



**SERENA<sup>®</sup>**  
**StarTool<sup>®</sup> DA 5.7.2**

Installation and Setup

Serena Proprietary and Confidential Information

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# Table of Contents

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	<b>Welcome to Serena StarTool DA . . . . .</b>	<b>9</b>
	Before You Begin . . . . .	9
	Conventions . . . . .	10
	Documentation . . . . .	11
	Accessing the Documentation . . . . .	11
	Using the PDF Documentation . . . . .	12
<i>Chapter 1</i>	<b>StarTool DA Components . . . . .</b>	<b>15</b>
	Error Detection Servers . . . . .	16
	StarTool DA Batch EDS . . . . .	16
	StarTool DA CICS EDS . . . . .	16
	Workload Server . . . . .	16
	Dump Database Indexes . . . . .	17
	StarTool DA Batch Dump Analysis . . . . .	17
	StarTool DA CICS Dump Analysis . . . . .	17
	COBOL Language Server . . . . .	17
	Debugging and Viewing Server . . . . .	18
	Viewing Modes for Batch Dumps . . . . .	19
	Special Support for CICS Dumps . . . . .	19
	Host Installation Configurator . . . . .	20
	CICS Installation and Configuration Server . . . . .	21
<i>Chapter 2</i>	<b>Installation Prerequisites and Planning . . . . .</b>	<b>23</b>
	Installation Overview and General Requirements . . . . .	24
	Base Software Installation . . . . .	24
	The Host Installation Configurator . . . . .	24
	Installation Postprocessing . . . . .	25
	StarTool DA Software Libraries . . . . .	26
	Binary Product Libraries . . . . .	26
	Uncompressed Product Libraries . . . . .	27
	Consolidated Software Libraries . . . . .	27

Target Libraries (TLIBs) . . . . .	28
Execution Libraries . . . . .	28
Distribution Libraries (DLIBs) . . . . .	28
Storage Allocation Planning . . . . .	29
Dump Database Planning . . . . .	30
Dump Storage Allocation Requirements . . . . .	30
Batch Dump Database Organization . . . . .	31
CICS Dump Database Organization . . . . .	31
Coexistence with Obsolete Dump Database Formats . . . . .	33
Integration Planning . . . . .	33
Security Requirements . . . . .	33
Authorized Program Facility (APF) . . . . .	33
Started Task Security . . . . .	34
CICS Region Requirements . . . . .	35
Software License Administration . . . . .	35
Before Installing StarTool DA . . . . .	35
After Installing StarTool DA . . . . .	35
Configuration Planning Worksheets . . . . .	36

*Chapter 3*

**Unloading the Product Media . . . . . 43**

Running the PC Installer . . . . .	44
Editing the FTP Input File . . . . .	47
Editing the Receive Job File . . . . .	47
Transferring Files to the Host . . . . .	48
Submitting the Receive Job on the Host . . . . .	49

*Chapter 4*

**Installing the Base Software . . . . . 51**

IEBCOPY Installation . . . . .	52
SMP/E Installation . . . . .	53
Define SMP/E Datasets and CSI Zones . . . . .	54
Allocate SMP/E Software Libraries . . . . .	55
RECEIVE the StarTool DA Software into SMP/E . . . . .	55
Run the APPLY CHECK Job . . . . .	56
APPLY the StarTool DA Software or Fix . . . . .	56
Run the ACCEPT CHECK Job . . . . .	57
ACCEPT the Installed Software . . . . .	58

---

<i>Chapter 5</i>	<b>The Host Installation Configurator . . . . .</b>	<b>59</b>
	Configurator Prerequisites . . . . .	60
	CLIST Setup for Configurator Job ESPYCL00 . . . . .	60
	Customizing User Exit CLISTs . . . . .	61
	Starting the Host Installation Configurator . . . . .	61
	Configuration IDs . . . . .	61
	Primary Option Panel . . . . .	62
	Importing Configurations from a Prior Release . . . . .	64
	Creating or Modifying StarTool DA Configurations . . . . .	65
	Global Configuration Definition Panels . . . . .	66
	ChangeMan ZMF Integration Specifications . . . . .	73
	CICS Global Environment Definitions . . . . .	74
	CICS Server Assignments and Region Definitions . . . . .	77
	CICS Region System Parameters . . . . .	81
	CICS SVC Dump Exit Parameters . . . . .	83
	StarTool DA Batch Environment . . . . .	84
	Database Environment . . . . .	87
	REXX EXEC Environment . . . . .	89
	Language Processor Specifications . . . . .	89
	Configuration Job Requirements . . . . .	91
	Exiting the Configurator . . . . .	92
	<b>Generating the Configuration Jobs . . . . .</b>	<b>93</b>
<i>Chapter 6</i>	<b>Building the Execution Libraries . . . . .</b>	<b>97</b>
	Reviewing the Configuration Instructions . . . . .	98
	Configuration Job Naming Conventions . . . . .	100
	Running the Configuration Jobs . . . . .	102
	General Configuration Jobs . . . . .	102
	LPAR Configuration Jobs . . . . .	102
	CICS Configuration Jobs . . . . .	103
	Applying the SER10TY License Keys . . . . .	103
	Updating Your Security Software . . . . .	103
<i>Chapter 7</i>	<b>Workload Server Administration . . . . .</b>	<b>105</b>
	Starting the Workload Server . . . . .	106
	Prerequisites . . . . .	106
	SDSF Start Command . . . . .	106

---

Overriding the Master Control Table . . . . .	107
Running the Workload Server in Test Mode . . . . .	107
Stopping the Workload Server. . . . .	109
Changing Workload Server Configurations . . . . .	109
Modifying Workload Server JCL . . . . .	109
Workload Server JCL Parameters . . . . .	110
Enabling Remote Dump Viewing . . . . .	110
Modifying SYSIN Keyword Parameters . . . . .	111
Workload Server SYSIN Record Syntax . . . . .	112
Base Software SYSIN Parameters . . . . .	113
StarTool DA Batch SYSIN Parameters . . . . .	116
StarTool DA CICS SYSIN Parameters . . . . .	116
Example Workload Server SYSIN Member . . . . .	120
SDSF Operator Commands. . . . .	121

*Chapter 8*

**Configuring StarTool DA CICS . . . . . 125**

StarTool DA CICS Configuration Overview. . . . .	125
Server Installation and Configuration. . . . .	126
Database Libraries. . . . .	127
Starting the Installation and Configuration Server . . . . .	129
Assigning CICS Jobs to a Dump Database. . . . .	130
Assigning CICS Jobs and Regions to a Database . . . . .	131
Selecting and Distributing Dumps . . . . .	132
Assigning Dumps to a Database . . . . .	133
Defining Duplicate Dump Suppression . . . . .	140
Duplicate Dump Definition . . . . .	141
Defining Dump File Storage. . . . .	144
Defining Dump Storage Requirements . . . . .	146
Suppressing Identical Dumps . . . . .	146
Preventing Redundant CICS SVC Dumps. . . . .	147

*Chapter 9*

**ChangeMan ZMF Integration . . . . . 149**

Enabling ChangeMan ZMF Integration . . . . .	150
ChangeMan ZMF User Authorization . . . . .	152
ChangeMan ZMF Compile Options . . . . .	153
Customizing StarTool DA for ChangeMan ZMF Options . . . . .	153
Overriding the User ID for ZMF Listings . . . . .	154
Specifying Region Size for ZMF Listings . . . . .	155

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<i>Chapter 10</i>	<b>Advanced Customization of StarTool DA Batch . . .</b>	<b>161</b>
	Master Control Tables . . . . .	162
	Naming Conventions. . . . .	162
	Table Structure . . . . .	163
	Predefined Control Table Options . . . . .	164
	StarTool DA Batch Only Option . . . . .	164
	Implementing a Mini Dump . . . . .	164
	Implementing the Debugging and Viewing Server . . . . .	165
	Modifying Control Tables . . . . .	166
	Customizing StarTool DA JCL . . . . .	167
	Overriding Default Dump Selection. . . . .	167
	Suppressing Dump Processing . . . . .	168
	Alternate DDs for Mini Dump Report. . . . .	168
	Overriding QUIESCE and IBNCHGD. . . . .	169
	Customizing Panel Attributes . . . . .	172
<i>Chapter 11</i>	<b>Advanced Customization of StarTool DA CICS. . .</b>	<b>173</b>
	Selecting the Screen Capture Method . . . . .	174
	Customizing the System Table . . . . .	176
	ESPYETB Operands. . . . .	176
	Dynamic Modification of System Table Options. . . . .	180
	IBM Debug Tool Integration . . . . .	181
	Debug Tool Integration Setup . . . . .	182
	Customizing the System Table. . . . .	182
	Adding DSECTs. . . . .	184
	Step 1: Building the Source. . . . .	184
	Step 2: Building the Control Statement. . . . .	185
<i>Chapter 12</i>	<b>Customizing Database Maintenance . . . . .</b>	<b>187</b>
	Dump Database Purge Parameters . . . . .	188
<i>Chapter 13</i>	<b>Validating the Configured Install . . . . .</b>	<b>191</b>
	Validating StarTool DA Batch . . . . .	192
	Validating StarTool DA CICS. . . . .	192
	Accepting the Install in SMP/E . . . . .	194

<i>Chapter 14</i>	<b>Troubleshooting. . . . .</b>	<b>195</b>
	Workload Server Troubleshooting . . . . .	196
	Subsystem Not Found . . . . .	196
	Checking the Workload Server . . . . .	197
	Reference Code = x"0081" . . . . .	198
	Subsystem Activation Errors. . . . .	198
	DB2 or IMS Does Not Initialize . . . . .	199
	Conflicting SVC 51 Intercepts . . . . .	199
	Opening Old StarTool DA Batch Dump Files. . . . .	200
	Running Multiple Instances of StarTool DA . . . . .	200
<i>Appendix A</i>	<b>Sample JCL for an IEBCOPY Installation . . . . .</b>	<b>201</b>
	Base Software Install Job for IEBCOPY . . . . .	202
<i>Appendix B</i>	<b>Sample JCL for SMP/E Installation. . . . .</b>	<b>205</b>
	Sample DD Statements . . . . .	206
	SMP/E Dataset and CSI Zone Definition . . . . .	208
	SMP/E Software Library Allocation . . . . .	210
	The SMP/E RECEIVE Job . . . . .	213
	The APPLY CHECK Job . . . . .	214
	The APPLY Job . . . . .	216
	The SMP/E ACCEPT CHECK Job . . . . .	217
	The SMP/E ACCEPT Job . . . . .	219
	<b>Index. . . . .</b>	<b>221</b>

# Welcome to Serena StarTool DA

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**Product Description** Thank you for choosing Serena® StarTool® DA (Dump Analyzer), the intelligent dump analysis and debugging tool for IBM z/OS mainframes. StarTool DA helps mainframe software engineers diagnose the causes of **ab**normal **end**-of-job (ABEND) conditions. The product provides automated dump diagnostics, interactive call tracing support, dump archiving and maintenance, and a full-featured debugging interface.

## **Batch, CICS, DB2, and IMS**

StarTool DA supports analysis and debugging of both batch and CICS ABENDs. Optional debugging support for IBM DB2 and IMS database ABENDs is also available.

## **ChangeMan ZMF**

Users of Serena® ChangeMan® ZMF may optionally integrate their software change management system with the debugging support of StarTool DA using StarTool DA's ZMF Integration Option.

**Document Objectives** The *StarTool DA Installation and Setup* manual provides installation planning information for StarTool DA and describes installation and setup procedures.

**Audience** The information in this document is intended for IBM mainframe systems engineers and programmers with responsibility for installing and testing StarTool DA Batch, StarTool DA CICS, and other StarTool DA options.

## Before You Begin

See the Readme for the latest updates and corrections for this manual. You can download the latest version of the Readme from the [Serena support website](#).

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# Conventions

- Terminological The following terminological and style conventions are used throughout this document:
- z/OS™ represents the z/OS and OS/390® IBM® operating systems.
  - StarTool DA Batch also is referred to as CICS Dump Analyzer or DA CICS.
  - Examples may show either StarTool DA or ChangeMan ZMF-DA in screen and print titles. The product name in the title indicates whether the StarTool DA installation is configured to integrate with ChangeMan ZMF, and both types of installations were used in the preparation of examples for this manual.

Typographical The following typographical conventions are used in the online manuals and online help. These typographical conventions are used to assist you when using the documentation; they are not meant to contradict or change any standard use of typographical conventions in the various product components or the host operating system.

Convention	Explanation
<b>bold</b>	Identifies UI controls, including buttons, check boxes, lists, options, and fields. Also emphasizes important information.
<i>italics</i>	Introduces new terms. Occasionally indicates emphasis. Used for book titles.
UPPERCASE	Indicates keys or key combinations that you can use. For example, press the <b>ENTER</b> key.
monospace	Indicates syntax examples, values that you specify, or results that you receive.
<i>monospaced italics</i>	Indicates names that are placeholders for values you specify; for example, <i>filename</i> .
<b>monospace bold</b>	Indicates the results of an executed command.
vertical rule	Indicates mutually exclusive choices in a command syntax line.

# Documentation

StarTool DA publications include the Readme file and the following:

Title	Description
<i>Serena<sup>®</sup> SER10TY User's Guide</i>	Installation information for SER10TY licensing software and instructions on how to apply license key SERTificates.
<i>Serena<sup>®</sup> StarTool<sup>®</sup> DA Batch User's Guide</i>	Concepts, features, and functions of StarTool DA Batch, which provides dump analysis and ABEND recovery assistance in a batch environment.
<i>Serena<sup>®</sup> StarTool<sup>®</sup> DA CICS User's Guide</i>	Concepts, features, and functions of StarTool DA CICS, which provides dump analysis and ABEND recovery assistance in a CICS environment.
<i>Serena<sup>®</sup> StarTool<sup>®</sup> DA Messages</i>	A consolidated message reference for all product options, with error recovery recommendations.
<i>Serena<sup>®</sup> StarTool<sup>®</sup> DA Installation and Setup</i>	A guide on how to install and configure StarTool DA Batch and StarTool DA CICS.
<i>Serena<sup>®</sup> StarTool<sup>®</sup> DA Batch Training Guide</i>	A quick-start guide to StarTool DA Batch basic features and functions.
<i>Serena<sup>®</sup> StarTool<sup>®</sup> DA CICS Training Guide</i>	A quick-start guide to StarTool DA CICS basic features and functions.

## Accessing the Documentation

The *StarTool DA Installation and Setup* manual and the *Serena SER10TY User's Guide* are shipped with the product as printed manuals and are included on the product media. In addition, the full documentation suite is provided in electronic form on the Serena Support website.

You may copy the electronic documentation to an intranet server for internal use, subject to the terms of the Master License and Services Agreement (MLSA).

### **Accessing Documentation on the Product Media**

The *StarTool DA Installation and Setup* and the *SER10TY User's Guide* are located in the Documentation folder in the root directory of the product media. These documents can be accessed without installing the product.

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## Accessing Documentation Online

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

- 1 After logging onto the site, click on the **My Downloads** tab.
- 2 From the list of products in the **Please Select Product** drop-down menu, select StarTool DA.
- 3 In the download list, find the desired version of StarTool DA, then click the **Download Documentation** link for that version.

A page displays a list of available documentation for the selected release.

- 4 Click the **Download** link for the document you want to download.

## Using the PDF Documentation

To view PDF files, use Adobe® Reader®, which is freely available from [www.adobe.com](http://www.adobe.com).



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

This section highlights some of the main Reader features. For more detailed information, see the Adobe Reader online help system.

The PDF manuals include the following features:

- **Bookmarks.** All of the 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 of each online manual.
- **Links.** Cross-reference links within a 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.
- **Comments.** All PDF documentation files that Serena delivers with ChangeMan ZMF have enabled commenting with Adobe Reader.

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Adobe Reader version 7 and higher has commenting features that enable you to post comments to and modify the contents of PDF documents. You access these features through the Comments item on the menu bar of the Adobe Reader.

- **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.)

To search within multiple PDF documents at once, perform the following steps (requires Adobe Reader version 6 or higher):

- 1 In Adobe Reader, select **Edit > Search** (or press **CTRL+F**).
- 2 In the text box, enter the word or phrase for which you want to search.
- 3 Select the **All PDF Documents in** option, and browse to select the folder in which you want to search.
- 4 Optionally, select one or more of the additional search options, such as **Whole words only** and **Case-Sensitive**.
- 5 Click the **Search** button.



**NOTE** Optionally, you can click the **Use Advanced Search Options** link near the lower right corner of the application window to enable additional, more powerful search options. (If this link says **Use Basic Search Options** instead, the advanced options are already enabled.) For details, see Adobe Reader's online help.



# Chapter 1

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## StarTool DA Components

StarTool DA consists of the following major components. Major runtime components are extensively configurable during installation and setup, while two configuration tools assist you with the setup process. This chapter describes the features and functions of each component.

Error Detection Servers	16
Workload Server	16
COBOL Language Server	17
Debugging and Viewing Server	18
Mini Dump Debugging Report	20
Host Installation Configurator	20
CICS Installation and Configuration Server	21

## Error Detection Servers

ABEND Detection	The StarTool DA Error Detection Servers (EDSs) detect ABEND conditions, intercept ABENDs and dumps, and capture a rich set of state information that supplements the information produced by standard IBM dumps. Intercepted dump details are routed to the <a href="#">Workload Server</a> (WLS) for dump database management and report formatting.
Notifications	The EDSs also issue ABEND notifications. Notifications are fully configurable.

### StarTool DA Batch EDS

The StarTool DA Batch EDS logs TSO and batch ABEND notifications to the system console or to the System Management Facility (SMF) for error management and problem reporting.

### StarTool DA CICS EDS

The StarTool DA CICS EDS uses standard CICS exits to detect CICS transaction or system ABENDs. The EDS notifies CICS users of an ABEND condition by sending informational messages to terminals, printers, transient data queues, and CICS user IDs. Notifications may also be sent to selected TSO user IDs.

## Workload Server

Dump Database Management	The Workload Server (WLS) formats all dump information captured by the <a href="#">Error Detection Servers</a> , performs basic error analysis, and stores this information in the dump database. The WLS provides centralized control and scheduling of dump data capture, analysis, printing, and dump database maintenance.
Status Inquiries	The system operator issues ESA-like inquiries to determine the status of the Workload Server.

## Dump Database Indexes

The WLS dump database allows only one common index for batch dumps. For CICS dumps, however, the WLS supports up to 127 database indexes (DBIs) in your choice of configurations. For example, you might define any of the following:

- Multiple DBIs, one for each of one or more CICS regions.
- One common DBI across all CICS regions on the same LPAR.
- One common DBI across multiple CICS regions on multiple LPARs that share DASD.

## StarTool DA Batch Dump Analysis

At your option, the WLS writes formatted batch dump information to a [Mini Dump Debugging Report](#) that you can view in your job output. Alternatively, dump information may be formatted for interactive viewing in the [Debugging and Viewing Server](#) (DVS).

## StarTool DA CICS Dump Analysis

CICS dumps are formatted by the WLS for interactive viewing using the [Debugging and Viewing Server](#).

# COBOL Language Server

Language Database Management	The COBOL Language Server (CLS) manages StarTool DA's COBOL language database and the language Database Key File (DBKF). By adding custom JCL to your compile jobs, you can direct a copy of your COBOL compilation listing output to the CLS, which formats it for analysis and stores it in the language database. An individual VSAM file is created in the database for each compiled program. The DBKF contains a master index to the language database and information about the particular COBOL translators defined to StarTool DA.
------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

The language database is updated at translation time, compile time, and link-edit time. In addition, since many shops do not keep an extensive library of compilation listings, StarTool DA automatically compiles the

failing COBOL program and updates the language database whenever an ABEND occurs. Backlevel versions of each program are optionally retained for change tracking purposes.

Language Data Analysis Information in the language database is accessed interactively using the [Debugging and Viewing Server](#), which allows you to toggle between a failing instruction in the dump and the corresponding COBOL code. The language database is accessed automatically during ABEND time as well to produce the Failing Instruction Section of the [Mini Dump Debugging Report](#).

## Debugging and Viewing Server

Interactive Dump Analysis The Debugging and Viewing Server (DVS) is an interactive problem-solving tool that provides dump viewing and analysis in an ISPF environment. A variety of system programmer support features assist the diagnosis of both batch and CICS ABENDs.

