host.
 - The PDS Library HLQ. This is the high-level qualifier that is assigned to the product libraries that are created when you run the RECEIVE job to expand the transmitted sequential files into libraries on the host.

Follow these rules when you enter the high-level qualifiers for the transmitted files and libraries:

- Do not choose high-level qualifiers that create data set names that already exist on the host. The transmit and RECEIVE process overlays existing data sets.
- Your host userid must have authority to allocate files with these names.
- Do not add leading or trailing periods.
- Do not add parenthesis or quotes (single or double).
- The maximum length of the total data set name (high-level qualifier plus the StarTool IOO library name) is 44 characters.
- Case is not significant

Editing the FTP Input File

The preceding step creates the following Start entry on your workstation:

```
Start>Programs>Serena>Startool IOO 3.1.5
```

This entry has the following subentries:

Startool IOO 3.1.5 Subentry	Description
Documentation	Click this entry to display the StarTool IOO documentation that is provided with the product.
FTP.Bat	Click this entry to upload the sequential StarTool IOO files to the host.
FTP.Input	<p>Click this entry to display and edit the FTP commands that will be executed by the FTP.Bat procedure. You can open this file with any ASCII text editor, such as Notepad.</p> <p>The name or IP address of the target host, the TSO userid, and the file names in the PUT commands reflect the responses that you entered in response to the prompts that the Install Wizard issued when you unloaded the distribution files on your workstation.</p> <p>Replace the following entry on the 3rd line of the FTP.Input file with the password associated with the host userid given on line 2: <PASSWORD> and Save the file under the same name</p> <p>IMPORTANT! After you upload the StarTool product files to the host, edit the FTP.Input file again, delete the password, and resave the file (for security reasons).</p>
Readme.htm	<p>Click this entry to display the readme file that is distributed with the product files.</p> <p>NOTE The readme file is updated if new information becomes available after the product has shipped. Check the StarTool IOO download area on the Serena Support Web site for possible readme updates.</p>
receive.IOO315.JCL	<p>Click this entry to display the list of RECEIVE commands that will be executed on the mainframe to expand the uploaded StarTool IOO product files into libraries on the host. You can open this file with any ASCII text editor, such as Notepad.</p> <p>You need to add a valid JOB statement to this file. You can do this in the following ways:</p> <ul style="list-style-type: none"> ■ You can edit the file and make this modification on the PC client and save the file before you upload it. ■ You can edit the file with the ISPF editor and add the JOB statement on the host after you upload it.

Transferring Files to the Host

After you edit the FTP.Input file to add the password, you are ready to transfer files to the host. Note that your local system must be connected to the network for this transfer to work.

To transfer the files:

- 1 Click on the entry for Start>Programs>Serena>StarTool IOO 3.1.5>FTP.Bat to begin the file transfer. You will see the following message:

```
FTP process has begun.
```

This transfer may take several minutes. You will see the following messages when the file transfer is complete:

```
FTP process has completed.  
FTP Execution Log: C:\Program Files\Serena\  
  Startool IOO 3.1.5\Ftp.log  
Press any key to continue . . .
```

- 2 After the transfer completes, view the FTP log file to verify that the files were transferred to the host without error. To do this, open the Ftp.log file with any ASCII text editor. The location of this file is given in the second message displayed above. In this example, the Ftp.log file is located at:

```
C:\Program Files\Serena\Startool IOO 3.1.5\Ftp.log
```

If any of the following errors appear, you must make corrections in the FTP.Input file and repeat [Step 1](#) above.

Message	Corrective Action
Unknown Host	Verify the name or IP address of your host.
Invalid Command	Verify that you entered the correct TSO userid and password.
Not Connected	The FTP connection was lost so these files did not get uploaded. Verify that your local system is connected to the network and resubmit the FTP.Bat program by choosing: Start>Programs>Serena>StarTool 3.1.5>FTP.Bat.

Creating the StarTool IOO Libraries

The StarTool IOO installation process creates an *hlq.RECEIVE.IOO314.JCL* file using the high-level qualifier that you specified for the Transmitted File HLQ during the file-unload process. The *hlq.RECEIVE.IOO314.JCL* file contains RECEIVE commands to expand the uploaded sequential files into PDS libraries. The file is transferred to the host in ASCII format. You must add your JOB statement to this file (if you did not do so before you uploaded it) and submit the job on the host. To do this:

- 1 Sign on to the host.
- 2 Edit the *hlq.RECEIVE.IOO314.JCL* file and replace the following four lines with a valid JOB statement:

```
//JOB CARD1
```

```
//JOB CARD2  
//JOB CARD3  
//JOB CARD4
```

- 3 Submit the job.
- 4 Examine the libraries created with the host high-level qualifier to ensure that they are PDS libraries. They may not have been created successfully despite a return code of 0 or a job sysout message that says "Restore successful to data set..."
- 5 If you are satisfied that the StarTool IOO PDS libraries have been created successfully, continue to ["Authorizing the Load Library" on page 16](#) to complete the StarTool IOO installation.

Authorizing the Load Library

You must use the Authorized Program Facility (APF) to authorize the StarTool IOO load library. Follow your installation policy in this regard.

Applying the License Key

You must apply the license key for StarTool IOO 3.1.5 that Serena Support provided to you. See the *SER10TY User's Guide* for the steps you must execute to apply the license key. The load modules and JCL that you need to run SER10TY are included on the StarTool IOO 3.1.5 download image.



NOTE You will need to obtain a new license key if your currently installed version of StarTool is older than version 3.1.4.

Customizing the JCL

To allow StarTool IOO to be started, stopped, modified, or queried, you need to customize the following JCL members of the *hlq.STRIOO.V3R1M5.JCL* library:

Member	Function
I00	Starts StarTool IOO using a persistent address space.
I00DCF	Loads or reloads the active DCF table.
I00DOC	Documents DCF and IOO storage contents.
I00GASM	Generates a customized Global Options Table.
I00INIT	Starts StarTool IOO using a transient address space.
I00INQY	Documents the status of IOO.
I00MIS	Starts the IOO monitoring address space.

Member	Function
IOOMODS	Modifies the IOO environment.
IOOSTOP	Shuts down StarTool IOO.
IOOTASM	Generates a customized Optimization Rules Table.

Make the following customizations:

Member	Customization Changes
IOO	Specify the DSN of the IOO JCL library and the IOO load library.
IOODCF	Specify the DSN of: <ul style="list-style-type: none"> ■ Library where the DCF input records are located. The shipped JCL procedures expect DCF input to come from the IOO JCL library. ■ IOO load library.
IOODOC	Specify the DSN of the IOO load library.
IOOGASM	Customize this JCL only if you are modifying a Global Options table. Refer to the <i>StarTool IOO User's Guide</i> .
IOOINIT	<ul style="list-style-type: none"> ■ Specify the DSN of the IOO JCL library and IOO load library. ■ Concatenate the DSN of the SERCOMC load library to the STEPLIB DD statement in job step S010. ■ If you are using the SERLIC DD statement method for license validation, uncomment the SERLIC DD statement and specify the DSN of the library where your XML licenses are located in job step S010.
IOOINQY	Specify the DSN of the IOO load library.
IOOMIS	Specify the DSN of the IOO load library.
IOOMODS	Specify the DSN of the IOO JCL library and IOO load library.
IOOSTOP	Specify the DSN of the IOO load library.
IOOTASM	Customize this JCL only if you are modifying an Optimization Rules table. Refer to the <i>StarTool IOO User's Guide</i> .

Copying the Procedures to PROCLIB

Copy the following JCL procedures that you customized in the preceding step to your system's PROCLIB:

- IOO
- IOODCF
- IOODOC
- IOOINIT
- IOOINQY
- IOOMIS

- IOOMODS
- IOOSTOP

Sample JCL to copy these members to PROCLIB follows:

```
//jobname JOB job parameters
//UNLOAD EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//IJCL DD DSN=hlq.STRIOO.V3R1M5.JCL,DISP=SHR
//OPROCS DD DSN=hlq.PROCLIB,DISP=SHR
//SYSIN DD *
COPY I=IJCL,O=OPROCS
SELECT M=IOO
SELECT M=IOODCF
SELECT M=IOODOC
SELECT M=IOOINIT
SELECT M=IOOINQY
SELECT M=IOOMIS
SELECT M=IOOMODS
SELECT M=IOOSTOP
```

Installing the Dynamic Control Facility

There is an ISPF interface to the DCF. To install this interface, take the following steps:

- Edit the IOODCF member of the *hlq.STRIOO.V3R1M5.CLIST* library and specify the DSN of the StarTool IOO panel, message, and load libraries and the ISPF profile library.
- Copy member IOODCF to your system's CLIST library.