DVS features include the following:

- **Formatted Control Blocks** – CICS control blocks are presented in an easily readable format. The DVS explicitly identifies and groups data control blocks (DCBs), access control blocks (ACBs), and their associated data items.
- **Point-and-Shoot Facility** – Interactive point-and-shoot lets you trace through dump control blocks (CSECTs), dump data sections (DSECTs), and the contents of individual addresses. Place the cursor on an address in an instruction, press ENTER, and StarTool DA goes to that address in the dump to display its contents.
- **COBOL Source Code Debugging**– The DVS allows you to view the library-level COBOL source that corresponds to a set of instructions in the dump. This source may be a CICS EXEC statement, a SQL source statement, a simple COBOL verb, or a COPY statement. The failing program can be analyzed at three levels: the COBOL input source code, the compiler output source code, and the link-edited object code. Current and prior versions of each code level can be compared.
- **Working-Storage View Using COBOL Definitions** – The DVS displays the contents of any working-storage area in the dump using the COBOL definition in the language database. The values of these

storage areas are frozen at ABEND time to assist with problem determination.

- **Disassembler Function** – The DVS generates assembler code from a load module to assist in dump diagnosis and problem resolution, even in the absence of the original assembler source code member.
- **Last Record Read/Written** – The DVS lists the last record read or written for every open file. All access methods (BSAM, QSAM, VSAM, BPAM, and so on) are supported.
- **Command-Line Search Operations** – Find and search commands scan a dump for hexadecimal and character data.
- **ABEND Code Help** – Online help for ABEND codes provides brief explanations and reference information as needed.

Authorization The DVS automatically filters the list of dumps available for viewing based on user ID. The RACROUTE macro controls user dump viewing authorization.

## Viewing Modes for Batch Dumps

For batch ABENDs, the DVS allows you to toggle between the interactive ISPF viewer and two alternative, static viewing modes. The alternative viewing modes are:

- **IPCS Mode** – Uses IBM's Interactive Problem Control System (IPCS) to view enhanced batch ABEND diagnostics in addition to the original dump data.
- **Mini Dump Compatibility Mode** – Displays the batch [Mini Dump Debugging Report](#) in ISPF.

## Special Support for CICS Dumps

The StarTool DA CICS option adds special facilities to the EDS, WLS, and DVS to support the diagnosis of CICS ABENDs. These facilities enable the following DVS features:

- **CICS Trace Table** – The trace table shows CICS EXECs, CICS command resources, and the CICS response code for a failing transaction.

- **Interactive Control Block Facility** – Go to any CICS control block in the dump by referencing its abbreviation at the command line.
- Multilevel CICS Support      StarTool DA CICS automatically recognizes and supports multiple levels of CICS. You need not reinstall or customize StarTool DA when you upgrade CICS.

## Mini Dump Debugging Report

The Mini Dump Debugging Report captures batch dump information and ABEND diagnostics in static, printable form. In contrast to the [Debugging and Viewing Server](#) (DVS) ISPF viewer, which is an interactive problem-solving tool, the Mini Dump is a debugging report. It emphasizes archival reporting and automated diagnostics for the more common types of failures. Its contents are otherwise similar to the DVS viewer.

CICS ABENDs are not reported on the Mini Dump.

## Host Installation Configurator

After you install the base StarTool DA software using IEBCOPY or SMP/E, the host installation configurator assists you in configuring the product. Dump diagnostics are necessarily tied to your specific hardware and software environment, so extensive configuration and customization is required. To simplify this process, StarTool DA's host installation configurator generates the necessary customization JCL automatically.

When you run the configurator, a series of ISPF panels prompts you for detailed information about your system environment. Your requirements can be entered over multiple sessions and edited as needed until you are satisfied. The configurator validates your selections as you proceed.

You then use the host installation configurator to perform a final configuration validation check and generate the configuration JCL jobs. Run these JCL configuration jobs at your convenience to create the StarTool DA executables.

# **CICS Installation and Configuration Server**

The Installation and Configuration Server (ICS) is an administration server that configures the organization of CICS dump databases and user notifications for CICS ABENDs.

The CICS Installation and Configuration Server (ICS) should not be confused with the host installation configurator that customizes StarTool DA and builds the product execution libraries. You can run ICS at any time after product installation to create or modify CICS dump environment parameters.



## Chapter 2

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# Installation Prerequisites and Planning

Before you install Serena® StarTool® DA, you should review the system requirements in the Readme file, complete the installation planning worksheets in this chapter, and ensure that all prerequisites are satisfied. Step-by-step preparation in each of the following areas will ensure a smooth and efficient installation of StarTool DA.

<a href="#">Installation Overview and General Requirements</a>	24
<a href="#">StarTool DA Software Libraries</a>	26
<a href="#">Storage Allocation Planning</a>	29
<a href="#">Dump Database Planning</a>	30
<a href="#">Integration Planning</a>	33
<a href="#">Security Requirements</a>	33
<a href="#">Software License Administration</a>	35
<a href="#">Configuration Planning Worksheets</a>	36

# Installation Overview and General Requirements

- Installation Permissions
- In order to run the installation software, you must have the following permissions:
- TSO user ID and password.
  - Security authorization to allocate files on the host.
  - FTP file transfer authorization on the host.
  - Windows administrator authority on the client PC, if installing from CD-ROM or from files downloaded from the Serena Customer Support Web site.

Connectivity

Unloading the product media additionally requires:

- TCP/IP and FTP connectivity to the host
- Host IP address

Step-by-step instructions for unloading the product media appear in [Chapter 3, "Unloading the Product Media" on page 43](#).

## Base Software Installation

Installation Methods

Two methods of installing the base software are supported: IEBCOPY installation and SMP/E installation. Customers should refer to IBM's documentation for detailed planning information for these facilities, if needed.

Customizable sample JCL is provided to assist installation by either method. Step-by-step instructions for installing the base software appear in [Chapter 4, "Installing the Base Software" on page 51](#).

## The Host Installation Configurator

After base software installation is complete, you will run the StarTool DA Host Installation Configurator to tailor StarTool DA's base software and batch dump processing configuration to suit your specific requirements.

Configurator Requirements

Before running the Host Installation Configurator, you must perform the following tasks:

- 1 Copy member ESPYCL00 to a CLIST library in the SYSPROC concatenation for your TSO user ID.
- 2 Edit the copied member, replacing the placeholder library name INSTALL with the name of the actual [consolidated software library somnode](#). INSTALL .

Step-by-step instructions for customizing ESPYCL00 and running the configurator appear in [Chapter 5, "The Host Installation Configurator" on page 59](#).

Execution Libraries	When you are satisfied with your configuration, you will use the Host Installation Configurator to generate JCL customization jobs. (See <a href="#">Chapter 5, "The Host Installation Configurator" on page 59</a> .) You will then run these jobs to build the StarTool DA execution libraries. Step-by-step instructions for building the execution libraries appears in <a href="#">Chapter 6, "Building the Execution Libraries" on page 97</a> .
Software License	Once the StarTool DA executables are created, you must apply your software license to finalize the install. StarTool DA licensing requirements are described in <a href="#">Chapter 6, "Applying the SER10TY License Keys" on page 103</a> . You should also refer to the <i>Serena SER10TY User's Guide</i> for detailed licensing information.
Runtime Security and Permissions	Runtime security and user permission requirements are described in the topic <a href="#">Chapter 6, "Updating Your Security Software" on page 103</a> .

## Installation Postprocessing

Post-installation activities should be performed in the following order:

- 1 Start the Workload Server (WLS). WLS administration is described in [Chapter 7, "Workload Server Administration" on page 105](#).
- 2 Configure the StarTool DA CICS Error Detection Servers (EDSs) using the CICS Installation and Configuration Server (ICS) if you are installing StarTool DA CICS. [Chapter 8, "Configuring StarTool DA CICS" on page 125](#).
- 3 Perform any other desired customizations.
- 4 Run the test jobs supplied with the product to verify the configured installation. See [Chapter 13, "Validating the Configured Install" on page 191](#).

- 5 Run the SMP/E ACCEPT CHECK and ACCEPT jobs if you are performing an SMP/E install. See [Chapter 4, "Installing the Base Software"](#) on page 51.

## StarTool DA Software Libraries

As you install and configure StarTool DA, you will work with several sets of software libraries. You should understand the purposes and naming conventions associated with each of the following library types:

- [Binary Product Libraries](#)
- [Uncompressed Product Libraries](#)
- [Consolidated Software Libraries](#)
- [Target Libraries \(TLIBs\)](#)
- [Execution Libraries](#)
- [Distribution Libraries \(DLIBs\)](#)

### Binary Product Libraries

The binary product libraries contain the compressed software and documentation shipped on the product media or downloaded from the Serena Customer Support Web site. These libraries are unloaded from the source media to become temporarily resident on your local PC client.

From the PC client, the binary product libraries are uploaded to the host using FTP, then expanded into the *uncompressed product libraries* by the StarTool DA RECEIVE job.

Transmitted File HLQ The binary product libraries are uploaded to host datasets with the high-level qualifier (HLQ) you specify to the PC installer for the "transmitted files" when you unload the product media. (See [Chapter 3, "Unloading the Product Media"](#) on page 43 for details.)

The binary product libraries are temporary datasets that may be deleted after product installation is complete.

## Uncompressed Product Libraries

The uncompressed product libraries are created on the host by the StarTool DA RECEIVE job, which expands the *binary product libraries* into uncompressed form. The uncompressed product libraries are the source of the software modules that will populate the *consolidated software libraries* in configured form after installation and configuration. For customers performing an SMP/E install, the uncompressed product libraries are defined to SMP/E as the software input libraries (TXLIBs).

PDS Library HLQ    The dataset names for these libraries take the high-level qualifier (HLQ) you specify to the PC installer for “PDS libraries” when you unload the product media. (See [Chapter 3, “Unloading the Product Media” on page 43](#) for details.)

The uncompressed product libraries are temporary datasets that may be deleted after product installation, configuration, and acceptance testing are complete.

## Consolidated Software Libraries

The consolidated software libraries are working software libraries targeted by your installation and configuration activities. These libraries are allocated by JCL supplied with the product and customized by the user. (See [Appendix A, “Sample JCL for an IEBCOPY Installation” on page 201](#), and [Appendix B, “Sample JCL for SMP/E Installation” on page 205](#), for examples.) For customers performing an SMP/E install, the consolidated software libraries are defined to SMP/E as the installation target libraries (TLIBs).

Among these libraries is the *somnode*.INSTALL library, where configuration definitions created by the host installation configurator are stored. Also stored here—at least initially—are the configured software [Execution Libraries](#).

Allocation JCL    The dataset names for these libraries take the high-level qualifier (HLQ)  
                  HLQ    you assign in your customized JCL during host software library allocation. Customers performing an SMP/E install have the option to concatenate a mid-level qualifier as well. Together, the high-level qualifier and mid-level qualifier in an SMP/E install serve to distinguish SMP/E libraries from

non-SMP/E libraries for StarTool DA. (See [Appendix B, "Sample JCL for SMP/E Installation"](#) on page 205 for an example.)



**TIP** This HLQ can be changed in the host installation configurator at the **Source Data Set Names** panel ESPYIP1F. See the topic [Chapter 5, "Source Library Dataset Names"](#) on page 71.

The consolidated software libraries are permanent datasets that should be retained for the life of the installed product release.

## Target Libraries (TLIBs)

"Target library (TLIB)" is SMP/E terminology for the [consolidated software libraries](#) described above

## Execution Libraries

Execution libraries are the runtime libraries created by the StarTool DA customization jobs generated by the host installation configurator. These libraries are created when you submit the customization jobs for execution.

Production  
Library HLQ

By default, the consolidated software libraries are used as the execution libraries. However, Serena recommends that you generate separate execution libraries for production.



**TIP** Distinct HLQs can be assigned to production versions of the execution libraries in the host installation configurator at the **Execution Libraries** panel ESPYIP1G. See the topic [Chapter 5, "Execution Library Dataset Names"](#) on page 72.

The execution libraries are permanent datasets that should be retained for the life of the installed product release.

## Distribution Libraries (DLIBs)

Distribution libraries (DLIBs) are archival libraries populated by the SMP/E ACCEPT job after base product installation, configuration, and acceptance testing in the target libraries (TLIBs) is complete.

SMP/E Dataset HLQ The SMP/E DLIB datasets take the same high-level qualifier (HLQ) as other SMP/E datasets. This HLQ is assigned when you allocate the host software libraries. Optionally, you can concatenate a mid-level qualifier as well. Together, the high-level qualifier and mid-level qualifier in an SMP/E install serve to distinguish SMP/E libraries from non-SMP/E libraries for StarTool DA. See [Appendix B, "Sample JCL for SMP/E Installation"](#) on page 205 for instructions on allocating these libraries.

The distribution libraries are permanent datasets that should be retained for the life of the product.

## Storage Allocation Planning

Use the following guidelines to estimate memory and DASD storage requirements for your StarTool DA installation.

Installed Component	Storage Requirements
StarTool DA Batch	<ul style="list-style-type: none"> <li>■ 160K common storage for system interface</li> <li>■ 80 cylinders (3390 type) DASD for libraries</li> <li>■ 26 cylinders of DASD per DA Batch dump</li> </ul>
StarTool DA CICS	<ul style="list-style-type: none"> <li>■ 6K of common storage for each CICS region</li> <li>■ 20 cylinders of DASD for libraries</li> <li>■ 4 cylinders of DASD for each translator defined in DBKF</li> <li>■ 10 tracks of DASD for each CICS region</li> <li>■ 2 cylinders of DASD for each CICS dump</li> </ul>
Workload Server (WLS)	<ul style="list-style-type: none"> <li>■ One permanent address space and additional temporary address spaces for utilities</li> <li>■ 40K common storage for subsystem interfaces</li> <li>■ 6K common storage for base DBI processing</li> <li>■ 20 cylinders (3390 type) DASD for libraries</li> <li>■ 4 cylinders DASD for each translator defined in DBKF</li> </ul>



**NOTE** These guidelines apply to the final installed configuration for StarTool DA. DASD storage requirements for the temporary product libraries unloaded from the product media are not included.

## Dump Database Planning

StarTool DA allows you to organize your dump databases according to ABEND code, source LPAR for the ABEND, production ABENDs versus test environment ABENDs, and similar criteria. By grouping the dumps for similar ABENDs, you can track and report on ABEND activity more meaningfully.

In addition, you can customize the types of dumps captured: IBM system dump, StarTool DA mini-dump, StarTool DA Debugging and Viewing Server (DVS) dump, or any combination of these.

The configuration information for each dump database you create is stored in a Dump Database Index (DBI) by StarTool DA.



**IMPORTANT!** Decide on a dump database organization *before* you install the software. The number of dump databases and the storage allocated to each during installation should be appropriate for the types of dumps captured and the volume of ABEND activity expected.

For detailed dump database planning, consider the following:

- [Dump Storage Allocation Requirements](#)
- [Batch Dump Database Organization](#)
- [CICS Dump Database Organization](#)
- [Coexistence with Obsolete Dump Database Formats](#)

### Dump Storage Allocation Requirements

If you choose the default dump database settings, DASD requirements for dump storage can be estimated from the following guidelines. Requirements depend on the options you choose.

- 26 cylinders (3390 type) per DA Batch dump
- 2 cylinders per DA CICS dump

## Batch Dump Database Organization

StarTool DA Batch allows only one dump database to be defined for each active [Workload Server](#) (WLS). Only one WLS may be active at a time. However, different WLS servers can be configured on the same LPAR to point to different databases that use different inclusion criteria for dumps.

The StarTool DA Batch Master Control Table (EMCT) for WLS stores your dump database configuration. The following options are configurable:

- **ABEND code or category:** Dumps can be included or excluded from the database based on ABEND code, originating address space, or started task.
- **Failing program, job, or step name:** Dumps can be included or excluded from the database based on the name of the failing program, job, or step.
- **Dump type:** IBM system dump, StarTool DA mini-dump, StarTool DA Debugging and Viewing Server (DVS) dump, or any combination. The dumps captured may vary by failing program name or type of ABEND.
- **Production versus test environment:** Dumps can be included or excluded from the database based on whether the active Workload Server is defined as part of a production environment or a test environment.

## CICS Dump Database Organization

StarTool DA CICS supports up to 127 dump databases per [Workload Server](#) (WLS). Each database stores the dumps for CICS ABENDs according to criteria you choose during installation. Each database gives the [Debugging and Viewing Server](#) (DVS) a different view of ABEND activity and simplifies reporting.

Database organization and allocation depend on your answers to these questions:

- On which CICS systems will DVS be installed?

- How many CICS regions will be supported by each dump database?
- How many CPUs will be supported by each installed StarTool DA CICS instance?

For StarTool DA CICS, dump database configuration operates on two levels. High-level options map CICS ABENDs to StarTool DA CICS dump databases based on general environment criteria. High-level configurable options include:

- **CICS job:** ABENDs for a specific CICS job may be mapped to a separate database by job name. Low-level items such as ABEND code are aggregated.
- **CICS region:** All ABENDs for a specific CICS region may be mapped to a specific dump database. All CICS jobs for the region may be aggregated.
- **CPU or LPAR:** All CICS ABENDs originating on a specific CPU or LPAR may be mapped to a specific dump database. If multiple CICS regions reside on that system, all ABENDs for them are aggregated.
- **Workload Server (WLS) environment:** All CICS ABENDs in production environments may go to one database, while ABENDs for test environments go to another. All CPUs and all CICS regions originating the ABENDs are aggregated.
- **Dump type:** IBM system dump, StarTool DA mini-dump, StarTool DA Debugging and Viewing Server (DVS) dump, or any combination.

These options may be combined as desired, either to aggregate more dumps into a common dump database or to separate dumps by a combination of high-level criteria. Dumps for a given ABEND may be copied to one or several databases as desired; duplicates may also be suppressed automatically.



**IMPORTANT!** If dumps for CICS ABENDs on multiple LPARs are mapped to a common database, all the LPARs must have access to that database through shared DASD.

For each CICS dump database defined by high-level criteria, a collection of low-level filtering rules may be used to include or exclude dumps. Low-level configurable options include:

- ABEND code
- CICS transaction ID

- CICS terminal ID
- CICS user ID

The dump database configuration for StarTool DA CICS is defined using the [CICS Installation and Configuration Server](#).

## Coexistence with Obsolete Dump Database Formats

Dumps created by any StarTool DA Version 5.7.x or earlier can be accessed by StarTool DA Version 5.7.2.

If you are running an earlier version of StarTool DA, please contact Serena Support.

## Integration Planning

If you plan to integrate StarTool DA's debugging facilities with the software change control management features of Serena's ChangeMan ZMF, you will need to set up the StarTool DA Workload Server (WLS) started task as an authorized ZMF user. Refer to [Chapter 9, "ChangeMan ZMF Integration" on page 149](#) for more information.

## Security Requirements

### Authorized Program Facility (APF)

Each StarTool DA [Workload Server](#) (WLS) must be APF-authorized to act as a workload server. You must also APF-authorize all datasets referenced in procedures started by the WLS.

## Started Task Security

The StarTool DA started tasks in the JES PROCLIB dataset must be added to your started task security table.

The following StarTool DA procedures must have RACF, CA-ACF2, or CA-Top Secret authorization to run as started tasks and must also have ACCESS=ALL specified.

```
ESxxWLS      ESxxWLST     ESxxDDEL     ESxxDBFM     ESxxESPM
ESxxDRTN     ESxxDPRD     ESxxDPRT     ESxxNTFY     ESxxPSVC
ESxxCnnn
```

The *ESxx* value in the procedure names above is the configuration ID, such as ES01, that you supply to the [Host Installation Configurator](#) during the installation process. Be sure to record it for later use in security setup.

The *Cnnn* values in the procedure names refers to the CICS version supported by a particular CICS dump data management started task.

### Started Task *ESxxESPM*

The maintenance procedure for started task *ESxxESPM* requires the following permissions:

- Update and delete access to VSAM language database files with generic suffix DBDF.\* (where DBDF is a mid-level rather than low-level qualifier). The language database datasets will have names similar to:

```
TS0ID.SUP.SD570.DBDF.D070725.T162212.A27F
```

- Update access to VSAM ESDS files with suffixes WRK and TKF.

### Started Task *ESxxCnnn*

*ESxxCnnn* is the CICS dump formatting started task, where *ESxx* is the configuration ID and *Cnnn* is the CICS version (for example, ES01C630). *ESxxCnnn* requires update access to VSAM ESDS files with suffixes WRK and TKF.

## CICS Region Requirements

The CICS region where the StarTool DA [CICS Installation and Configuration Server](#) (ICS) is installed requires update access to VSAM ESDS files with suffixes WRK and TKF.

## Software License Administration

Serena® SER10TY™ is software that manages the licensing of all Serena applications and their associated add-on options. Unique license certificates are issued for each Serena product and option you license and for each machine on which those products run.



**IMPORTANT!** StarTool DA now uses a version of SER10TY that implements XML-based licensing. License certificates from earlier versions are not compatible with the current release of StarTool DA.

### Before Installing StarTool DA

Ensure that the correct SER10TY licensing software is installed on each CPU or LPAR where you plan to install StarTool DA. The required version of SER10TY is stated in the Readme. Consult the *Serena® SER10TY™ User's Guide* for the steps you must perform to install SER10TY.