Additional Information for CA-ACF2 Users

If your site uses CA-ACF2 for security, define ULTIG00 to the CA-ACF2 command limiting table. If you do not take this action, the following problem will occur when you execute the CLIST(IOODCF) CLIST, because CA-ACF2 classifies CLIST calls as commands (whereas RACF does not):

```

*****
*,ISPD223
*,
*,
*,Invalid command
*,Command 'ULTIG00' not found or contains invalid syntax.
*,
*,
*,
*,
*,
*,
*,
*,Current dialog statement:
*,ISPEXEC SELECT CMD(ULTIG00) NEWAPPL(IOO) PASSLIB NEWPOOL
*,
*,Enter,HELP,command for further information regarding this error.,
*,Press,ENTER,key to terminate the dialog.,
*,
*,
*,
*,
*,
*****

```

Making IOO Non-Cancelable (Optional)



NOTE Do not cancel StarTool IOO. If you cancel StarTool IOO without following the shutdown procedure found in ["Starting and Stopping StarTool IOO" on page 22](#), the cancellation will have unpredictable results.

To prevent this from happening, this optional step makes the IOO task non-cancelable. To make it non-cancelable, you need to add an entry in the SCHEDxx member of your system's PARMLIB as follows and re-IPL your system:

```

PPT PGMNAME(ULTIMIS)      /* PROGRAM NAME */
NOCANCEL                  /* NON-CANCELABLE */

```


Chapter 2

Validating the Install

This chapter describes how to validate the StarTool IOO installation.

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Starting and Stopping StarTool IOO

Use the following console commands to start and stop IOO:

Console Command	Function
/S IOO,OPTIONS= <i>option</i> where <i>option</i> is K0 through K5	Starts IOO.
/P IOO	Stops IOO.

For example, you can enter this command on the system console to start IOO:

```
/S IOO,OPTIONS=K0
```

If StarTool IOO comes up, you have validated the installation.

Notes on the OPTIONS Parameter

The IOO startup options consist of a 2-character value and are entered via the OPTIONS operand of the IOO JCL procedures as follows:

- Procedure IOO will start IOO and will keep an address space active for IOO.
- Procedure IOOINIT will start IOO but will not keep an active address space.
- Procedure IOOMODS will cause a new startup options to be implemented (without your having to stop the product).

Serena provides six Global Options tables. Global Option tables ULTIGBK0 through ULTIGBK5 correspond to OPTIONS=K0 through K5. These tables result in the following processing:

VSAM Optimization Strategies				
Option	Reblock Non-VSAM	COBOL RMODE 31 Buffers	Non-COBOL RMODE 31 Buffers	Allow LSR Buffer Spaces > 16M
K0	No	X		
K1	No	X	X	
K2	No	X	X	X
K3	Yes	X		
K4	Yes	X	X	
K5	Yes	X	X	X



CAUTION! Serena does not recommend the use of options K2 or K5 because of the large amount of buffer space that IOO will allocate for VSAM. Do not use options K2 or K5 unless you absolutely require one of these optimization strategies in a given circumstance.

Examples

Starting IOO and using an OPTIONS value of K4 will authorize IOO to do the following:

- Perform non-VSAM re-blocking.
- Use RMODE 31 buffers where possible for both COBOL and non-COBOL programs.

Starting IOO and using an OPTIONS value of K2 will authorize IOO to do the following:

- Not perform non-VSAM reblocking.
- Use RMODE 31 buffers where possible for both COBOL and non-COBOL programs.
- Allow the buffer space for LSR component optimizations to exceed 16MB.

Refer to the *StarTool IOO User's Guide* for more information about optimization.

Appendix A

Transferring Files to the Host

The XMIT binary format files that were unloaded from the StarTool IOO CD or download image must be transferred from your PC to the host.

If you did not use the automated upload process described in ["Editing the FTP Input File" on page 13](#) and ["Transferring Files to the Host" on page 15](#), you can use the methods described in this appendix to transfer the files from your PC to the host.

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Introduction

The files on the CD or download image are in a compressed format. Unload the StarTool IOO files to your PC according to the instructions given in ["Unloading the Distribution Files" on page 12](#) for more details.

The transfer process must not convert the file character format; the transfer must be binary. The receiving host files must have these characteristics:

Record Format	Fixed block
Record Length (LRECL)	80
Block Size	3120

Choose the procedure for the upload software that you prefer:

- To use FTP, see ["File Transfer Using FTP" on page 26](#).
- To use 3270 emulator software, see ["File Transfer Using 3270 Emulator" on page 27](#).

File Transfer Using FTP

This section describes how to use FTP to upload the StarTool IOO files from a PC to a host. These instructions assume that you have:

- TCP/IP FTP connectivity from your PC to the host.
- The dotted decimal IP address of the host.
- A host userid and password.
- Security authorization to allocate files on the host.

Execute these steps on your PC.