SER10TY license certificates for StarTool DA are obtained online through the World Wide Web. Consult the Readme for the latest instructions on how to obtain a license certificate. Be sure you have a current license for all desired product options before you begin installing StarTool DA.

### After Installing StarTool DA

You must apply your license certificates after StarTool DA installation, but before starting the StarTool DA Workload Server (WLS). See the *Serena SER10TY User's Guide* for the steps you must perform to apply SER10TY license certificates.

After applying the license certificates, update each installed StarTool DA Workload Server (WLS) JCL procedure as follows:

- Add a SERLIC DD statement that references the SERCOMS output license library dataset name.

## Configuration Planning Worksheets

Because dump analysis and ABEND diagnosis is so closely tied to the specific details of your particular system environment, StarTool DA requires extensive customization. The [Host Installation Configurator](#) automates these configuration chores. On the basis of the information you supply, the configurator generates the JCL jobs that will customize your software with the desired dump processing features and functions.

Worksheets are provided to assist your configuration planning before you start working with the configurator. Complete the applicable worksheets for each StarTool DA configuration that will run on each CPU or LPAR where you plan to install the product.

One copy of each worksheet is provided. For multiple installations on different LPARs, or multiple named configurations on the same LPAR, make as many copies of the following worksheets as needed.

- [Global System Environment Worksheet](#)
- [Language Environment Worksheet](#)
- [CICS Environment Worksheet](#)
- [Database Environment Worksheet](#)
- [ChangeMan ZMF Integration Worksheet](#)
- [SMP/E Installation Worksheet](#)



**NOTE** Multiple, named configurations for the StarTool DA Workload Server (WLS) can be installed on a given LPAR. However, only one WLS instance can be running on an LPAR at any one time.

For example, you might set up one preconfigured WLS to debug in a test environment and a different preconfigured WLS to debug in your production environment.

LPAR Name: \_\_\_\_\_

StarTool DA Configuration ID: \_\_\_\_\_

### Global System Environment Worksheet

System Environment Parameter	Values(s)
<i>System Management Facility (SMF):</i>	<i>SMF ID:</i>
<ul style="list-style-type: none"> <li>SMF system ID for LPAR on which StarTool DA will be installed.</li> </ul>	
<i>Library Lists:</i>	<i>Library:</i>
<ul style="list-style-type: none"> <li>CLIST/REXX library, available from your TSO LOGON procedure, in which the StarTool DA CLISTs will be installed.</li> </ul>	
<ul style="list-style-type: none"> <li>LPAR LINKLIST library, if you plan to use the Authorized Program Facility (APF) to authorize the StarTool DA library.</li> </ul> <p><b>NOTE:</b> The Workload Server (WLS) must be APF-authorized.</p>	
<i>Job Entry Subsystem (JES):</i>	<i>JES Subsystem or Library:</i>
<ul style="list-style-type: none"> <li>Job entry subsystem name (JES2 or JES3).</li> </ul>	
<ul style="list-style-type: none"> <li>JES system procedure library</li> </ul>	
<i>Interactive Problem Control System (IPCS):</i>	<i>Library:</i>
<ul style="list-style-type: none"> <li>Message library name</li> </ul>	
<ul style="list-style-type: none"> <li>Panel library name</li> </ul>	
<ul style="list-style-type: none"> <li>Skeleton library name</li> </ul>	
<ul style="list-style-type: none"> <li>Table library name</li> </ul>	
<ul style="list-style-type: none"> <li>CLIST library name</li> </ul>	

### Language Environment Worksheet

Language Parameter	Value(s)	
<i>COBOL Compilers:</i> (Complete for each version on LPAR)	<i>Version:</i>	<i>Library:</i>
<ul style="list-style-type: none"> <li>■ COBOL compiler dataset name</li> </ul>		
<ul style="list-style-type: none"> <li>■ COBOL link-edit library name</li> </ul>		
<ul style="list-style-type: none"> <li>■ COBOL runtime library name</li> </ul>		
<i>IBM Language Environment (LE):</i>	<i>Instance:</i>	<i>Release or Library:</i>
<ul style="list-style-type: none"> <li>■ LE link-edit library name (e.g., CEE.SCEELKED)</li> </ul>		
<ul style="list-style-type: none"> <li>■ LE runtime library name (e.g., CEE.SCEERUN)</li> </ul>		
<ul style="list-style-type: none"> <li>■ LE macro library name (e.g., CEE.SCEEMAC)</li> </ul>		
<ul style="list-style-type: none"> <li>■ LE CICS library name (e.g., CEE.SCEECICS)</li> </ul>		

**CICS Environment Worksheet**

CICS Region Parameter	Value(s)	
<i>CICS Region:</i> (Complete for each region on LPAR)	<i>Region:</i>	<i>Value:</i>
<ul style="list-style-type: none"> <li>■ CICS release</li> </ul>		
<ul style="list-style-type: none"> <li>■ CICS System Definition (CSD) dataset name</li> </ul>		
<ul style="list-style-type: none"> <li>■ Does this CICS region use DB2?</li> </ul>		
<ul style="list-style-type: none"> <li>■ Dataset name prefix for IBM CICS product libraries</li> </ul>		
<ul style="list-style-type: none"> <li>■ CICS system ID found in the SYSIDNT in the CICS System Initialization Table (SIT).</li> </ul>		
<ul style="list-style-type: none"> <li>■ CICS group list</li> </ul>		

### Database Environment Worksheet

Database Parameter	Value(s)	
<i>IMS Hierarchical Database: (Complete for each IMS subsystem on LPAR)</i>	<i>Subsystem:</i>	<i>Dataset:</i>
<ul style="list-style-type: none"> <li>■ IMS MACLIB dataset name</li> </ul>		
<ul style="list-style-type: none"> <li>■ IMS RESLIB dataset name</li> </ul>		
<i>DB2 Relational Database: (Complete for each DB2 subsystem on LPAR)</i>	<i>Subsystem:</i>	<i>Library or Plan Name:</i>
<ul style="list-style-type: none"> <li>■ DB2 subsystem name</li> </ul>		
<ul style="list-style-type: none"> <li>■ DB2 SDSNEXIT library</li> </ul>		
<ul style="list-style-type: none"> <li>■ DB2 load library containing DSN command &amp; DSNALI program</li> </ul>		
<ul style="list-style-type: none"> <li>■ DB2 load library containing DSNTIAD utility</li> </ul>		
<ul style="list-style-type: none"> <li>■ Plan name for Dynamic SQL processor (plan associated with DSNTIAD)</li> </ul>		

## ChangeMan ZMF Integration Worksheet

ZMF Integration Parameter	Value(s)
<p>Name of DA Workload Server (WLS) started task for this configuration to be authorized for access to ZMF.</p> <p><b>NOTE:</b> Supply this information to your ZMF administrator.</p>	
<p>ChangeMan ZMF subsystem IDs to be accessed by this WLS configuration.</p> <p><b>NOTE:</b> This information is available from your ZMF administrator.</p>	
<p>SERCOMS common load library dataset name.</p> <p><b>NOTE:</b> This is the SERCOMS load library shipped with DA.</p>	
<p>SERNET TCP/IP reference library dataset name (the SER#PARM data set).</p> <p><b>NOTE:</b> This information is available from your ZMF administrator.</p>	



**NOTE** One StarTool DA Workload Server (WLS) can access multiple ChangeMan ZMF subsystems concurrently.

### SMP/E Installation Worksheet

SMP/E Installation Parameter	Value(s)
<p>SMP/E global high-level qualifier (HLQ)</p> <p><b>NOTE:</b> This HLQ takes the form <i>somnode.STRDA.VvRrMm</i>, where:  <i>somnode</i> = installation library ID  <i>v</i> = version  <i>r</i> = release  <i>m</i> = modification level</p> <p>Used by PC installer, host software JCL install job SMPEJCL1, and <a href="#">The Host Installation Configurator</a>. See <a href="#">Appendix B, "Sample JCL for SMP/E Installation"</a> on <a href="#">page 205</a>, for more information.</p> <p><b>NOTE:</b> SMP/E internal execution libraries take the low-level qualifier SMPE.CSI, which should not be changed.</p>	
<p>Target CSI zone name</p> <p><b>CAUTION!</b> StarTool DA should be installed into its own CSI zone. It should not share zones with other products.</p>	

# Chapter 3

## Unloading the Product Media

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**Before You Begin** Before you unload the product media for Serena® StarTool® DA, verify all prerequisites and complete the planning steps detailed in [Chapter 2, "Installation Prerequisites and Planning"](#).

**Process Overview** Unloading the product media consists, first, of running a PC-based installer program. The PC installer transfers the product distribution files to the PC file system from either of the following distribution media:

- CD-ROM
- Product files downloaded from <http://support.serena.com>

The PC-based installer also generates control files for use by the host file transfer and uncompression programs run in later steps. You will customize these control files on the PC, then use them to transfer the product and control files from the PC to the host system using the TCP/IP File Transfer Protocol (FTP). Finally, the supplied RECEIVE job is executed on the host to uncompress the product files and complete the media unload process.

<a href="#">Running the PC Installer</a>	44
<a href="#">Editing the FTP Input File</a>	47
<a href="#">Editing the Receive Job File</a>	47
<a href="#">Transferring Files to the Host</a>	48
<a href="#">Submitting the Receive Job on the Host</a>	49

## Running the PC Installer

PC Installer Prerequisites Unloading and transferring product files from the product media to the host requires:

- TCP/IP FTP connectivity from your PC to the host computer.
- The host IP address.
- A TSO host user ID and password.
- Security authorization to upload files to the host using FTP.
- Windows administrator authority on your client PC.



**CAUTION!** If StarTool DA was previously installed on your system using the PC-based installer, you must uninstall the old StarTool DA software from your PC, then restart the PC, before proceeding.

PC Installer Procedure

- 1 Start the PC installer as appropriate for your product media.
  - *CD-ROM*: The installer should start automatically when you insert the CD if the Autorun feature is enabled on your PC. If not, start the installer program manually by double-clicking on the installer program `AUTORUN.exe` or `DAvrmssetup.exe` on the CD.
  - *Internet Downloads*: Manually start the installer program by double-clicking on the installer program `DAvrmssetup.exe`.



**NOTE** In file names throughout this manual, italicized *v* = version number, *r* = release, and *m* = modification level. A blank modification level corresponds to modification level 0 in file names.

- 2 The PC installer will prompt you to choose whether to install the full version of the product or a "fix" version with changes and fixes only. Select the desired option and click **Next**.



**NOTE** The “fix install” option is available only for maintenance releases that are applied to prior releases in the StarTool DA 5.7.2.x series. If you are installing a feature release, or if the prior release of StarTool DA on your system is not in the 5.7.2.x series, a “full install” is required.

Maintenance releases are numbered with a modification level of 1 or higher (for example, StarTool DA 5.7.2.1). Feature releases have no modification level or modification level 0 (for example, StarTool DA 5.7.2 or 5.7.2.0).

- 3 When the **Welcome** dialog displays, verify the product version and click **Next**.
- 4 The **Master License and Services Agreement (MLSA)** displays. Scroll through the agreement to verify that it matches your understanding of the terms and conditions of the product license. Click the appropriate radio button to decline or accept the agreement, then click **Next**.

You will be prompted to confirm your acceptance of the license agreement. Click the confirmation radio button to confirm your choice, then click **Next**.



**NOTE** If you do not accept the terms of the MLSA, you will not be able to install StarTool DA.

- 5 The installer prompts you for the destination folder on the PC where you want to copy the product files, install the documentation, and create the FTP control files for customization and upload to the host. Accept the default, or click **Change** and choose another location.
- 6 After copying the product files to the PC, the installer asks if you want to customize an *FTP input file*. This is a control file used by the FTP program when transferring files from the PC to the host. Click one of the following option buttons:
  - **Yes**: Recommended. The installer will prompt you for the values needed to customize the FTP input file for control of the product file transfer to the host. It will then generate the customized code automatically.

- **No:** Not recommended. If you select **No**, the installer still creates the FTP input file. However, it does not prompt you for the values needed to customize this file and it performs no customizations. If you later decide to use the FTP input file to transfer product files from the PC to the host, you must edit it manually before use.



**NOTE** The remaining steps in this procedure assume you select **Yes** in [Step 6](#).

- 7** The installer prompts you for the IP address or host name for the host system where StarTool DA will be installed. It also requests the TSO user ID to be used during FTP file transfer to the host.

Enter these values, then click **Next**.

- 8** The installer asks you to specify the **High-Level Qualifiers (HLQs)** for the host datasets where the uploaded product files will be copied and decompressed.

- **Transmitted File HLQ:** This HLQ identifies the datasets where the compressed product files will be copied by FTP. For example, STRDA.VRM.XMIT.
- **PDS Libraries HLQ:** This HLQ identifies the datasets where the product files in the transmitted libraries will be decompressed by the RECEIVE job on the host. For example, STRDA.VRM.RECEIVE.

Follow these naming conventions when specifying the HLQs:

- The transmitted (binary) file HLQ and the PDS uncompressed product library HLQ must be different.
- Do not choose HLQs that create dataset names that already exist on the host. The transmit and RECEIVE processes overlay existing datasets.
- Your TSO user ID must have authority to allocate files with these names.
- The maximum length of the total dataset name (HLQ plus StarTool DA library name, including delimiters) must not exceed 44 characters.
- Case is not significant. It will be normalized to upper case on the host.

Click **Next**. The installer unloads the product files to the PC.

- 9 The installer asks if you wish to view the Readme file. Review the Readme contents, then click **Next**.
- 10 When the **Wizard Completed** dialog displays, click **Finish** to exit.

## Editing the FTP Input File

One of the control files generated by the PC installer is FTP .input. It is used by the FTP file transfer program to upload the StarTool DA product files from the PC to the host. You must edit the FTP .input file prior to running the FTP program.

- 1 From the **Start > Programs > Serena Software > Serena StarTool DA 5.7.2** menu, select **Edit FTP Input**.
- 2 Replace the third line in FTP .input , which is marked by the placeholder <PASSWORD>, with your actual host logon password. Do not enclose your password with brackets (<>).



**CAUTION!** To prevent user ID and password theft, delete the customized FTP input file from your PC after all product files have been successfully transferred to the host.

## Editing the Receive Job File

Another control file generated by the PC installer is called RECEIVE .TXT . It contains most of the JCL statements needed to run the RECEIVE job on the host after product files are uploaded.

Edit the RECEIVE job file on the PC and add your host job card. The RECEIVE job will not execute without this information.

- 1 From the **Start > Programs > Serena Software > Serena StarTool DA 5.7.2** menu, select **Edit Receive Text**.
- 2 Add your host job card at the beginning of the JCL job. Your job card must be typed entirely in upper case.

- 3 Save the edited RECEIVE job file under the same file name: RECEIVE.TXT.

## Transferring Files to the Host

After the FTP input file and the RECEIVE job file have been edited, you are ready to transfer the StarTool DA product files from your PC to the host. The FTP file transfer software needed for this task is installed on your local PC by the PC installer. Your PC must be connected to the host network before you begin.

To transfer the product files from the PC to the host:

- 1 From the **Start > Programs > Serena Software > Serena StarTool DA 5.7.2** menu, select **FTP Files to Host**.

The FTP software copies the compressed product files and the RECEIVE.TXT job file to the host. This may take several minutes, depending on the speed of your network.

- 2 After the transfer program ends, open the **Start > Programs > Serena Software > Serena StarTool DA 5.7.2** menu and select **View FTP Log**.

The FTP log file displays. Review this file to verify that the file transfer was successful. If any of the following errors appear in the log, you must take corrective action and repeat the file transfer operation.

Message	Corrective Action
Unknown Host	Check the IP address or host name for your host system and edit the FTP input file to correct it. (See <a href="#">"Editing the FTP Input File"</a> .)

Message	Corrective Action
Invalid Command	<p>Verify that the TSO user ID and password in the FTP input file are correct. Correct any errors. (See <a href="#">"Editing the FTP Input File"</a>.)</p> <p>Also verify that proper permissions have been granted on the host. (See the <a href="#">"Installation Overview and General Requirements"</a> and <a href="#">"Security Requirements"</a> topics in <a href="#">Chapter 2, "Installation Prerequisites and Planning"</a>.)</p>
Not Connected	<p>The FTP connection was never established or was lost during the transfer. Files did not upload to the host successfully. Verify that your PC has FTP connectivity to the host.</p>

## Submitting the Receive Job on the Host

The product files on the PC are transferred to the host in compressed XMIT format. These compressed files are identified on the host by the **Transmitted File HLQ** that you supplied to the PC installer or added manually to the FTP .input control file. You must execute the RECEIVE job on the host to uncompress these files. The uncompressed files are identified by the **PDS Libraries HLQ** that you supplied.

To submit the RECEIVE job for execution on the host:

- 1 Log on to the host and start a TSO session.
- 2 Browse to the uploaded RECEIVE job file RECEIVE.TXT. It will have the **Transmitted File HLQ** that you specified during the PC install process or that you added manually to the FTP .input file.
- 3 Submit the RECEIVE job invoked by the JCL in the RECEIVE.TXT file.

The RECEIVE job uncompresses the XMIT-formatted product files and stores them in PDS libraries identified by the **PDS Libraries HLQ** that you specified during the PC install process or that you added manually to the FTP.input file. When the RECEIVE job completes, you should receive one or both of the following:

- A return code of 00.

- A job SYSOUT message that says "**Restore successful to dataset *somnode*.INSTALL**", where *somnode* is replaced by the **PDS Libraries HLQ** you specified.
- 4 Examine the libraries created by the RECEIVE job to verify that they are PDS libraries. They may not have been created successfully, despite a return code of 00 or a SYSOUT message that indicates success.  
  
If an error is found, verify that the RECEIVE job JCL is correct and resubmit the job.
  - 5 After successful completion of the RECEIVE job, delete all customized control files, especially the customized FTP .input file, from the PC.



**CAUTION!** You must delete FTP .input from the PC to prevent theft of your host user ID and password.

# Chapter 4

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## Installing the Base Software

**Before You Begin** Before you can install the base StarTool DA software on the host, you must unload the product media to the PC and transfer the unloaded files to the host. If you have not already done this, see [Chapter 3, “Unloading the Product Media”](#), for instructions.

**Host Installation Methods** Base software installation on the host consists of allocating the [consolidated software libraries](#) and copying the product files from the uncompressed product libraries—which are identified by the **PDS Libraries HLQ** you supplied to the PC installer—to the newly allocated libraries. This is done in a way that permits the same consolidated product libraries to serve as the target of either an IEBCOPY install or an SMP/E install.

Two methods are provided for installing the base software on the host:

<a href="#">IEBCOPY Installation</a>	52
<a href="#">SMP/E Installation</a>	53

---

## IEBCOPY Installation

**NONSMPE1 Install Job** Customers using IEBCOPY (not SMP/E) to install StarTool DA will run a single JCL install job adapted from sample JCL member NONSMPE1. This member resides in the [uncompressed product library \*somnode\*.JCS](#), where *somnode* is the **PDS Libraries HLQ** you supplied to the PC installer for the [PDS libraries](#) on the host.

NONSMPE1 allocates the [consolidated software libraries](#) for an IEBCOPY installation of StarTool DA, then populates them with the base product software using IEBCOPY. You will customize NONSMPE1 before execution to meet your requirements.

Example JCL for NONSMPE1 appears in [Appendix A, "Sample JCL for an IEBCOPY Installation"](#). This code is supplied for your information only; the actual JCL shipped with the product may differ from the printed example in the appendix.

**IEBCOPY Install Procedure** To install StarTool DA using IEBCOPY, perform the following steps:

- 1 Copy the sample JCL member NONSMPE1 to a working location for editing. (Do not edit the original JCL member supplied with the product.)
- 2 Change the value of the &PFXI parameter in the NONSMPE1 copy from *somnode*.input to use the HLQ of the [uncompressed product libraries](#) created by the StarTool DA RECEIVE job.



**NOTE** Unless you customized the JCL for the StarTool DA RECEIVE job otherwise, *somnode* is the **PDS Libraries HLQ** you supplied to the PC installer for the [PDS libraries](#) when you unloaded the product media.

- 3 Change the value of the &PFX0 parameter from *somnode*.output to use the HLQ you wish to assign to the StarTool DA [consolidated software libraries](#) you are allocating.



**IMPORTANT!** Use different HLQs for *somnode*.input and *somnode*.output.

- 4 Leave the value of the &DA parameter unchanged to accept the default.

## 5 Run the edited NONSMPE1 JCL job.

When this job completes successfully, the base software installation is complete. You are ready to configure your installation of StarTool DA using the Host Installation Configurator. (Go to [Chapter 5, "The Host Installation Configurator"](#), for step-by-step instructions.)

# SMP/E Installation

SMPEJCL $n$   
Install Jobs Customers using SMP/E (not IEBCOPY) to install StarTool DA will run a series of JCL jobs adapted from sample JCL members provided with the product. These members have names of the form SMPEJCL $n$ , where  $n$  is an integer indicating execution order. All SMP/E jobs include DD statement member SMPEDD01 by reference. You will modify the JCL in these install jobs as described for each member in the following sections.

The sample SMP/E install job members reside in the [uncompressed product library](#) *somnode*.JCS, where *somnode* is the **PDS Libraries HLQ** you supplied to the PC installer. The uncompressed product libraries are also known as TXLIBs to SMP/E.

Example JCL for the SMP/E install jobs appears in [Appendix B, "Sample JCL for SMP/E Installation"](#). This code is supplied for your information only; the actual JCL shipped with the product may differ from the printed examples in the appendix.



**CAUTION!** Copy the sample JCL members to a working location for editing. Do not edit the original JCL members supplied with the product.

SMP/E Install  
Procedure

After customizing the SMPEJCL $n$  install jobs, you will run these jobs to perform the following SMP/E installation tasks:

- 1 [Define SMP/E Datasets and CSI Zones](#)
- 2 [Allocate SMP/E Software Libraries](#)
- 3 [RECEIVE the StarTool DA Software into SMP/E](#)
- 4 [Run the APPLY CHECK Job](#)
- 5 [APPLY the StarTool DA Software or Fix](#)
- 6 [Run the ACCEPT CHECK Job](#)

## 7 ACCEPT the Installed Software



**CAUTION!** Jobs in the SMPEJCL $n$  series must be run in numerical order, as indicated by the value of  $n$  in the member name. SMPEJCL1 must run first, SMPEJCL2 must run second, SMPEJCL3 runs third, and so on.

The same SMP/E install procedures are used for a full install and when applying maintenance releases, fixes, or patches.

Refer to IBM's SMP/E documentation for detailed information about using SMP/E. This manual does not replace IBM's documentation.

## Define SMP/E Datasets and CSI Zones

SMPEJCL1  
Install Job

Member SMPEJCL1 allocates the SMP/E execution environment datasets, defines the Consolidated Software Inventory (CSI) datasets, and defines the associated CSI zones for StarTool DA.



**CAUTION!** StarTool DA should be installed into its own CSI zone. It should not share zones with other products.

SMP/E  
Environment  
Definition  
Procedure

- 1 Edit a copy of SMPEJCL1 to meet your requirements, as follows:
  - Replace the &PFX parameter value *somnode* with the TXLIB HLQ for all StarTool DA installation-related datasets defined to SMP/E. This HLQ should match the **PDS Libraries HLQ** you supplied to the PC installer for the [uncompressed product libraries](#) when you unloaded the product media.
  - Leave the &DA parameter value unchanged to accept the default value.
  - Leave the &CSI parameter value unchanged.
  - Replace the &WORKUNIT parameter value *V10* with a valid DASD unit name.
- 2 Execute the modified SMPEJCL1 job to create the SMP/E execution environment for StarTool DA installation.

## Allocate SMP/E Software Libraries

- SMPEJCL2 Install Job
- SMPEJCL2 allocates the SMP/E [target libraries](#) (TLIBs) and [distribution libraries](#) (DLIBs) needed to install StarTool DA under SMP/E control.
- Software Library Allocation Procedure
- 1 Edit a copy of SMPEJCL2 to meet your requirements, as follows:
    - Replace the &PFX parameter value *somnode* with the TXLIB HLQ for all StarTool DA installation-related datasets defined to SMP/E. This HLQ should match the **PDS Libraries HLQ** you supplied to the PC installer for the [uncompressed product libraries](#) when you unloaded the product media.
    - Leave the &DA parameter value unchanged to accept the default.
  - 2 Execute the modified SMPEJCL2 job to allocate the StarTool DA software libraries that SMP/E will manage.

## RECEIVE the StarTool DA Software into SMP/E

- SMPEJCL3 Install Job
- Member SMPEJCL3 invokes the SMP/E RECEIVE job. The SMP/E RECEIVE job defines the previously allocated StarTool DA input (TXLIB), target (TLIB), and distribution (DLIB) libraries to SMP/E, primes the CSI and control tables needed for installation, and itemizes to SMP/E the software modules that are new or have changed since the last install.



**IMPORTANT!** Do not confuse the SMP/E RECEIVE job with the StarTool DA RECEIVE job you ran when unloading the product media.

- SMP/E RECEIVE Procedure
- 1 Edit a copy of SMPEJCL3 to meet your requirements, as follows:
    - Replace the &PFX parameter value *somnode* with the TXLIB HLQ for all StarTool DA installation-related datasets defined to SMP/E. This HLQ should match the **PDS Libraries HLQ** you supplied to the PC installer for the [uncompressed product libraries](#) when you unloaded the product media.
    - Leave the &DA parameter value unchanged to accept the default value.
    - Leave the &CSI parameter value unchanged.
    - Replace the &WORKUNIT parameter value *V10* with a valid DASD unit name.

- 2 Execute the modified SMPEJCL3 job to RECEIVE the StarTool DA software into SMP/E.

## Run the APPLY CHECK Job

SMPEJCL4 Install Job Member SMPEJCL4 invokes the SMP/E APPLY CHECK job. The APPLY CHECK job verifies that the StarTool DA [uncompressed product libraries](#) (TXLIBs) identified for SMP/E input contain the software modules and control data needed for a successful APPLY to the [target libraries](#) (TLIBs), and that new or changed software modules will not create regressions or conflicts with modules from a previous release.

- APPLY CHECK Procedure
- 1 Edit a copy of SMPEJCL4 to meet your requirements, as follows:
    - Replace the &PFX parameter value *somnode* with the TXLIB HLQ for all StarTool DA installation-related datasets defined to SMP/E. This HLQ should match the **PDS Libraries HLQ** you supplied to the PC installer for the [uncompressed product libraries](#) when you unloaded the product media.
    - Leave the &DA parameter value unchanged to accept the default.
    - Leave the &CSI parameter value unchanged.
    - Replace the &WORKUNIT parameter value *V110* with a valid DASD unit name.
  - 2 Execute the modified SMPEJCL4 member to run the APPLY CHECK job.

## APPLY the StarTool DA Software or Fix

SMPEJCL5 Install Job Member SMPEJCL5 invokes the SMP/E APPLY job. The APPLY job populates the StarTool DA [consolidated software libraries](#) (which are defined as [target libraries](#), or TLIBs, to SMP/E) with StarTool DA software consolidated from the [uncompressed product libraries](#) (defined as [input libraries](#), or TXLIBs, to SMP/E).

- APPLY Procedure
- 1 Edit a copy of SMPEJCL5 to meet your requirements, as follows:
    - Replace the &PFX parameter value *somnode* with the TXLIB HLQ for all StarTool DA installation-related datasets defined to SMP/E. This HLQ should match the **PDS Libraries HLQ** you supplied to the PC installer for the [uncompressed product libraries](#) when you unloaded the product media.

- Leave the &DA parameter value unchanged to accept the default value.
  - Leave the &CSI parameter value unchanged.
  - Replace the &WORKUNIT parameter value *v10* with a valid DASD unit name.
- 2** Execute the modified SMPEJCL5 member to APPLY new or changed product software modules to the StarTool DA target libraries.



**NOTE** Successful completion of this step installs the base StarTool DA software under SMP/E control, but it does not configure the executable libraries. Run the StarTool DA Host Installation Configurator to create executables tailored to your specific environment. (See [Chapter 5, “The Host Installation Configurator”](#).)

## Run the ACCEPT CHECK Job

**Prerequisites** After you APPLY the StarTool DA software to the target libraries (TLIBs), you must run the StarTool DA Host Installation Configurator to configure and generate the executable StarTool DA libraries. (See [Chapter 5, “The Host Installation Configurator”](#), for step-by-step instructions.) The execution libraries share the HLQ of the SMP/E TLIBs by default, although you may customize this if you wish.

After the StarTool DA execution libraries are configured, installed, and tested in the SMP/E target library environment, you can optionally regenerate them in separate production locations. Only then are you ready to run the SMP/E ACCEPT jobs to finalize the install.

**SMPEJCL6 Install Job** Member SMPEJCL6 invokes the SMP/E ACCEPT CHECK job. ACCEPT CHECK performs a test run of the ACCEPT job to inform you in advance of possible error conditions, regressions, SYSMODs that will be deleted, and the like before you actually ACCEPT the software for archival in the SMP/E [distribution libraries \(DLIBs\)](#). No permanent updates are made.

- ACCEPT CHECK Procedure**
- 1** Edit a copy of SMPEJCL6 to meet your requirements, as follows:
- Replace the &PFX parameter value *somnode* with the TXLIB HLQ for all StarTool DA installation-related datasets defined to SMP/E. This HLQ should match the **PDS Libraries HLQ** you supplied to the PC installer for the [uncompressed product libraries](#) when you unloaded the product media.

- Leave the &DA parameter value unchanged to accept the default value.
  - Leave the &CSI parameter value unchanged.
  - Replace the &WORKUNIT parameter value *V1I0* with a valid DASD unit name.
- 2 Execute the modified SMPEJCL6 member to run the ACCEPT CHECK job.

## ACCEPT the Installed Software

**Prerequisites** The SMP/E [ACCEPT CHECK job](#) must complete successfully before you run the ACCEPT job.

**SMPEJCL7 Install Job** Member SMPEJCL7 invokes the SMP/E ACCEPT job. The ACCEPT job copies the installed and configured StarTool DA software from the SMP/E [target libraries \(TLIBs\)](#) to the SMP/E [distribution libraries \(DLIBs\)](#) for archival. The archived libraries allow SMP/E to roll back newly installed software to a prior version, should the need arise.

**ACCEPT Procedure**

- 1 Edit a copy of SMPEJCL7 to meet your requirements, as follows:
  - Replace the &PFX parameter value *somnode* with the TXLIB HLQ for all StarTool DA installation-related datasets defined to SMP/E. This HLQ should match the **PDS Libraries HLQ** you supplied to the PC installer for the [uncompressed product libraries](#) when you unloaded the product media.
  - Leave the &DA parameter value unchanged to accept the default value.
  - Leave the &CSI parameter value unchanged.
  - Replace the &WORKUNIT parameter value *V1I0* with a valid DASD unit name.
- 2 Execute the modified SMPEJCL7 member to run the ACCEPT job.

## Chapter 5

# The Host Installation Configurator

**Configurator Features and Functions** The StarTool DA Host Installation Configurator is an ISPF-based utility that prompts you for specifics about your system and details of the dump processing environments for which you want StarTool DA debugging assistance. As you complete the configuration screens, the configurator validates your chosen mix of components, options, and settings. When you are satisfied with the configuration, the configurator generates the JCL jobs that build the StarTool DA [execution libraries](#).

If during the configuration you choose the option to install and activate the ZMF integration, you will be prompted for all the needed integration parameters.

All users of StarTool DA must use the Host Installation Configurator to customize their base software and, if applicable, their batch dump processing preferences. Customers who install StarTool DA CICS will later finalize the configuration of one or more CICS Error Detection Servers using the [CICS Installation and Configuration Server \(ICS\)](#).

**Before You Begin** Before you start the Host Installation Configurator, you should:

- **Complete the installation planning worksheets** in [Chapter 2, "Installation Prerequisites and Planning"](#).
- **Unload the product files from the product media** and transfer them to the host. (See [Chapter 3, "Unloading the Product Media"](#).)
- **Install the base software** on the host using either IEBCOPY or SMP/E, as described in [Chapter 4, "Installing the Base Software"](#).

**Configuration Tasks** To configure one or more base StarTool DA installations, you will perform some or all of the following tasks for each named configuration:

<a href="#">Configurator Prerequisites</a>	60
<a href="#">Starting the Host Installation Configurator</a>	61
<a href="#">Importing Configurations from a Prior Release</a>	64
<a href="#">Creating or Modifying StarTool DA Configurations</a>	65

Exiting the Configurator	92
Generating the Configuration Jobs	93

## Configurator Prerequisites

Before you start the Host Installation Configurator for the first time, at least one CLIST modification is required. Optionally, you may wish to customize certain user exit CLISTs to modify the behavior of the configurator.

### CLIST Setup for Configurator Job ESPYCL00

ESPYCL00  
Configurator Job

All users should set up their SYSPROC concatenation to run the ISPF configurator job ESPYCL00 from the TSO command line as needed. To do this, perform the following steps:

- 1 Copy the ESPYCL00 CLIST member from the StarTool DA [uncompressed product library](#) *somnode*.CLS to a CLIST library in the SYSPROC concatenation for your TSO user ID. The actual value of *somnode* is the **PDS Libraries HLQ** you supplied to the PC installer when unloading the product media.



**IMPORTANT!** If your TSO CLIST library uses a blocked, variable-length record format (RECFM=VB), you must edit the ESPYCL00 CLIST member in the product library to remove line numbers before copying the ESPYCL00 CLIST member.

Use the ISPF UNNUM (or UNN) command to remove all line numbers and turn off ISPF line numbering for the saved CLIST member.

Configuration  
Library

- 2 Once it is copied to your CLIST library, edit the ESPYCL00 CLIST member to change the configuration library name from the placeholder value INSTALL to *somnode*.INSTALL, where *somnode* is the HLQ you assigned to the [consolidated software libraries](#) during base software installation.

## Customizing User Exit CLISTS

User exit CLIST ESPYUCL1 can be customized to validate or override selected dump database dataset names for StarTool DA Batch while the configurator is running. The same can be done for StarTool DA CICS by customizing user exit CLIST ESPYUCL2.

Both CLISTS can be found in the [consolidated software library](#) *somnode*.INSTALL. Copy and edit the CLIST member, replacing the *ESPY* portion of the member name with [configuration ID](#) for the StarTool DA subsystem being defined. Refer to the comments in the CLIST itself for coding details.



**IMPORTANT!** If you choose to use these user exit CLISTS for the Host Installation Configurator, you must create the CLIST for your configuration ID prior to executing the configurator.

## Starting the Host Installation Configurator

The Host Installation Configurator is designed to be run from the TSO command line in multiple, interruptible sessions as needed. Configuration information is saved between configurator sessions and across multiple installations of StarTool DA.

### Configuration IDs

Naming  
Conventions

Values entered in one configurator session are saved under a *configuration ID* and are selectable by that ID in the next configurator session. Multiple configurations can be saved under different configuration IDs. Each configuration is stored in a configuration member identified by a four-byte configuration ID of the form *ESnn*, where *nn* is a two-digit number.



**IMPORTANT!** User configuration IDs should assign a value of 01 or higher to *nn*. Configuration ID ES00 is reserved for the sample configuration that is supplied with the product.

- Configuration Library Configuration members are stored in the [consolidated software library \*somnode\*](#). INSTALL, where *somnode* is the HLQ you assigned to the consolidated software libraries during base software installation.
- Configurations from Prior Releases Configuration IDs are reusable across releases. For example, if you create a configuration named ES01 for StarTool DA 5.7.2, the new configuration is built from scratch even if a configuration named ES01 already exists for a prior version of StarTool DA. If you wish to reuse a configuration from a previous release, you must explicitly import it into the current release. (See ["Importing Configurations from a Prior Release"](#) later in this chapter.)
- Multiple Configurations You can create multiple configurations under multiple configuration IDs. You can then generate separate configuration jobs and perform separate installs for each configuration.

You need not enter all configuration settings in a single session.



**TIP** Exit the Host Installation Configurator at any time by entering the shortcut =X at the **Command/Option ==>** prompt. Configuration data for the session is saved by default.

## Primary Option Panel

- Configurator Startup Command At the TSO command line (Option 6 in ISPF), type the following command to start the StarTool DA host installation configurator:

```
%ESPCL00
```

Configurator Option Panel    The configurator displays the **StarTool DA Primary Option Panel** (panel **ESPYIP01**).

```

ESPYIP01      -----  StarTool DA Primary Option Panel  -----
Command/Option ==>                                     Use PF3/END to exit

Select an option from the following list

1 Update - Create or edit StarTool DA configuration definitions
           and (optionally) generate the installation jobs.

2 Migrate - Migrate/import Startool DA configuration definitions
           from a previous DA release.

3 Convert - Convert migrated/imported configuration definitions
           to the current StarTool DA release.

E Edit somnode.INSTALL.

X Exit

```

At the **Command/Option ==>** prompt for this panel, enter the appropriate option:

- 1 Create or modify StarTool DA configuration members** for the current release. This option takes you to the **Configuration Selection** panel, which is the central location for creating or modifying StarTool DA configuration members. The Host Installation Configurator then provides prompted assistance with StarTool DA configuration. (See [“Creating or Modifying StarTool DA Configurations”](#) later in this chapter.)

The **Configuration Selection** panel is also the panel where you generate JCL configuration jobs for StarTool DA. ([“Generating the Configuration Jobs”](#) later in this chapter.)



**TIP** To bypass the configurator prompts and edit configuration members directly in ISPF, choose Option **E** instead of Option **1**.

- 2 Import a configuration member from a prior release** of StarTool DA into the installation library. (This option is meaningful only when migrating from a prior release of StarTool DA.)



**CAUTION!** After your desired configurations are imported with Option **2**, you must use Option **3** to convert them to the latest configuration member format before using Option **1** to edit them or to generate JCL configuration jobs.

- 3 Convert imported configuration data** to the format used with the new release. Conversion makes the imported configurations accessible to the installation configurator. (This option is meaningful only when migrating from a prior release of StarTool DA.)



**CAUTION!** You must use Option **2** to import the desired configuration members from a prior release into the installation library before selecting Option **3**.

- E - Edit a member** in the StarTool DA installation library directly using ISPF, bypassing the Host Installation Configurator prompts invoked by Option **1**. For *somnode*, the panel shows the HLQ you assigned to the [consolidated software libraries](#) during base software installation.



**TIP** To edit configuration members using the Host Installation Configurator prompts rather than directly in ISPF, choose Option **1** instead of Option **E**.

- X - Exit the configurator.**

## Importing Configurations from a Prior Release

If you do not plan to import any configuration members from a prior release of StarTool DA for use with the new release, skip to ["Creating or Modifying StarTool DA Configurations"](#). Options **2** and **3** do not apply to your installation.

Option **2** on the **StarTool DA Primary Option Panel** prompts you for the information needed to import one or more named configuration IDs from a previous release of StarTool DA into the installation library for the

current release. Repeat Option **2** as often as necessary to import all desired configurations.

When the desired configurations have been imported, select Option **3** from the **StarTool DA Primary Option Panel**. Option **3** converts imported configuration members to the configuration file format used with the current release of StarTool DA.



**CAUTION!** Do not attempt to edit your imported configurations or generate the JCL configuration jobs until you convert your imported configurations to the latest configuration file format using Option **3**.

## Creating or Modifying StarTool DA Configurations

When you choose Option **1** from the **StarTool DA Primary Option Panel**, the Host Installation Configurator presents the **StarTool DA Configuration Selection** panel (ESPYP01). This is the panel you work from when creating a new configuration, editing an existing configuration, copying a configuration, or deleting a configuration.

```

ESPYP10      ----- StarTool DA Configuration Selection   --- Row 1 to 3 of 3
Command/Option ==>>>                                     Scroll ==> CUR

END Terminate processing

StarTool DA Configuration ID ==>>>      (Enter new ID, existing ID, or select
                                         an ID from the list below)

Line Commands : S Select the configuration      D Delete the configuration
                G Perform full generation      P Perform partial generation
                C Copy a configuration         M Delete all generated members
                DIR Edit the installation job   R Re-process the configuration
                directory

Line      Configuration      Configuration Description
Command  ID      Level
        ES00      20      StarTool DA sample configuration.
        ES01      20      StarTool DA configuration ES01
        ES02      20      StarTool DA configuration ES02
***** Bottom of data *****
    
```

- **To create a new StarTool DA configuration**, enter a new, four-byte configuration ID at the **StarTool DA Configuration ID == =>** prompt. (Do not enter ES00.) Press ENTER.
- **To edit an existing configuration**, tab to the appropriate **Line Command** field and enter an S to select the configuration ID you would like to edit. (Existing configuration IDs for the release being installed are listed at the bottom of the panel.) Press ENTER.
- **To copy an existing configuration** and edit the copy under a new configuration ID, do the following:
  - Enter a new, four-byte configuration ID at the **StarTool DA Configuration ID == =>** prompt. (Do not enter ES00.) The new configuration ID will be given to the copied configuration.
  - Tab to the appropriate **Line Command** field and enter C beside the name of the configuration member you want to copy.

The configurator then presents a series of prompts for the system environment information and product configuration options needed to install StarTool DA on the host. This information is saved in the currently opened configuration member.