- 1** Open an MS-DOS command window:

Start > Programs > Accessories > Command Prompt

- 2** At the DOS prompt, type this command to start FTP and connect to the host. Specify the dotted decimal IP address of the target host:

```
ftp nnn.nnn.nnn.nnn
```

Press Enter.

- 3** When you are prompted for your userid, type your host userid and press Enter.
- 4** When you are prompted for your password, type your host password and press Enter.
- 5** At the FTP prompt, type this command to set the transfer type to binary:

```
binary
```

Press Enter.

- 6** At the FTP prompt, type each of these commands in the order shown and press Enter:

```
literal site blocksi=3120
literal site lr=80
literal site rec=fb
```

These commands set the DCB for the receiving files that are automatically allocated on the host.

- 7 At the FTP prompt, type this command to transfer a file from the PC to the host:

```
put "c:\pc_filename" 'host.target.dataset.name'
```

The first file name is the PC file to be transmitted. You must enclose the PC file name in double quotes if there are spaces in a directory name or in the file name.

The second file name is the receiving file on the host. Enclose the host file in single quotes to suppress the addition of the working directory (userid) as a high level qualifier.

Press Enter.



NOTE The host file you specify in the PUT command is not a PDS library. Specify an intermediate file name rather than a DSN you intend to use for a StarTool IOO library on the host.

- 8 Type a PUT command at the FTP prompt and press Enter for each file to be transferred to the host.
- 9 After you transfer all of the StarTool IOO files from the PC to the host, type the following command at the FTP prompt to disconnect from the host and end the FTP session.

```
quit
```

Press Enter.

- 10 Close the MS-DOS command prompt window.
- 11 Log on to the host and verify that the new host files have the proper record format, logical record length, and block size.
- 12 Proceed to ["Expand Host Target Files" on page 28](#) to receive the files on the host.

File Transfer Using 3270 Emulator

Popular 3270 emulator programs include Extra!® from Attachmate Corporation, and Personal Communications from IBM. These programs commonly use IND\$FILE to transfer files between a PC and a host.

Execute these steps if you use 3270 emulator software on your PC to transfer StarTool IOO files to the host.

- 1 In the File Transfer facility of your PC host emulator software, change the TSO binary transfer type to use these settings, or define a new TSO Binary transfer type:

Setting	Value
VM / TSO / CICS	TSO
Transfer Type	Binary
ASCII	NO
CRLF	NO
APPEND	NO
Record Format	Fixed (block)
Record Length	80
Block Size	3120
Allocation Units	Cylinders
Primary Allocation	1
Secondary Allocation	1

- 2 With the preceding settings, the file transfer software should allocate a sequential target file on the host for each file transfer. However, if you want to preallocate one or more host target files, use these file allocation parameters:

```
SPACE=(CYL , (1 , 1) ,
DCB=(DSORG=PS , RECFM=FB , LRECL=80 , BLKSIZE=3120)
```

- 3 Run the file transfer function to transfer each StarTool IOO file on the PC to a target sequential disk data set on the host.



NOTE The host file you specify in the transfer facility is not a PDS library. Specify an intermediate file name rather than the DSN you intend to use for the StarTool IOO PDS library on the host.

- 4 Log on to the host and verify that the new host files have the proper record format, logical record length, and block size.
- 5 Proceed to ["Expand Host Target Files" on page 28](#) to receive the files on the host.

Expand Host Target Files

Execute these steps to expand the sequential XMIT files transferred from your PC into StarTool IOO libraries.

- 1 Choose Option 6 (Command) from the ISPF/PDF Primary Option Menu.
- 2 On the ISPF Command Shell panel, type the TSO RECEIVE command:

```
RECEIVE INDATASET('host.target.dataset.name')
```

Specify one of the sequential XMIT files that you uploaded from the PC.

- 3 The RECEIVE command prompts you with these messages:

INMR901I Dataset USERID.I00.GOLDCODE.CNTL.FIX from...
INMR906A Enter restore parameters or 'DELETE' or 'END'

Respond by typing a DATASET parameter to specify the data set name you want for the expanded PDS library:

```
DATASET('somnode.I00.loadlib') NEW|OLD
```



NOTE Serena recommends that you define the last two nodes in your PDS library names the same as the first two nodes of the original files on the distribution media.

- 4 The RECEIVE command displays IEBCOPY sysout messages.



NOTE If you need more information about using the RECEIVE receive command, type the following on the Command line.

```
TSO HELP RECEIVE
```

- 5 Complete the StarTool IOO installation by going to ["Authorizing the Load Library"](#) on [page 16](#).

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