## Global Configuration Definition Panels

The Host Installation Configurator first displays several global configuration definition panels. Use these panels to specify basic operating system parameters, as well as the product options that should be installed for the named configuration. You will be prompted for:

- [StarTool DA Options to Install](#)
- [LPAR Specifications](#)
- [Library, Maintenance, and Integration Options](#)
- [Dump Database Specifications](#)
- [Source Library Dataset Names](#)
- [Execution Library Dataset Names](#)

## StarTool DA Options to Install

At the first global **StarTool DA Configuration Definition** panel (**ESPYIP1A**), enter Y to the left of each StarTool DA product option that should be included in the current configuration.

```

ESPYIP1A      ---- StarTool DA Configuration Definition -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES01

Select StarTool DA products to be installed

Enter "Y" to select a specific product.

      Selection      Product Name

====> Y      StarTool DA CICS
====> Y      StarTool DA Batch
====> Y      StarTool DA DB2
====> Y      StarTool DA IMS
    
```

The configurator will later present only the panels needed to configure the product options you select on this screen.



**IMPORTANT!** Be sure you have the SER10TY license certificates for all product options you select at this panel.

### LPAR Specifications

The next global **Configuration Definition** panel (**ESPYIP1B**) requests general identifying information for the LPAR on which the installation will run and the StarTool DA subsystem ID that the Workload Server (WLS) will use.

Enter the following information:

- **Config description:** Brief text to show in the configuration list at the bottom of the **StarTool DA Configuration Selection** panel.
- **SMF System ID of this MVS system:** The System Management Facility (SMF) name for the LPAR on which this StarTool DA subsystem will run.

```

ESPYIP1B      ----  StarTool DA Configuration Definition  -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES01

Define global StarTool DA configuration parameters

Config description ==> StarTool DA configuration ES01

SMF System ID of this MVS system ==> SYS1
StarTool DA subsystem name          ==> ES01

Global prefix to use for JCL procedure names   ==> ES01

Perform an "advanced installation" ? ==> N ( Y or N )
(Allows modification of internal product defaults and values)
    
```

- **StarTool DA subsystem name:** The name of the StarTool DA subsystem to be installed. This value will identify the associated Workload Server (WLS). The subsystem ID takes the form *ESnn*, where *nn* is a two-digit number not equal to zero. (The subsystem ID *ES00* is reserved for the demonstration subsystem.)



**TIP** Recommended practice is to use the same value for the subsystem ID that you use for the configuration ID. Choose a different value if you want to create multiple, alternative configurations for the same StarTool DA WLS.

- **Global prefix to use for JCL procedure names:** The four-byte prefix to use with generated JCL configuration jobs for this configuration. The default value is the configuration ID.
- **Perform an "advanced installation"?**
  - N** - No. Use the default dispatcher settings for the Workload Server (WLS). This option gives best performance in most installations. (Default)
  - Y** - Yes. Customize the dispatcher settings for the WLS. Panel **ESPYIP1E** will prompt you later for dispatcher settings.



**CAUTION!** *Do not customize WLS dispatcher settings* unless instructed to do so by Serena Customer Support. Poorly chosen values can seriously degrade performance.

## Library, Maintenance, and Integration Options

**Configuration Definition** panel **ESPYIP1C** requests global database maintenance settings. It is also the place where you choose to integrate ChangeMan ZMF change control information into StarTool DA dump analysis. Finally, it is the place where you can modify the HLQ of the [consolidated software libraries](#)—or the SMP/E [target libraries \(TLIBs\)](#) in the case of an SMP/E install—if you wish to install production libraries in a different location from your initial installation and test libraries.

```

ESPYIP1C      ----  StarTool DA Configuration Definition  -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES01

Define global StarTool DA configuration parameters

Language Data Base maintenance retention period ==> 045  (001 - 999)

Time-of-day at which StarTool DA maintenance jobs are to be started :
Dump data base      ==> 20000000 (HHMMSSSTH - 00000000 through 23595999)
Language data base ==> 20000000 (HHMMSSSTH - 00000000 through 23595999)

Do you want to integrate ChangeMan(R) support ? ==> Y    ( Y or N)

High level qualifier of input libraries ==> STRDA.V5R7M0

- Press PF1/Help for help
    
```

Enter the following information:

- |                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Database<br>Maintenance<br>Schedule | <ul style="list-style-type: none"> <li>■ <b>Language database retention period:</b> Enter the default retention period for the configuration's <i>language database files</i> (DBDFs and DBKFs) in days. Allowed values are 001 through 999.</li> <li>■ <b>Time of day at which maintenance jobs are to be started:</b> You may enter separate start times for dump database maintenance and language database maintenance. Enter each value in <i>HHMMSSSTH</i> format, where:             <ul style="list-style-type: none"> <li>HH= Hours in 24-hour format, server time</li> <li>MM = Minutes</li> <li>SS= Seconds</li> <li>T= Tenths of a second</li> </ul> </li> </ul> |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**H**= Hundredths of a second

- ChangeMan ZMF Integration
- **Do you want to integrate ChangeMan support?:** Choose **Y** for this option if you want to integrate ChangeMan ZMF software change control information into StarTool DA dump processing and analysis.

**Y**= Yes, integrate ChangeMan ZMF with StarTool DA.

**N**= No, do not integrate ChangeMan ZMF. (Default)

If you choose **Y**, the **StarTool DA Base Definition** panel **ESPYIP1S** prompts you later for information about your ChangeMan ZMF environment.

- Consolidated Software Library HLQ
- **High-level qualifier for input libraries:** Enter the same HLQ for the [consolidated software libraries](#) that you allocated using JCL job [NONSMPE1](#) (for an IEBCOPY install) or [SMPEJCL2](#) (for an SMP/E install) during initial configuration and acceptance testing. Use this same panel later to specify a different HLQ for production libraries.

### **Dump Database Specifications**

**Configuration Definition** panel **ESPYIP1D** requests default allocation information for the datasets used to store your dump databases, DBIs, language databases, and DBKFs.

Enter the following information:

- **Define default non-VSAM allocation parameters:** These parameters set the dataset name prefix and default DASD volume and unit names used when allocating StarTool DA DBIs, DBKFs, and other internal datasets.

In the **Dataset name prefix** field, type the HLQ the configurator should use for your DBIs, DBKFs, and other permanent, internal, non-VSAM datasets.

Replace the **Default unit workname** value *V10* with a valid unit ID.

- **Defaults for permanent VSAM datasets:** These parameters are used when allocating StarTool DA dump datasets and other long-term, internal VSAM datasets.

In the **Dataset name prefix** field, type the high-level qualifier (HLQ) the configurator should use for dump databases and other permanent, internal VSAM datasets. Optionally, you can add a qualifier to distinguish permanent VSAM datasets from other VSAM datasets.

```

ESPYIP1D      ----  StarTool DA Configuration Definition  -----
Command/Option ==>>                                     Use PF3/END to exit

Configuration ID ==>> ES01

Define default non-VSAM allocation parameters

    Data set name prefix    ==>> somnode
    Default volume          ==>>          (Optional)
    Default unitname        ==>> DISK
    Default work unitname   ==>> VIO

Define default VSAM allocation parameters

Defaults for permanent VSAM data sets
    Data set name prefix ==>> somnode.XXX
    Default volume       ==>>          (Optional)

Defaults for transient VSAM data sets
    Data set name prefix ==>> somnode.YYY
    Default volume       ==>>          (Optional)
    
```

- Defaults for transient VSAM datasets:** These parameters are used when allocating StarTool DA internal working datasets.

In the **Dataset name prefix** field, type the high-level qualifier (HLQ) the configurator should use for any transient, internal VSAM datasets. Optionally, you can add a qualifier to distinguish transient VSAM datasets from other datasets.



**NOTE** *The Installation and Configuration Server (ICS)* for StarTool DA CICS lets you customize dump database specifications individually for each CICS region monitored by StarTool DA at a later time. (See [Chapter 8, "Configuring StarTool DA CICS"](#), for step-by-step instructions.)

### Source Library Dataset Names

The **Source Data Set Names** panel ESPYIP1F lists the dataset names to be populated by the configured source members in the [consolidated software libraries](#) associated with the current configuration ID. The HLQ

shown is the one you entered at the **Configuration Definition** panel ESPYIP1C.

```
ESPYIP1F      -----  StarTool DA Source Data Set Names  -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES01

Verify/change the source data sets for your DA configuration

  DA load library   ==> STRDEV.DA.ES01.STRDA.V5R7M0.LODLIB      .
  DA macro library  ==> STRDEV.DA.ES01.STRDA.V5R7M0.MACLIB     .
  DA DBRM library   ==> STRDEV.DA.ES01.STRDA.V5R7M0.DBRLIB     .
  DA dsect library  ==> STRDEV.DA.ES01.STRDA.V5R7M0.DSCLIB    .
  DA help library   ==> STRDEV.DA.ES01.STRDA.V5R7M0.HLPLIB    .

Press PF1/HELP for help
```

Initially, the HLQ shown should match HLQ you assigned to the consolidated software libraries during base software installation. These libraries are your master installation and test libraries. However, if you change the HLQ at the **Configuration Definition** panel ESPYIP1C in order to create separate production libraries after acceptance testing is complete, the production HLQ will be shown on panel ESPYIP1F.

Make any desired changes. If the library names are correct, press ENTER.

### **Execution Library Dataset Names**

The **Execution Libraries** panel ESPYIP1G lists the dataset names to be populated by the generated StarTool DA executables in the [execution libraries](#) associated with the current configuration ID. The HLQ shown is the one you entered at the **Configuration Definition** panel ESPYIP1C.

Initially, the HLQ shown should match HLQ you assigned to the consolidated software libraries during base software installation. These libraries are your master installation and test libraries. However, if you change the HLQ at the **Configuration Definition** panel ESPYIP1C in order to create separate production libraries after acceptance testing is complete, the production HLQ will be shown on panel ESPYIP1G.

Make any desired changes. If the library names are correct, press ENTER.

```

ESPYIP1G      -----  StarTool DA Execution Libraries  -----
Command/Option ==>
                                     Use PF3/END to exit

Configuration ID ==> ES01

Verify/change the DA execution libraries

  DA Base load library    ==> STARDA.V5R7M0.LNKLIB
  DA CICS DFHRPL library  ==> STARDA.V5R7M0.CICSLOAD
  DA ISPF load library    ==> STARDA.V5R7M0.ISPFLOAD
  DA ISPF utility library ==> STARDA.V5R7M0.ISPFUTIL
  DA DBRM library        ==> STARDA.V5R7M0.EDB2.DBRMLIB

Press PF1/HELP for help
    
```

## ChangeMan ZMF Integration Specifications

If you chose not to install the ChangeMan ZMF integration on panel ESPYIP1C, panel ESPYIP1S is not presented. Skip ahead to the ["CICS Global Environment Definitions"](#).

If you previously specified that ChangeMan ZMF integration should be installed, the **StarTool DA Base Definition** panel **ESPYIP1S** displays. The panel prompts you for information about the ChangeMan ZMF environment to be integrated with the current StarTool DA configuration.

```

ESPYIP1S      -----  StarTool DA Base Definition  -----
Command/Option ==>
                                     Use PF3/END to exit

Configuration ID ==> ES01

Define the ChangeMan(R) environment for StarTool DA

  Identify the SERCOMS load library (shipped with DA) :
  SERCOMS loadlib ==> CMN.COMMON.LODLIB

  Identify the SERNET TCP/IP reference library:
  SERPARM DSN      ==> SERNET.SER#PARM.DSN

Enter the subsystem identifier(s) of the ChangeMan subsystem(s) that this
DA configuration is to access ==> ?ABC
    
```

Enter the following information:

- **SERCOMS loadlib:** Enter the dataset name of the SERCOMS common load library used by StarTool DA.
- **SERPARM DSN:** Enter the dataset name of the TCP/IP reference library for communication with ChangeMan ZMF.
- **ChangeMan subsystem identifier:** Enter a list of up to 32 single-byte ChangeMan ZMF subsystem IDs to be accessed by StarTool DA. The following conventions apply to the ZMF subsystem ID list:
  - Subsystem IDs in the list should not be separated by commas or spaces.
  - Subsystems should be listed in the search order desired when retrieving change control information about a failing module.
  - Use a question mark (?) character to identify the null or default ZMF subsystem ID. StarTool DA will map this to a null in communications with ChangeMan ZMF.
  - Enter an asterisk (\*) to temporarily deactivate the ChangeMan ZMF integration.



**TIP** You can modify the ChangeMan ZMF subsystem list by changing the value of the CMN\_SSID SYSIN keyword for the Workload Server (WLS) at startup.

## CICS Global Environment Definitions

If you previously chose not to install support for CICS dump analysis in StarTool DA, the CICS environment definition panels are not presented. Skip ahead to the ["StarTool DA Batch Environment"](#).

If you previously instructed the configurator to include the StarTool DA CICS feature in your configuration, the configurator will prompt you for configuration information about your StarTool DA CICS dump processing environment. The following panels request global CICS environment information for all CICS regions defined to StarTool DA:

- [CICS Definition Panel](#)
- [CICS Dump Database Indexes](#)

## CICS Definition Panel

The **StarTool DA CICS Definition** panel **ESPYIP1J** is the first CICS configuration screen to display. It requests global information that affects all CICS regions defined to StarTool DA.

```

ESPYIP1J      -----  StarTool DA CICS Definition  -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES01

Define global StarTool DA CICS parameters

Maximum number of CICS regions
using the StarTool DA subsystem      ==> 010 (001 - 999)

Number of CICS dump data base indexes ==> 02  (001 - 127)

Global default prefix for StarTool DA transactions ==> ES

Do you wish to trap CICS SVC (system) dumps ?      ==> Y ( Y or N )
    
```

Enter the following information:

- **Maximum number of CICS regions:** Enter the maximum number of CICS regions to register with the StarTool DA subsystem you are currently defining. CICS dumps for these regions will be managed by a single Workload Server (WLS). Valid values are 001 through 999.
- **Number of CICS dump database indexes:** Enter the number of CICS dump databases and corresponding indexes (DBIs) to be managed by the WLS. Allowed values are 01 to 127.
- **Global default prefix for StarTool DA transactions:** Refers to CICS transactions issued by StarTool DA CICS. Take the default value ES unless this conflicts with other CICS transactions.
- **Do you wish to trap CICS SVC (system service call) dumps?**  
 Y =Yes, trap CICS system dumps for StarTool DA dump analysis (default). Panel ESPYIP7C will later request more information.  
 N =No, do not trap CICS system dumps. Panel ESPYIP7C will not display.



**TIP** The CICS default prefix for StarTool DA transactions can be validated or overridden by user exit CLIST ESPYULC2. This CLIST member can be found in the uncompressed product library *somnode*.CLS, where *somnode* is the HLQ for the PDS libraries that you specified to the PC installer when unloading the product media.

Copy and rename member *ESPYULC2*, replacing ESPY with the current configuration ID. Then edit the member as desired. Refer to the comments in the CLIST member itself for coding details.

### **CICS Dump Database Indexes**

**CICS Region Definition** panels ESPYIP3B through ESPYIP3E allow you to verify or change the DDNAMEs for the Debugging and Viewing Server (DVS) Dump Database Indexes (DBIs) allocated to the monitored CICS regions. DBI DDNAMEs are displayed thirty per screen, up to the maximum number of DBIs you specified on panel ESPYIP1J.

```

ESPYIP3B      ----- StarTool DA CICS Definition -----
Command/Option ==>                               Use PF3/END to exit

Configuration ID ==> ES00

Verify/Change the DA-CICS DBI DDnames

   DBI   1 ==> PRODCICS      DBI   2 ==> TESTCICS      DBI   3 => DADBI003
   DBI   4 ==> DADBI004     DBI   5 ==>                               DBI   6 =>
   DBI   7 ==>                               DBI   8 ==>                               DBI   9 =>
   DBI  10 ==>                               DBI  11 ==>                               DBI  12 =>
   DBI  13 ==>                               DBI  14 ==>                               DBI  15 =>
   DBI  16 ==>                               DBI  17 ==>                               DBI  18 =>
   DBI  19 ==>                               DBI  20 ==>                               DBI  21 =>
   DBI  22 ==>                               DBI  23 ==>                               DBI  24 =>
   DBI  25 ==>                               DBI  26 ==>                               DBI  27 =>
   DBI  28 ==>                               DBI  29 ==>                               DBI  30 =>

```

Default DBI DDNAMEs take the form DADBI $nnn$ , where  $nnn$  is a three-digit number. Overtyping the default names with more meaningful DDNAMEs as desired, then press ENTER.

## CICS Server Assignments and Region Definitions

If you previously chose not to install support for CICS dump analysis in StarTool DA, the CICS server assignment and region definition panels are not presented. Skip ahead to the ["StarTool DA Batch Environment"](#).

After global CICS definitions are complete, the configurator collects global information about other aspects of your dump processing environment. It then returns to the CICS topic, this time to define the individual StarTool DA servers and their associated CICS regions. Once that is complete, the configurator will prompt for the details for each of the requested CICS regions.

Various StarTool DA servers must be assigned to each CICS region for which you want dump processing support.

When defining StarTool DA CICS servers and their associated CICS regions to StarTool DA, the following restrictions apply:

- Only one CICS Installation and Configuration Server (ICS) can be defined for a DA configuration.
- Any number of Error Detection Servers (EDS) can be defined in the DA configuration, with a maximum of 1 for each CICS region.
- Any number of Debugging and Viewing Servers (DVS) can be defined in the DA configuration, with a maximum of 1 for each CICS region.

### **CICS Server Selection Panel**

The **CICS Server Selection** panel (**ESPYIP20**) is the master panel for defining and deleting StarTool DA CICS servers (and their associated CICS regions). Use this panel to define a CICS Installation and Configuration Server (ICS) and as many Error Detection Servers (EDS) and Debugging and Viewing Servers (DVS) as needed. As each

StarTool DA CICS server is defined, it must be assigned to a CICS region.

```

ESPYIP20      ----- StarTool DA CICS Server Selection ----- Row 1 to 3 of 3
Command/Option ==>                                     Scroll ==> PAGE

Configuration ID ==> ES01

ENTER Continue with next installation step  END Return to previous step

CICS System ID ==>
Server Type   ==>  1 (ICS) Installation Configuration Server
                  Note : Define your ICS in a TOR
                  (and not in an AOR)
                  2 (EDS) Error Detector Server
                  3 (DVS) Debug/Viewer Server

Line Commands : S Select an existing server (Applies only to DVS )
                  D Delete an existing server

                Line      Server      CICS
                Command   Type        System ID
                  DVS      TS23
                  EDS      TS23
                  ICS      TS23

***** Bottom of data *****

```

StarTool DA CICS servers are defined one at a time. After a server is defined, the configurator then re-displays the **CICS Server Selection** panel, where you can define additional servers or exit the CICS server selection process.

From the **CICS Server Selection** panel, perform the following tasks:

- [Defining a StarTool DA CICS Server for a CICS Region](#)
- [Deleting a CICS Region/Server Assignment](#)
- [Exiting the CICS Server Selection Process](#)

### ***Defining a StarTool DA CICS Server for a CICS Region***

To define a StarTool DA CICS server for a CICS region, enter the following information at the **CICS Server Selection** panel (**ESPYIP20**):

- **CICS System ID:** Type the SYSIDNT of the new or existing CICS region. The SYSIDNT for a region is specified in the CICS System

Initialization Table (SIT). If this CICS region is new to StarTool DA, you will be prompted for CICS system information in a later panel.



**IMPORTANT!** All CICS regions defined under a single StarTool DA CICS image must be connected through shared DASD (or MRO/ISC).

StarTool DA Server Assignment

- **Server Type:** Type the code corresponding to the type of StarTool DA server being defined for the named CICS region.
  - 1** =CICS Installation and Configuration Server (ICS).
  - 2** =Error Detection Server (EDS).
  - 3** =Debugging and Viewing Server (DVS).
- **Line Commands:** Leave blank.

The completed panel might look something like this example, in which a new Error Detector Server (EDS) is being defined for CICS region TS31:

```

ESPYP20      ----- StarTool DA CICS Server Selection  ---- Row 1 to 3 of 3
Command/Option ==>>                                     Scroll ==> PAGE

Configuration ID ==>> ES01

ENTER Continue with next installation step  END Return to previous step

CICS System ID ==>> TS31
Server Type    ==>> 2    1 (ICS) Installation Configuration Server
                                     Note : Define your ICS in a TOR
                                     (and not in an AOR)
                                     2 (EDS) Error Detector Server
                                     3 (DVS) Debug/Viewer Server

Line Commands : S Select an existing server (Applies only to DVS )
                 D Delete an existing server

                Line      Server      CICS
                Command   Type       System ID
                   ICS      TS23
                   EDS      TS23
                   DVS      TS23

***** Bottom of data *****
    
```

Press ENTER.

## Deleting a CICS Region/Server Assignment

To delete an existing CICS region definition or server assignment, enter the following information at the **CICS Server Selection** panel (**ESPYIP20**):

- **CICS System ID:** Leave blank.
  - **Server Type:** Leave blank.
  - **Line Commands:** Type a line command beside the previously defined server/region combination you want to modify or delete.
- D** -Delete a server/region assignment.



**NOTE** The configurator will delete a CICS region from the current DA configuration when all StarTool DA servers defined for that CICS region have been deleted.

The completed panel might look something like this example:

```

ESPYIP20      -----  StarTool DA CICS Server Selection  ---- Row 1 to 3 of 3
Command/Option ==>                                     Scroll ==> PAGE

Configuration ID ==> ES01

ENTER Continue with next installation step  END Return to previous step

CICS System ID ==>
Server Type    ==>    1 (ICS) Installation Configuration Server
                               Note : Define your ICS in a TOR
                               (and not in an AOR)
                               2 (EDS) Error Detector Server
                               3 (DVS) Debug/Viewer Server

Line Commands : D Delete an existing server

                Line      Server      CICS
                Command   Type       System ID
                D         EDS        TS31
                               ICS        TS31

***** Bottom of data *****

```

Press ENTER.

If you entered a D on any line, you are notified that the particular server/region pair has been deleted from the StarTool DA CICS region definition.

The configurator returns to **the CICS Server Selection** panel. The server assignment list for the CICS region should appear in the list at the bottom of the panel. Deleted servers should not appear.

### ***Exiting the CICS Server Selection Process***

Before exiting the CICS server selection process, first verify that all desired region/server pairs are defined in the list at the bottom of the **CICS Server Selection** panel (**ESPYIP20**).

To exit the CICS server selection process, leave all data entry fields blank on the **CICS Server Selection** panel (**ESPYIP20**):

- **CICS System ID:** Leave blank.
- **Server Type:** Leave blank.
- **Line Commands:** Leave blank.

Press ENTER.

The configurator validates all server definitions for the defined CICS regions and generates the definition files. When the server file definition validations are complete, a row of triple asterisks appears on the validation status panel.

Press ENTER to proceed to the next phase of StarTool DA configuration, the defining of the details for the CICS regions you have selected.

## **CICS Region System Parameters**

If this CICS region is new to StarTool DA, the **CICS Region Definition** panel **ESPYIP3A** requests CICS subsystem information for the region identified in the **CICS System ID** field. This information is shared across all StarTool DA servers assigned to the region.

For example:

```

ESPYIP3A ----- ZMF DA-CICS Region Definition -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES00
CICS System ID ==> TS31

Enter CICS definition parameters

          520 CICS TS 1.2  630 CICS TS 2.3 (CICS 630)
CICS release ==> 640  530 CICS TS 1.3  640 CICS TS 3.1 (CICS 640)
                   610 CICS TS 2.1  650 CICS TS 3.2 (CICS 650)
                   620 CICS TS 2.2  660 CICS TS 4.1 (CICS 660)
                   670 CICS TS 4.2  (CICS 670)

CICS CSD data set name   ==> CICS.TS31.CSD
CICS data set name prefix ==> CICS.TS31

CICS group list name to which to add the DA group   ==> ES00TS31
SMF System ID of the MVS under which this CICS executes ==> SMF1
Install DA-DB2 support for this CICS region ?      ==> Y ( Y or N )
    
```

Enter the following information:

- **CICS release:** StarTool DA supports the following CICS releases:

<b>520</b> = CICS TS 1.2 (CICS 5.2.0)	<b>640</b> = CICS TS 3.1 (CICS 6.4.0)
<b>530</b> = CICS TS 1.3 (CICS 5.3.0)	<b>650</b> = CICS TS 3.2 (CICS 6.5.0)
<b>610</b> = CICS TS 2.1 (CICS 6.1.0)	<b>660</b> = CICS TS 4.1 (CICS 6.6.0)
<b>620</b> = CICS TS 2.2 (CICS 6.2.0)	<b>670</b> = CICS TS 4.2 (CICS 6.7.0)
<b>630</b> = CICS TS 2.3 (CICS 6.3.0)	

- **CICS CSD data set name:** Type the CICS System Definition (CSD) dataset name for Resource Definition Online (RDO) resources associated with the new CICS region.
- **CICS data set name prefix:** Type the dataset name prefix of the IBM CICS libraries.
- **CICS group list:** Type the name of the CICS group list to which the StarTool DA CICS group name will be added.
- **SMF system ID:** Type the SMF name of the LPAR on which this CICS system executes.

■ **Install StarTool DA DB2 support?**

Y =Yes, install StarTool DA DB2 support for this CICS region.

N =No, don't install StarTool DA DB2 support for this CICS region.

If you specify **N**, the configurator displays a pop-up panel asking you to verify that StarTool DA DB2 support is not to be included for the current CICS region.

Press ENTER. The configurator validates the new CICS region definition or new server assignment. A status panel displays validation messages.

For example:

```
Verifying presence of active CICS definition(s).
CICS definition presence validation is complete.
***
```

When the validations are complete, a row of triple asterisks appears. Press ENTER.



**NOTE** You can customize StarTool DA CICS further after configuration is complete. See [Chapter 8, "Configuring StarTool DA CICS"](#).

## CICS SVC Dump Exit Parameters

One of the last panels presented by the configurator is **System Configuration** panel **ESPYIP7C**, which requests SVC dump processing options for StarTool DA CICS. It is shown here with other CICS configuration panels for ease of reference.

If you chose not to install StarTool DA CICS on the global **Configuration Definition** panel (**ESPYIP1A**), or if you opted not to trap CICS SVC

dumps on the **StarTool DA CICS Definition** panel (**ESPYIP1J**), panel **ESPYIP7C** will not display.

```

ESPYIP7C      ----- StarTool DA System Configuration -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES01
MVS System ID  ==> SYS1

Define SVC dump exit generation parameters

Identify up to 10 StarTool DA subsystems for which SVC dumps will be
processed :

Subsystem 01 ==> ES01  Subsystem 02 ==> ES02  Subsystem 03 ==>
Subsystem 04 ==>      Subsystem 05 ==>      Subsystem 06 ==>
Subsystem 07 ==>      Subsystem 08 ==>      Subsystem 09 ==>
Subsystem 10 ==>

```

Provide the following information:

- StarTool DA subsystems for which SVC dumps will be processed:** Enter the names of up to ten Workload Server (WLS) subsystems that should process CICS SVC dumps. WLSs are identified by the name you assigned to them on the **Configuration Definition** panel (**ESPYIP1P**). If you follow recommended practice, the WLS name will be the same as the configuration member name for that server. (See the topic [“LPAR Specifications”](#) earlier in this chapter.)



**IMPORTANT!** The named WLSs should already be assigned to one or more CICS regions before you enter them on this panel. (See the topic [“CICS Server Assignments and Region Definitions”](#) earlier in this chapter.)

## StarTool DA Batch Environment

If you previously chose not to install the StarTool DA Batch ABEND debugging option, the batch environment definition panels are not presented. Skip ahead to [“Database Environment”](#) later in this chapter.

If you previously instructed the installation configurator to include the StarTool DA Batch option in your configuration, the configurator prompts you for specifications for the following:

- [StarTool DA Master Control Table \(EMCT\)](#)
- [Batch Demo Compile Environment](#)
- [Batch Debugging and Viewing Server Environment](#)

### **StarTool DA Master Control Table (EMCT)**

The **StarTool DA Batch EMCT Definition** panel **ESPYIP1Q** requests dump database allocation information that will be stored in the StarTool DA Master Control Table (EMCT). For example:

```

ESPYIP1Q      -----  StarTool DA Batch EMCT Definition  -----
Command/Option ===>                                     Use PF3/END to exit

Configuration ID ===> ES01

Define StarTool DA Batch dump allocation parameters

By default, all StarTool DA Batch DVS dumps are allocated using the RACF
userid of the ending job or user as the DSN prefix. StarTool DA Batch
appends the value "ESPY.Dyymmdd.Thhmmss.S###" ("S###" is a dump counter)
to the RACF userid to form the complete dump DSN. Enter a prefix that
will be used when there is no RACF userid associated with the ending
job or user. Also enter the remaining allocation parameters.

DSN prefix      ===> RACFNONE
DASD unit name  ===> SYSDA
Default volser  ===>          (Optional)
    
```

Enter the following information:

- **DSN prefix:** The dataset name prefix to be used with a dump database when there is no RACF user ID associated with the terminating job or with the user whose job caused a dump to occur.
- **DASD unit name:** The DASD unit where the dump database should reside.
- **Default volser:** The default DASD volume or serial number where the dump database should reside (optional).



**NOTE** You can customize this table further after installation is complete. (See [Chapter 10, "Advanced Customization of StarTool DA Batch"](#)).

### **Batch Demo Compile Environment**

The **Base Definition** panel **ESPYIP1R** requests the compile environment information needed to generate the StarTool DA Batch COBOL ABEND demonstration program. This information is needed to verify that StarTool DA Batch installed correctly.

For example:

```
ESPYIP1R      ----- StarTool DA Base Definition -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES01

Define StarTool DA Base demo program compile environment

  Identify the COBOL libraries which can be referenced in the compilation
  and link-edit of the StarTool DA Batch COBOL abend demonstration program.
  Compiler STEPLIB DSN ==> SIGY.SIGYCOMP
  Link-edit SYSLIB DSN ==> CEE.SCEELKED

  Identify the LE macro library (for DA Batch interface installation).
  LE macro library DSN ==> CEE.SCEEMAC

Define StarTool DA Batch demo program execution environment

  Identify the COBOL run-time library.
  Run-time library DSN ==> CEE.SCEERUN
```

### **Batch Debugging and Viewing Server Environment**

The **DVS Environment Definition** panel **ESPYIP1T** requests the names of the ISPF libraries used on your system by IBM's Interactive Problem Control System (IPCS). The Debugging and Viewing Server (DVS) integrates information from these libraries into its dump processing and debugging support.

For example:

```

ESPYP1T      --- StarTool DA DVS Environment Definition -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES01

Define StarTool DA DVS IPCS environment elements

Identify the ISPF libraries used by IPCS. StarTool DA DVS will initialize
the ISPF environment with these libraries as part of its IPCS interface.

Clist library      ==> SYS1.SBLSCLI0
ISPF msg library   ==> SYS1.SBLSMSG0
ISPF panel library ==> SYS1.SBLSPNL0
ISPF skeleton lib ==> SYS1.SBLSKEL0
ISPF table library ==> SYS1.SBLSTBL0
    
```

## Database Environment

If you previously chose to omit both DB2 and IMS database ABENDs from your StarTool DA dump analysis processing, the database environment definition panels are not presented. Skip ahead to ["REXX EXEC Environment"](#).

If you previously instructed the configurator to include the DB2 Option, the IMS Option, or both in your StarTool DA configuration, the configurator prompts you as appropriate for the following information:

- [DB2 Specifications](#)
- [IMS Specifications](#)



**NOTE** The StarTool DA DB2 Option and IMS Option are separately licensed add-on modules for StarTool DA. If you are not sure whether your license covers these options, contact your sales representative.

### **DB2 Specifications**

The **DB2 Definition** panel **ESPYIP1V** requests DB2 library and subsystem information, which can be obtained from your DB2 database administrator. For example:

```
ESPYIP1V      ----- StarTool DA DB2 Definition -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES00

Define StarTool DA DB2 environment

  Identify the DB2 load library containing the "DSN" command and the
  "DSNALI" program.
  Data set name ==> YOUR.SDSNLOAD.DSN
  Identify the DB2 SDSNEXIT library.
  Data set name ==> YOUR.SDSNEXIT.DSN
  Identify the DB2 load library containing the "DSNTIAD" utility.
  Data set name ==> YOUR.RUNLIB.DSN

  Enter the DB2 subsystem name ==> DSN1

  Enter the name of the plan for the Dynamic SQL processor (ie, the plan
  associated with the DSNTIAD utility).
  Plan name ==> DSNTIA71
```

### **IMS Specifications**

The **IMS Definition** panel **ESPYIP1P** requests IMS library information, which you can obtain from your IMS database administrator. For example:

```
ESPYIP1P      ----- StarTool DA IMS Definition -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES01

Define StarTool DA IMS demo program assembly environment

  Identify the IMS libraries which can be referenced by the StarTool DA IMS
  demo programs.
  IMS MACLIB DSN ==> IMS.MACLIB .
  IMS RESLIB DSN ==> IMS.RESLIB .
```

## REXX EXEC Environment

The **Common StarTool DA Environment** panel **ESPYIP1X** requests the name of the CLIST or REXX library where StarTool DA REXX EXEC procedures should reside.

```

ESPYIP1X      -----  Common StarTool DA Environment  -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES01

Define StarTool DA CICS and StarTool DA DVS ISPF environment elements

Identify the clist/REXX library to which the generated StarTool DA REXX
EXECs can be installed. Note that this library should be available via your
TSO LOGON proc and should use DCB=LRECL=80.

Clist/REXX library ==> YOUR.CLIST.LIBRARY
    
```

## Language Processor Specifications

The **Language Processor** panel **ESPYIP5A** requests global information for the StarTool DA language server. For example:

```

ESPYIP5A      -----  StarTool DA Language Processor  -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES01

Define global Language Processor options

Default number of compile generations to keep ==> 00 (00 - 99)
Default compile retention period (in days)    ==> 045 (000 - 999)
    
```

Provide the following information:

- Default number of compile generations to keep:** Enter the default number of prior compile generations for which compiler

listings should be retained in StarTool DA's language database. Allowed values are 00 to 99.



**NOTE** A value of 00 means that no prior compile generations are retained in the language database. Only compiler listings for current executable modules are retained for debugging.

- **Compile retention period in days:** Enter the default retention period in days for the compilation files retained in StarTool DA's language database. Allowed values are 000 to 999.



**NOTE** A value of 000 means compiler listings are not retained in the language database.

Press ENTER.

**Language Processor** panel **ESPYIP5B** requests information about your IBM Language Environment libraries. For example:

```
ESPYIP5B      ----- StarTool DA Language Processor -----
Command/Option ==>>                                     Use PF3/END to exit

Configuration ID ==>> ES45
Environment    ==>> IBM Language Environment (LE) Version 1.8 (and above)

Define the environment libraries used in installing demo transactions

COBOL SIGYCOMP DSN ==>> SYS1.ECOB310.SIGYCOMP
LE/1.8.0+ SCEECICS DSN ==>> CEE.SCEECICS
LE/1.8.0+ SCEELKED DSN ==>> CEE.SCEELKED
```

Provide the following information:

- **Environment:** Enter a description for the IBM Language Environment being configured. If a description was previously entered, it displays whenever you return to this panel.
- **COBOL SIGYCOMP DSN:** Type the LE COBOL compiler STEPLIB library dataset name.
- **COBOL SCEECICS DSN:** Type the LE COBOL CICS library dataset name. (Required only if you are installing StarTool DA CICS.)
- **COBOL SCEELKED DSN:** Type the LE COBOL link-edited SYSLIB dataset name.

## Configuration Job Requirements

Finally, the Host Installation Configurator displays **System Configuration** panel **ESPYIP7Z**. This panel requests the job card specifications needed by the configurator to generate the JCL jobs that will build the configured StarTool DA execution libraries.

For example:

```

ESPYIP7Z      -----  StarTool DA System Configuration  -----
Command/Option ===>                                     Use PF3/END to exit

Configuration ID ===> ES01
MVS System ID  ===> SYS1

Define parameters for installation jobs

Jobname prefix ===> ABC

Jobcard image : (Note that the input is in both upper and lower case)

Line 1 ===> //JOBNAME JOB (SDH),'DA INSTALL',NOTIFY=USER01,
Line 2 ===> //                                CLASS=A,REGION=4096K,MSGCLASS=X,MSGLEVEL=(1,1)
Line 3 ===>

Define miscellaneous MVS parameters

Job Entry Subsystem name ===> JES2 ( JES2 or JES3 )
JCL procedure library DSN ===> SYS1.PROCLIB

```

The **MVS System ID** field displays the SMF system ID of the LPAR where the StarTool DA subsystem defined in the current configuration will run. You supplied this information previously in panel **ESPYIP1B**.

Provide the following information:

- **Jobname prefix:** Type a prefix of 1 to 6 characters that the configurator should use when generating configuration job names.
- **Jobcard image:** Type the JCL jobcard image that should be used to execute the generated configuration jobs. Up to three lines may be entered.
- **Job Entry Subsystem name:** Type JES2 or JES3, as appropriate.
- **JCL procedure library DSN:** Type the dataset name of the system procedure library for JES2 or JES3.

## Exiting the Configurator

After all information for the current configuration has been collected by the configurator, the current configuration member is automatically saved. The configurator then displays the **Configuration Is Complete** panel (**ESPYIP99**).

```
ESPYIP99      ---- StarTool DA Configuration Is Complete -----
Command/Option ==>                                     Use PF3/END to exit

Configuration ID ==> ES01

Configuration generation confirmation

    The requested StarTool DA configuration is complete and has been saved.

    Press ENTER to generate the installation jobs and data.

    Press  END  to return to the previous configuration definition panels.

    Enter QUIT  to return to the StarTool DA primary option panel.
```

If you wish, you can request the generation of the JCL configuration jobs for the current configuration member from this panel. Alternatively, you can exit the configurator and generate configuration jobs at another time. The latter option is recommended if you wish to review or edit the configuration member before generating the configuration JCL and running the configuration jobs.

Choose one of the following options:

- Press ENTER if you want to generate the JCL configuration jobs for the current configuration member.
- Press END (PF3) to back through the previously displayed configurator panels for this member and modify your choices.
- Enter QUIT at the command line to quit editing the current configuration member and return to the **Configuration Selection** panel. From there you can create a new configuration member, edit a saved configuration member, generate configuration JCL for a saved member, or exit the configurator.

To exit the configurator:

- Enter QUIT at the command line of the **Configuration Is Complete** panel (**ESPYIP99**).
- At the **Configuration Selection** panel, press END (PF3) to return to the configurator **Primary Option** menu.
- At the **Primary Option** menu, select the X option to exit the configurator.

## Generating the Configuration Jobs

When you are satisfied with your configuration specifications, use the Host Installation Configurator to generate the configuration jobs that finalize your StarTool DA install. These configuration jobs take as input the installed base software and the configuration member you designate, and create as output the actual executable libraries for StarTool DA.

Multiple executable libraries for different environments can be generated from different configuration members.

Configuration JCL  
Generation  
Process

To generate the JCL configuration jobs for a named StarTool DA configuration, perform the following steps:

- 1** Choose Option **1** from the **StarTool DA Primary Option Panel**. The Host Installation Configurator presents the **StarTool DA Configuration Selection** panel (**ESPYIP10**).

```

ESPYIP10      ----- StarTool DA Configuration Selection --- Row 1 to 3 of 3
Command/Option ==> G                                     Scroll ==> CUR

END Terminate processing

StarTool DA Configuration ID ==> ES01 (Enter new ID, existing ID, or select
                                     an ID from the list below)

Line Commands : S Select the configuration      D Delete the configuration
                G Perform full generation      P Perform partial generation
                C Copy a configuration          M Delete all generated members
                DIR Edit the installation job   R Re-process the configuration
                directory

Line      Configuration      Configuration Description
Command  ID      Level
-----
ES00     ES00     20      StarTool DA sample configuration.
ES01     ES01     20      StarTool DA configuration ES01
ES02     ES02     20      StarTool DA configuration ES02
***** Bottom of data *****

```

- 2 Select the desired configuration ID for which the configuration jobs should be generated. You can do this in either of two ways:
  - Type the configuration ID in the **StarTool DA Configuration ID** field.
  - Select one or more desired configuration IDs from the list at the bottom of the panel using the **S** (Select) line command.



**NOTE** Although only one configured Workload Server (WLS) may be active at a time, multiple WLSs can be configured on the same LPAR to point to different dump databases that use different inclusion criteria. These configurations may be built one at a time or concurrently by the Host Installation Configurator.

- 3 Selection Option **G** and press ENTER. This option generates the JCL installation jobs needed to create the StarTool DA execution libraries.
- 4 When all configuration JCL and control files have been generated, a confirmation message (**ESPY010L**) displays.

For example:

```
+-----+
+ ESPY010L - The requested configuration has been successfully processed. All +
+ needed configuration jobs and members have been generated. The installation +
+ directory can be found in member ES00I000.                                +
+-----+
```

Configuration Job  
Directory Member

This message tells the name of the configuration directory member containing the instructions for running the generated configuration jobs. This member is located in the configuration job library you specified on **System Configuration** panel **ESPYIP7Z**.

You are now ready to run the StarTool DA configuration jobs and build your executable libraries. Proceed to [Chapter 6, "Building the Execution Libraries"](#).



# Chapter 6

## Building the Execution Libraries

---

The executable libraries for StarTool DA are generated by JCL configuration jobs created by the Host Installation Configurator. You must run these jobs to generate the execution libraries and complete the installation of StarTool DA.

Before You Begin

Before you run the StarTool DA configuration jobs, you should:

- **Configure the installation.** (See [Chapter 5, “The Host Installation Configurator”](#), for information about configuring your installation.)
- **Generate the StarTool DA configuration jobs.** (See [“Generating the Configuration Jobs”](#) in [Chapter 5](#).)

Finalizing the Install

To generate the StarTool DA execution libraries and finalize the install, you will perform the following tasks:

<a href="#">Reviewing the Configuration Instructions</a>	98
<a href="#">Configuration Job Naming Conventions</a>	100
<a href="#">Running the Configuration Jobs</a>	102
<a href="#">Applying the SER10TY License Keys</a>	103
<a href="#">Updating Your Security Software</a>	103

## Reviewing the Configuration Instructions

Configuration Job Library and Job Checklist      The JCL configuration jobs reside in the StarTool DA installation library, *somnode*.INSTALL, where *somnode* identifies your [consolidated software libraries](#).

Configuration job member names take the form *xxxxInnn*, where:

- The *xxxx* portion of each member name is the StarTool DA configuration ID that you choose during the configuration process (for example, ES01).
- The *nnn* portion of each member name is a numeric suffix that identifies each configuration job in sequential execution order. (For example, job ES01I001 must run before job ES01I002.)
- Member *xxxxI000* contains instructions and a checklist, with descriptions, of all the configuration jobs to be run. It also lists the demonstration jobs you should run to validate the configured install.

Configuration Job Instructions      To review the configuration job instructions, perform the following steps:

- 1 Start the Host Installation Configurator by typing the following command on the TSO command line (Option **6** in ISPF):

```
%ESPYCL00
```

The **StarTool DA Primary Option** panel displays.

- 2 From the **Primary Option** panel, select Option **1**. The **Configuration Selection** panel **ESPYIP10** displays.

```

ESPYIP10      ----- StarTool DA Configuration Selection --- Row 3 to 3 of 3
Command/Option ==>>                                     Scroll ==> CSR

END Terminate processing

StarTool DA Configuration ID ==>>                      (Enter new ID, existing ID, or select
                                                         an ID from the list below)

Line Commands : S Select the configuration           D Delete the configuration
                 G Perform full generation          P Perform partial generation
                 DIR Edit the installation job       M Delete all generated members
                  directory                          R Re-process the configuration

Line      Configuration      Configuration Description
Command   ID      Level
DIR     ES01      20      StarTool DA configuration ES01
***** Bottom of data *****

```

- 3 On the **Configuration Selection** panel, type the DIR (Directory) line command beside the configuration for which you want to run configuration jobs. This will put you in ISPF EDIT mode, where you can view the generated JCL configuration members and the installation instructions they contain.

- 4 View member *xxxxI000*, the configuration job checklist member. Review all instructions and print the member for reference. The member should look something like the following example:

```

File Edit Confirm Menu Utilities Compilers Test Help
-----
EDIT          SERENA.DA570.PROCLIB(ES01I000) - 01.00          Columns 00001 00072
Command ==>                                         Scroll ==> CSR
***** ***** Top of Data *****
000100 Member
000200 Name Description
000300 -----
000400 =====> Full gen done on 12/19/2007 at 17:11:54 by USER01.
000500 ES01I001 (DA-Base ) Unload distribution tape.
000600 ES01I002 (DA-Base ) Build the VSAM files.
000700 ES01I003 (DA-CICS ) DBKF allocation.
000800 ES01I004 (DA-Batch) DBKF allocation.
000900 ES01I005 (DA-CICS ) Data Base Index (DBI) file allocation.
001000 ES01I006 (DA-Base ) Data Base Index (DBI) file allocation.
001100 ES01I007 (DA-CICS ) Control file allocation.
001200 ES01I008 (DA-Base ) (MVS ABCD) Install JCL procedures.
001300 ES01I009 (DA-CICS ) (MVS ABCD) Generate the system table.
001400 ES01I010 (DA-Base ) (MVS ABCD) Generate SVC dump SSN table.
001500 ES01I011 (DA-Base ) (MVS ABCD) Install SVC dump routines.
001600 ES01I012 (DA-Base ) (MVS ABCD) Allocate subsystem data sets.
001700 ES01I013 (DA-CICS ) (MVS ABCD) Delete existing CSD data.
001800 ES01I014 (DA-CICS ) (MVS ABCD) ICS installation.
001900 ES01I015 (DA-CICS ) (MVS ABCD) DVS/EDS installation.

```

- 5 Each configuration job member listed in the checklist member contains detailed comments with specific instructions for job execution. Review and print all configuration job members for reference.

## Configuration Job Naming Conventions

Configuration job members generated for your configuration by the Host Installation Configurator follow certain naming conventions. The function of a customizable StarTool DA JCL member can be inferred in a general way from the generated member name. These members can be customized directly in ISPF or another editor if you wish.

Generated member names take the form *xxxxyzzz*, where:

- *xxxx* = Configuration ID (for example, ES01)
- *y* = 9 for StarTool DA Batch  
= C for StarTool DA CICS  
= M for assembler macros (see table)
- *zzz* = Function identifier (see table)

Suffix	Description
CBRF	Formats StarTool DA CICS DBI records.
CDBU	Updates StarTool DA CICS DSECT database. Use if you want to add DSECTs to StarTool DA CICS.
CHLP	Updates Help file for StarTool DA CICS user ABENDs.
CIMP	Imports CICS dump into StarTool DA CICS.
CLPI	Language Processor JCL for StarTool DA CICS.
CMCI	Imports a ChangeMan ZMF compiler listing into the StarTool DA language database.
CNCI	Instructions for merging Language Processor steps into an existing CICS COBOL compile JCL procedure.
COCI	The same as CNCI except that "Original Source" support is included.
MASM	Performs MACLIB assembly.
9DM1	Executes the AT39 test program to generate assembler ABENDs.
9DM2	Executes the CB39 test program to generate COBOL ABENDs.
9HLP	Updates Help file for StarTool DA Batch user ABENDs.
9LER	Removes the StarTool DA Batch interface to IBM's Language Environment (LE).
9LPI	Instructions on how to set up Language Processor JCL for StarTool DA Batch.
9MCT	Performs StarTool DA Batch Master Control Table (EMCT) assembly.

## Running the Configuration Jobs

Referring to the checklist member `xxxxI000` and the installation instructions contained in each configuration job member, run the configuration jobs. These jobs build the StarTool DA execution libraries.



**CAUTION!** The configuration jobs must be executed in the order listed in the checklist member.

### General Configuration Jobs

The generated configuration jobs perform the following general configuration tasks:

- Build product execution libraries.
- Generate all StarTool DA CICS and StarTool DA Batch JCL procedures.
- Generate all control members.
- Generate all tables.
- Define StarTool DA CICS datasets (if you are installing StarTool DA CICS).

### LPAR Configuration Jobs

The following jobs are generated for each LPAR identified during the configuration process.

- Pre-installation checklist.
- JCL procedure installation.
- LPAR program installation.
- Definition of StarTool DA Batch datasets.
- z/OS Error Detection Server (EDS) installation.
- Sample JCL to add additional DSECTs to the StarTool DA DSECT database.

## CICS Configuration Jobs

The following jobs are generated for each CICS region identified as running within the current LPAR.

- CICS Installation and Configuration Server (ICS) installation.
- CICS Debugging and Viewing Server (DVS) installation.
- CICS Error Detection Server (EDS) installation.

When all configuration jobs have completed successfully, you are ready to apply your Serena SER10TY license keys and update your security software. Only after these steps are complete will you be ready to further configure StarTool DA CICS, run the test jobs, and validate the install.

## Applying the SER10TY License Keys

The Serena SER10TY license software was unloaded from the StarTool DA distribution media with the rest of StarTool DA. Even if you have already run SER10TY for a prior release of StarTool DA, you must run it again for the new release using the SER10TY components on the new distribution media.

Refer to ["Software License Administration"](#) in [Chapter 2, "Installation Prerequisites and Planning"](#), for instructions on how to apply license keys.

## Updating Your Security Software

After you apply your Serena SER10TY license keys, you must update your RACF or other security software to manage StarTool DA security.

Refer to ["Security Requirements"](#) in [Chapter 2, "Installation Prerequisites and Planning"](#), for instructions on updating your security software.



# Chapter 7

## Workload Server Administration

---

**Startup Requirements** On every LPAR where you want StarTool DA to perform dump interception and analysis, you must start the appropriate StarTool DA Workload Server (WLS). You must also start the WLS before you run the CICS Installation and Configuration Server (ICS) to customize StarTool DA CICS.

Only one WLS may be active on an LPAR at any one time. However, the behavior of the active WLS can be easily modified by starting alternative predefined configurations or by selecting an alternative Language Database File (DBDF) at startup. You can also modify WLS behavior by customizing the WLS JCL, modifying SYSIN members, or issuing SDSF operator commands.

**Before You Begin** Before you can work with the WLS, you must perform the following task:

- **Build the execution libraries.** See [Chapter 6, "Building the Execution Libraries"](#).

The following WLS administration topics are addressed in this chapter:

<a href="#">Starting the Workload Server</a>	106
<a href="#">Stopping the Workload Server</a>	109
<a href="#">Changing Workload Server Configurations</a>	109
<a href="#">Modifying Workload Server JCL</a>	109
<a href="#">Modifying SYSIN Keyword Parameters</a>	111
<a href="#">SDSF Operator Commands</a>	121

## Starting the Workload Server

`ESnnWLS JCL Procedure` The Workload Server (WLS) is invoked by JCL member `xxxxWLS`, where `xxxx` is a StarTool DA configuration ID you defined using the Host Installation Configurator. For example, the startup JCL procedure for configuration `ES01` would be `ES01WLS`. The startup JCL members for all StarTool DA configurations reside in the installation library `somnode.INSTALL`, where `somnode` is the HLQ for your configured [consolidated software libraries](#).

In general, `xxxxWLS` is:

- The *procedure name* for starting the Workload Server address space if the Workload Server address space is executed as a started task.
- The *job name* for starting the Workload Server address space if the Workload Server address space is executed as a batch job.

### Prerequisites

Before starting the WLS, be sure the StarTool DA load library has been added to your LNKLST.

In addition, if your StarTool DA configuration includes ChangeMan ZMF integration, do the following before starting the WLS:

- Start TCP/IP on all LPARs where communicating instances of StarTool DA and ChangeMan ZMF reside.
- Start the desired ChangeMan ZMF subsystems.
- Add the SERCOMS load library that your ZMF is using to the z/OS LNKLST.
- In the WLS JCL, verify that the `SER#PARM DD` statement is present and accurate.

### SDSF Start Command

To start the WLS, issue the following command from the SDSF (Screen Display and Search Facility) command line:

```
S xxxxWLS
```

where:

*xxxx* = desired configuration ID (such as ES01)

Example:

```
S ES01WLS
```

## Overriding the Master Control Table

StarTool DA's Master Control Table (EMCT) defines how the Workload Server (WLS) and Error Detection Servers (EDSs) intercept ABENDs, invoke dump processing, and present dump analysis information.

By default, the WLS starts up using the predefined Master Control Table (EMCT) selected when the execution libraries were built. However, a set of alternative preconfigured EMCTs are shipped with the product, and one of these can be selected instead of the default with a startup command option in SDSF. In addition, you can build your own, customized EMCTs and select one of those at startup.

EMCT Startup  
Command Option

To start the WLS using a specific EMCT, issue the following command from the SDSF command line:

```
S xxxxWLS, EMCT=yy
```

where:

*xxxx* = Configuration ID (such as ES01)

*yy* = Master control table identifying suffix (such as A2)

Example:

```
S ES01WLS, EMCT=A2
```

See [Chapter 10, "Advanced Customization of StarTool DA Batch"](#), for information about control table functions by table suffix. This chapter also discusses the customization of EMCTs.

## Running the Workload Server in Test Mode

There are two ways to start the Workload Server (WLS) in test mode:

- Run the test mode startup procedure
- Issue the TEST startup command option with customized JCL

### **Test Mode Startup JCL Procedure**

ES*nr*WLST JCL Procedure    The WLS is started in test mode automatically by JCL procedure *xxxx*WLST, where *xxxx* is the desired StarTool DA configuration ID such as ES01. The test mode startup members reside in the installation library *somnode*. INSTALL, where *somnode* is the HLQ for your configured [consolidated software libraries](#).

The SDSF startup command for test mode would be:

```
S xxxxWLST
```

Example:

```
S ES01WLST
```

### **SDSF Startup Command Option**

TEST Keyword Parameter    If you have customized JCL procedures that normally start the WLS in production mode rather than test mode, you can use the TEST parameter with the SDSF startup command to start the WLS in test mode. To do this:

- 1 Add the following DD statement to your startup JCL procedure:

```
//ESPYxxxx DD DUMMY
```

where *xxxx* is replaced by the actual configuration ID.

- 2 Set the value of the TEST keyword parameter to TEST in the SDSF startup command. For example:

```
S procname,TEST=TEST
```

where *procname* is your custom JCL startup procedure name.

### **Turning Off Test Mode**

Set the TEST keyword parameter to blanks on the SDSF command line to turn off test mode. This can be useful with a startup procedure that normally invokes the WLS in test mode. For example:

```
S xxxxWLST,TEST=
```

where *xxxx* is replaced by the configuration ID of the WLS to be started.

## Stopping the Workload Server

SDSF Stop Command    To stop the WLS, issue the following command from the SDSF command line:

```
P xxxxWLS
```

where:

xxxx = configuration ID of the WLS to stop (such as ES01)

Example:

```
P ES01WLS
```

## Changing Workload Server Configurations

To change the preconfigured options for the WLS running on a given LPAR, do the following:

- 1 Stop the WLS that was started using startup JCL procedure *xxxxWLS*, where *xxxx* is an undesired configuration ID such as ES01.
- 2 Restart the WLS using startup JCL procedure *yyyyWLS*, where *yyyy* is a desired configuration ID such as ES02.

For example:

```
P ES01WLS
```

```
S ES02WLS
```

## Modifying Workload Server JCL

Configuration-specific Workload Server (WLS) startup JCL procedures such as ES01WLS and ES01WLST can be easily customized by changing the value of various JCL parameters. You can also add DD statements to allow the local Debugging and Viewing Server (DVS) to view StarTool DA dumps on remote LPARs.

The startup JCL members for all StarTool DA configurations reside in the installation library *somnode*.INSTALL, where *somnode* is the HLQ for your configured [consolidated software libraries](#).

## Workload Server JCL Parameters

### JCL Startup Parameters

Following are the common WLS startup parameters:

- **&EMCT** – The two-byte suffix identifying the StarTool DA Batch Language Database File (DBDF) to be used with this configuration of the WLS.
- **&TEST** – Value assigned to the TEST keyword parameter. Can be overridden at startup by SDSF operator commands. The allowed values are TEST (to turn on test mode) and blanks or null (to turn off test mode).
- **&TRACE** – Value assigned to the TRACE keyword parameter for StarTool DA CICS. Can be overridden at startup by SDSF operator commands. The most common values are ALL (to activate the trace function for all StarTool DA CICS components except SSI modules), OFF (to deactivate the trace function), and NONE (a synonym for OFF). (See [“SDSF Operator Commands”](#) later in the chapter for additional options.)

## Enabling Remote Dump Viewing

The WLS configuration determines what dump viewing options are enabled at runtime. For example, you can configure the WLS on the local LPAR to access StarTool DA dump databases on a remote LPAR if the two LPARs share DASD. The local WLS will then manage remote dump database processing for the local Debugging and Viewing Server (DVS).

To enable remote dump viewing, add DD statements for the remote dump datasets to the WLS JCL. The DD names take the following form:

```
RDBI $xxxx$ 
```

where

```
 $xxxx$  = SMF ID of the LPAR where the dump database resides
```

You can enable up to 16 remote dump databases in the WLS startup JCL.

For example:

```
//RDBISYS1 DD DISP=SHR,USER01.DA.ES01.WLS.DBI01
//RDBISYS2 DD DISP=SHR,STRDA.DA570.WLS.DBI01
//RDBISYS3 DD DISP=SHR,USER02.DA.ES01.WLS.RDBI01
```

When remote dump viewing is enabled, both local and remote dump databases are listed by LPAR name on the **DBI Selection Panel** presented by the Debugging and Viewing Server (DVS) when the DVS first starts up. For the remote dump database DD statements above, the **DBI Selection Panel** would look something like this:

```
----- StarTool DA : DBI Selection Panel -----
COMMAND ==>>
                Select local or remote DBI

Local DBI:      STRDA.DA570.WLS.DBI01

Remote DBI:ID   Dataset Name
  _ SYS1        USER01.DA.ES01.WLS.DBI01
  _ SYS2        STRDA.DA570.WLS.DBI01
  _ SYS3        USER02.DA.ES01.WLS.RDBI01
```

## Modifying SYSIN Keyword Parameters

**SYSIN Parameter Member** When you run the configuration jobs generated by the Host Installation Configurator, member `ESxxSPRM` is created with SYSIN keyword parameters for the WLS based on the requirements you specified for configuration ID `ESxx`. These parameters are accepted as input by the Workload Server (WLS) via JCL parameter `&MBR` in procedure `ESxxWLS`, which invokes the WLS for the configuration `ESxx`. Both `ESxxSPRM` and `ESxxWLS` reside in the installation library `somnode.INSTALL`.

You can modify the SYSIN records in member `ESxxSPRM` to modify the behavior of the WLS.

## Workload Server SYSIN Record Syntax

WLS SYSIN records observe the following syntactic conventions:

- SYSIN Verbs
- All parameters take the following form, with no spaces and a mandatory equal sign (=):  
*sysin\_verb=operand\_value*
  - The *sysin\_verb* value must be all upper-case or all lower-case characters. Mixed case is not supported.
  - The *operand\_value* entry is case-sensitive and is processed as it is coded. Mixed-case values are allowed.
  - Any SYSIN record beginning with a blank or an asterisk (\*) is treated as a comment record.

The following tables describe the WLS SYSIN keywords and parameter values separately for the base StarTool DA software, StarTool DA Batch, and StarTool DA CICS.

## Base Software SYSIN Parameters

The WLS recognizes the following keyword parameters for the base StarTool DA software in the SYSIN record. These parameters apply to all installed product options.

### Workload Server SYSIN Parameters for the Base Software

SYSIN Verb	Description and Values
CMN_SSID=	<p>Lists up to 32 single-byte ChangeMan ZMF subsystem IDs to be searched by StarTool DA when retrieving source code for a failing software module. The following conventions apply to the ZMF subsystem ID list:</p> <ul style="list-style-type: none"> <li>■ Subsystem IDs in the list should not be separated by commas or spaces.</li> <li>■ Subsystems should be listed in the search order desired when retrieving change control information about a failing module.</li> <li>■ Use a question mark (?) character to identify the null or default ZMF subsystem ID. StarTool DA will map this to a null in communications with ChangeMan ZMF.</li> <li>■ Enter an asterisk (*) to temporarily deactivate the ChangeMan ZMF integration</li> </ul> <p><b>Examples:</b></p> <pre>CMN_SSID=A?B CMN_SSID=*</pre> <p>In the first example, StarTool DA searches change packages on ZMF subsystem A first, then the default subsystem, then ZMF subsystem B. In the second example, ZMF integration is turned off.</p> <p>StarTool DA automatically skips any ZMF subsystems in the list that return the following errors:</p> <ul style="list-style-type: none"> <li>■ The ZMF subsystem does not exist or is not running.</li> <li>■ The user does not have access permission for the subsystem.</li> <li>■ The requested module or package does not exist on the subsystem.</li> </ul> <p><b>NOTE</b> StarTool DA can be configured to ignore other ChangeMan ZMF error codes. Contact Technical Support for more information.</p>

**Workload Server SYSIN Parameters for the Base Software** (Continued)

<b>SYSIN Verb</b>	<b>Description and Values</b>
PRODUCT	<p>Identifies the products that you want the WLS to activate on this execution. Allowed values:</p> <ul style="list-style-type: none"> <li><b>da-batch</b>– Activate StarTool DA Batch</li> <li><b>da-cics</b>– Activate StarTool DA CICS</li> <li><b>da-db2</b>– Activate the StarTool DA DB2 Option</li> <li><b>da-ims</b>– Activate the StarTool DA IMS Option</li> </ul> <p>Repeat the PRODUCT statement as needed for each product feature that you wish to activate.</p> <p>There is no default value for this command.</p>
SSN	<p>Subsystem name or configuration ID associated with this instance of the WLS. The operand value takes the form:</p> <p><b>ESxx</b></p> <p>where</p> <p><b>xx</b> = 01 to 99</p> <p>Default value is ES01.</p>
RETRY_COUNT	<p>Number of times the Workload Server address space can restart an incomplete work request before treating it as a failed work request. Values take the form:</p> <p><b>nn</b> = 00 to 99</p> <p>Default value is 03.</p>
RETRY_INTERVAL	<p>Interval at which the Workload Server address space scans the tickler file for incomplete work requests that must be retried. Values take the form:</p> <p><b>hhmmssHH</b></p> <p>where:</p> <ul style="list-style-type: none"> <li><b>hh</b> = Hours from 00 to 99.</li> <li><b>mm</b> = Minutes from 00 to 59.</li> <li><b>ss</b> = Seconds from 00 to 59.</li> <li><b>HH</b> = Hundredths of a second from 00 to 99.</li> </ul> <p>Default value is 00300000.</p>

**Workload Server SYSIN Parameters for the Base Software (Continued)**

SYSIN Verb	Description and Values
<p><i>SI</i><i>n</i> where <i>n</i> = 1 or 2</p>	<p>Startup options associated with StarTool DA CICS system interfaces SI1 and SI2. Allowed values:</p> <ul style="list-style-type: none"> <li><b>BYPASS</b> – Interface module is undefined. <i>Synonym: bypass</i></li> <li><b>REPLACE</b> – Replaces any existing processing module for the system interface with a new copy. <i>Synonym: replace</i></li> <li><b>REUSE</b> – Reuses any existing processing module for the system interface. <i>Synonym: reuse</i></li> </ul> <p>Only one startup option may be assigned per interface; that is, no <i>SI</i><i>n</i> command may be repeated. See below for defaults. SI1 default value is REPLACE. SI2 default value is REUSE.</p>
<p>TRACE</p>	<p>Activates or deactivates the trace function for StarTool DA CICS. Allowed values:</p> <ul style="list-style-type: none"> <li><b>ALL</b> – Activate trace for all components of StarTool DA CICS except SSI. <i>Synonym: all</i></li> <li><b>NONE</b> – Deactivate all trace options. <i>Synonym: none</i></li> <li><b>OFF</b> – Deactivate all trace options. <i>Synonym: off</i></li> <li><b><i>xxxx</i></b> – Activate trace for StarTool DA component <i>xxxx</i>.</li> <li><b><i>no_xxxx</i></b> – Deactivate trace for <i>xxxx</i>.</li> </ul> <p>Component names may be entered in all upper-case or all lower-case characters. Mixed case is not accepted. The TRACE command may be repeated in the SYSIN member as often as necessary to selectively activate or deactivate the trace function for multiple components.</p>

## StarTool DA Batch SYSIN Parameters

The WLS recognizes the following StarTool DA Batch keyword parameters in the SYSIN record.

### Workload Server SYSIN Parameters for StarTool DA Batch

SYSIN Verb	Description and Values
DA-BATCH_DBKF_DSN	Specifies the default Language Database Key File (DBKF) dataset name for StarTool DA Batch.
DA-BATCH_HELP_DSN	Specifies the help file dataset name for StarTool DA Batch. This file contains system ABEND code descriptions, VSAM return code and feedback code descriptions, and user ABEND code text. There is no default value for this command.

## StarTool DA CICS SYSIN Parameters

The WLS recognizes the following StarTool DA CICS keyword parameters in the SYSIN record.

### Workload Server SYSIN Parameters for StarTool DA CICS

SYSIN Verb	Description and Values
CHANGE_DUMP_RETENTION_PROC	Procedure that is started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for changing dump retention period. Default value is ESPYDRTN.
CICS_REGISTRATION_TABLE_ENTRY_COUNT	Maximum number of CICS address spaces registered concurrently by StarTool DA CICS. Allowed values: <i>nnn</i> = 001 to 999 Default value is 035.

**Workload Server SYSIN Parameters for StarTool DA CICS (Continued)**

<b>SYSIN Verb</b>	<b>Description and Values</b>
CYCLE_INTERVAL=	<p>Interval at which the StarTool DA CICS address space scans its internal queues for ready work. Values take the form:</p> <p><i>hhmmssHH</i></p> <p>where:</p> <p><i>hh</i> = Hours from 00 to 99.  <i>mm</i> = Minutes from 00 to 59.  <i>ss</i> = Seconds from 00 to 59.  <i>HH</i> = Hundredths of a second from 00 to 99.</p> <p>Default value is 00003000.</p>
DISPATCH_INTERVAL	<p>Interval at which the StarTool DA CICS address space scans the tickler file for work requests that are ready to be dispatched. Values take the form:</p> <p><i>hhmmssHH</i></p> <p>where:</p> <p><i>hh</i> = Hours from 00 to 99.  <i>mm</i> = Minutes from 00 to 59.  <i>ss</i> = Seconds from 00 to 59.  <i>HH</i> = Hundredths of a second from 00 to 99.</p> <p>Default value is 00003000.</p>
DUMP_DELETE_PROC	<p>Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for dump deletions.</p> <p>Default value is ESPYDDEL.</p>
DUMP_PRINT_ON_DEMAND_PROC	<p>Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for submitting on-demand dump print requests.</p> <p>Default value is ESPYDPRD.</p>
DUMP_PRINT_PROC	<p>Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for printing dumps.</p> <p>Default value is ESPYDPRT.</p>

**Workload Server SYSIN Parameters for StarTool DA CICS (Continued)**

<b>SYSIN Verb</b>	<b>Description and Values</b>
ESRT_MAINT_INTERVAL	Interval at which the StarTool DA CICS address space scans the registration table to ensure that it is current. Values take the form: <i>hhmmssHH</i> where: <i>hh</i> = Hours from 00 to 99. <i>mm</i> = Minutes from 00 to 59. <i>ss</i> = Seconds from 00 to 59. <i>HH</i> = Hundredths of a second from 00 to 99. Default value is 00020000.
FORMAT_CICS410_DUMPS_PROC	Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for formatting CICS 4.1.0 dumps. Default value is ESPYC410.
FORMAT_CICS510_DUMPS_PROC	Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for formatting CICS 5.1.0 dumps. Default value is ESPYC510.
FORMAT_CICS520_DUMPS_PROC	Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for formatting CICS 5.2.0 dumps. Default value is ESPYC520.
FORMAT_CICS530_DUMPS_PROC	Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for formatting CICS 5.3.0 dumps. Default value is ESPYC530.
FORMAT_CICS610_DUMPS_PROC	Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for formatting CICS 6.1.0 dumps. Default value is ESPYC610.
FORMAT_CICS620_DUMPS_PROC	Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for formatting CICS 6.2.0 dumps. Default value is ESPYC620.

**Workload Server SYSIN Parameters for StarTool DA CICS (Continued)**

<b>SYSIN Verb</b>	<b>Description and Values</b>
FORMAT_CICS630_DUMPS_PROC	Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for formatting CICS 6.3.0 dumps. Default value is ESPYC630.
FORMAT_CICS640_DUMPS_PROC	Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for formatting CICS 6.4.0 dumps. Default value is ESPYC640.
FORMAT_CICS650_DUMPS_PROC	Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for formatting CICS 6.5.0 dumps. Default value is ESPYC650.
FORMAT_CICS660_DUMPS_PROC	Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for formatting CICS 6.6.0 dumps. Default value is ESPYC660.
FORMAT_CICS670_DUMPS_PROC	Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for formatting CICS 6.7.0 dumps. Default value is ESPYC670.
NOTIFY_USER_PROC	Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for event notification to users. Default value is ESPYNTFY.
PROCESS_SVC_DUMPS_PROC	Procedure started by the StarTool DA Workload Server on behalf of a StarTool DA CICS address space for processing CICS SVC dumps. Default value is ESPYPSVC.

## Example Workload Server SYSIN Member

```
**-----
** Define the subsystem/server name.
**-----
ssn=ES01      <-- Note upper-case operand
**-----
** Define the product profile.
**-----
product=da-cics
product=da-batch
**-----
** Define the timer intervals.
**-----
cycle_interval=00003000
retry_interval=00300000
dispatch_interval=00003000
esrt_maint_interval=00020000
-----
Define the normal trace options.
-----
trace=all
trace=no_ussi
trace=no_amb1
trace=no_amb6
trace=no_amd1
trace=no_amd2
trace=no_amd3
trace=no_amon
trace=no_amve
trace=no_amvs
trace=no_ami
trace=no_amt1
trace=no_amt2
trace=no_amt3
-----
Define the debug trace options.
-----
----trace=debug
----trace=amd1_ssi
-----
Define the system interface options.
-----
si1=reuse
si2=reuse
-----
Define DA-Batch parameters.
-----
da-batch_help_dsn=WST001.dabatch.R302.E390.HELP
-----
```

```

Define the JCL procedure names.
-----
dump_delete_proc=WS40DDEL
dump_print_proc=WS40DPRT
dump_print_submission_proc=WS40DPRD
eyespy_maintenance_proc=WS40ESPM
change_dump_retention_proc=WS40DRTN
format_cics410_dumps_proc=WS40C410
format_cics510_dumps_proc=WS40C510
format_cics520_dumps_proc=WS40C520
format_cics530_dumps_proc=WS40C530
format_cics610_dumps_proc=WS40C610
format_cics620_dumps_proc=WS40C620
format_cics630_dumps_proc=WS40C630
format_cics640_dumps_proc=WS40C640
process_svc_dumps_proc=WS40PSVC
notify_user_proc=WS40NTFY
-----
AUTOCMD definitions.
-----
at 20000000,cmd=start dbmnt
at 20000000,cmd=start ldbmnt
-----
Define miscellaneous parameters.
-----
retry_count=03
cics_registration_table_entry_count=100

```

## SDSF Operator Commands

You can control StarTool DA Workload Server (WLS) execution using SDSF to submit WLS operator commands. The majority of these commands pertain to WLSs configured for CICS dump processing.

SDSF Operator  
Command

The operator command format is:

```
F xxxxWLS, command=operand
```

where

*xxxx*WLS = WLS startup procedure for configuration ID *xxxx*

*command* = StarTool DA keyword parameter for the operator command (see table below)

*operand* = parameter value for command, if any (see table below)

Examples:

F ES01WLS,REBUILD=TFST

F ES01WLS,QUIT

Case is not significant for these commands, as the WLS normalizes input to uppercase.

Valid WLS operator commands and operand values are summarized in the table below.

### SDSF Operator Commands for the Workload Server

Operator Command	Description and Operand Values
QUIT	Initiates an orderly shutdown of the StarTool DA CICS servers and address space. No operand required.
REBUILD	Rebuilds the StarTool DA CICS control block or table identified by the operand. Allowed operand values: <b>CICSESRT</b> – CICS registration table <b>TFST</b> – Tickler file serialization table <b>WFST</b> – Work file serialization table
RELOAD	Reloads the named WLS utility module within the address space. The operand is an eight-byte member name. The following utility members may be reloaded: <ul style="list-style-type: none"> <li>■ ESPYAAPI</li> <li>■ ESPYAMDx</li> <li>■ ESPYAMS1</li> <li>■ ESPYAMVS</li> <li>■ ESPYD2FD</li> </ul>
<i>SIn</i> where <i>n</i> = 1 or 2	Activates, deactivates, or unhooks StarTool DA CICS system interfaces SI1 and SI2. Allowed values: <b>ON</b> – Activates the system interface. <b>OFF</b> – Deactivates the system interface. <b>UNHOOK</b> – Unhooks the system interface.

## SDSF Operator Commands for the Workload Server (Continued)

Operator Command	Description and Operand Values
SNAP	<p>Takes a snapshot of a StarTool DA CICS control block or table identified by the operand. Allowed values:</p> <ul style="list-style-type: none"> <li><b>ALL</b> - All allowed control blocks and tables</li> <li><b>AMCD</b> - StarTool DA CICS common data</li> <li><b>CFGESRT</b> - Configuration file registration table</li> <li><b>CICSESRT</b> - CICS registration table</li> <li><b>ESCT</b> - StarTool DA CICS control table</li> <li><b>SSCVT</b> - Server CVT</li> <li><b>SSVT</b> - Server vector table</li> <li><b>TFST</b> - Tickler file serialization table</li> <li><b>WFST</b> - Work file serialization table</li> </ul>
STATUS	<p>Displays the StarTool DA CICS address space and server status. No operand required.</p>
TRACE	<p>Activates or deactivates the trace function for StarTool DA CICS. Allowed values:</p> <ul style="list-style-type: none"> <li><b>ALL</b> - Activate trace for all components of StarTool DA CICS except SSI. <i>Synonym: a11</i></li> <li><b>NONE</b> - Deactivate all trace options. <i>Synonym: none</i></li> <li><b>OFF</b> - Deactivate all trace options. <i>Synonym: off</i></li> <li><b>xxxx</b> - Activate trace for StarTool DA CICS component <i>xxxx</i>.</li> <li><b>no_xxxx</b> - Deactivate trace for <i>xxxx</i>.</li> </ul> <p>Component names may be entered in all upper-case or all lower-case characters. Mixed case is not accepted.</p>



## Chapter 8

---

# Configuring StarTool DA CICS

The CICS Installation and Configuration Server (ICS) configures the Error Detection Servers (EDSs) assigned to each StarTool DA CICS address space. The ICS simplifies the most common configuration and setup tasks for StarTool DA CICS. In addition, you can customize the StarTool DA CICS system table, DSECT database, and other control objects.

If you do not install StarTool DA CICS, skip this chapter.

**Before You Begin** Before you begin work with the ICS, you must complete the tasks listed in the configuration checklist member generated by the Host Installation Configurator. The checklist is member `xxxxI000`, where `xxxx` is the configuration ID. It resides in the installation library `somnode`. `INSTALL`.

The following topics describe the configuration requirements of StarTool DA CICS:

<a href="#">StarTool DA CICS Configuration Overview</a>	125
<a href="#">Starting the Installation and Configuration Server</a>	129
<a href="#">Assigning CICS Jobs to a Dump Database</a>	130
<a href="#">Selecting and Distributing Dumps</a>	132
<a href="#">Defining Duplicate Dump Suppression</a>	140
<a href="#">Defining Dump File Storage</a>	144
<a href="#">Suppressing Identical Dumps</a>	146
<a href="#">Preventing Redundant CICS SVC Dumps</a>	147

## StarTool DA CICS Configuration Overview

StarTool DA CICS provides many flexible implementation alternatives. The following guidelines can help you understand the tasks performed by the CICS Installation and Configuration Server (ICS).

## Server Installation and Configuration

The following servers must be installed and configured for StarTool DA CICS. The particular servers needed vary with the complexity of your CICS environment.

### ***CICS Error Detector Server***

Installed one EDS per CICS transaction server and one SVC dump exit per MVS image that is running a CICS transaction server. Installed one program, ESPYASND, per NJE connection on any non-shared machine (non CICS) on which you may be notifying people who are connected only by a JES2 link (for example: a physically remote, MVS/TSO machine that you want certain TSO users notified of certain CICS ABENDs).

### ***Workload Server***

Installed one per LPAR that has one or more CICS subsystems running.

### ***CICS Debug/Viewing Server***

Installed at least one per CICS interconnected-environment or more. (A CICS interconnected-environment is any number of CICS subsystems whereby they all have access through shared DASD to the StarTool DA dump database, or have an ISC connection to the CICS that contains the Debug/Viewing Server.)

### ***Configuration Server***

Installed one per CICS interconnected-environment. (A CICS interconnected-environment is any number of CICS subsystems whereby they all have access through shared DASD to the StarTool DA Control file, or have an ISC connection to the CICS that contains the Control file.)

### ***Language Server***

Installed one per MVS shared environment. (An MVS shared environment is any number of LPARs whereby they all have access through shared DASD to the StarTool DA Language Database.)

## Database Libraries

The StarTool DA CICS database libraries must be allocated and assigned to the various servers. FCT file names appear in parentheses.

### ***Configuration File (ESPYCFG)***

Contains information on how you set up StarTool DA CICS using the ICS. One configuration member is created by the ICS for each StarTool DA CICS image.

For integrity and performance, StarTool DA provides its own serialization (not ENQ/DEQ) for this resource.

### ***Information File (ESPYINF)***

Contains information about dumps, counts of dumps, statistics accessible, and so on. Defined one information file for every StarTool DA CICS image.

### ***Control File (ESPYCTL)***

Contains user control information such as PF key definitions, and so on. Defined one Control file for every StarTool DA CICS image. If you are using more than one Debug/Viewer Server, they each DVS must have a unique Control File.

### ***Tickler File (ESPYTKF)***

Contains to-be-processed work for the Workload Server. Defines one tickler file for every MVS image that runs on one or more CICS region. For integrity and performance, StarTool DA provides its own serialization (not ENQ/DEQ) for this resource.

### ***Work File (ESPYWRK)***

Passes diagnostic information to the Workload Server. It includes the 3270 screen at the time of the interrupt, the failing instruction and internal COBOL information used by the dump viewer to display the COBOL listing. There is always a corresponding work file for every tickler file. Defines one work file for every MVS image that runs on one or more CICS regions. For integrity and performance, StarTool DA provides its own serialization (not ENQ/DEQ) for this resource.

### ***Dump Database Index File (ESPYDBxx)***

Contains dump information used by the DVS viewer. You can define up to 127 Dump Database Index files (views) within a single StarTool DA image.

### ***DSECT File (ESPYDSCT)***

Contains online DSECTs for all of StarTool DA. Defined one for every Debug/Viewing Server.

### ***Help File (ESPYHLP)***

Contains online Help for all of StarTool DA. Defined one for every Debug/Viewing Server.

### ***Language Database (ESPYLDF)***

Contains the CICS source programs and debug foundation information that allows online debugging of CICS programs. Defined one for every StarTool DA image. A StarTool DA image is all MVS images connected by shared DASD whereby this DASD is accessible through an ISC connection or through shared DASD from the StarTool DA Debug/Viewing Server CICS. An MVS image that does not run CICS is an acceptable location for this database as long as it is sharing this DASD with one CICS that is connected. Tables are supplied with the product that specify, by ABEND code, the action that StarTool DA is to take when a problem is either fully or partially resolved. You can specify the options for dump output, control block formatting, and program storage analysis. This control table section contains a variable number of entries that identify any special ABEND codes and the associated dump options. These tables allow complete flexibility in tailoring the system.

# Starting the Installation and Configuration Server

To start the CICS Installation and Configuration Server (ICS), execute transaction ES00. The **Dump Database Management** panel (00) displays.

```
Date: 09/15/2007      DA-CICS  - Dump DataBase Management(00)      Time: 12:05:36

Option:

      1> Assign CICS Jobs to a Dump Database
      2> Dump Selection and Distribution
      3> Duplicate Dump Suppression Definitions
      4> Dump File Storage Definitions
```

From this panel, you can perform the following StarTool DA CICS configuration tasks:

- **Assign CICS Jobs to a Dump Database:** Divide your ABENDs for CICS regions into single or multiple databases. This can range from a single consolidated dump database shared by all CICS regions to individual databases for each CICS region. At installation, one or more databases are defined to StarTool DA. Then, assign CICS jobs for all databases. This step is required.
- **Dump Selection and Distribution:** Define which dumps are included on each database, how long to retain those dumps, and who should be notified when a particular ABEND occurs. In most cases, the system administrator determines these criteria. This step is optional.
- **Duplicate Dump Suppression Definitions:** Organize dump databases by identifying which dumps will be chosen for Duplicate Dump Processing and specifying the criteria on which StarTool DA determines if a dump is a duplicate. Identifying duplicates conserves DASD space allotted to the database, as well as processing time. This step is optional.
- **Dump File Storage Definitions:** StarTool DA saves dumps into unique files, so each database index file must have its own storage

definition. Define the volume, space and dataset name qualifiers to use when building these files. These individual dump files remain on the volume until you delete them or the retention period expires. This step is required.

## Assigning CICS Jobs to a Dump Database

When you select Option **1** from the primary **Dump Database Management** panel (00), the secondary **Dump Database Management** panel (01) displays. This panel itemizes the number of dumps by type as they reside on each database on the system.

```
Date: 03/15/200      DA-CICS  - Dump DataBase Management(01)      Time: 15:04:46
Command:
                                     Shared
DataBase -----Description-----  Dasd  Tran-Dumps  Syst-Dumps  Violations
ES01DB01 DATABASE #1                    0      0      0      0

Print Other Dumps: Y
PF1(HELP) PF3(END)
```

The first time you select Option 1, this panel contains indexes defined by the Host Installation Configurator. From this panel you can add a database, change a database description, or select a database to assign to CICS jobs or regions.

- To add a database, type the new database name and description on a blank line, and press ENTER. You must also:
  - Update the CICS CSD, making sure the correct group is updated.
  - Modify the database installation job to create the new database.
  - Modify all procs that access the database.
- To change a database description, position the cursor to the appropriate line, type the new description, and press ENTER.
- To select a database to assign CICS jobs or regions, position the cursor to the appropriate database and press ENTER.

The fields on the panel are described in the following table.

Field Definitions	
Database	The name of the StarTool DA dump file defined during installation. This is the same as the DDname specified in the FCT table. You can define up to 127 unique database names. All should have been established during installation.
Description	A unique entry describing the database. It can contain up to 30 characters.
Tran-Dumps	The number of Transaction Dumps that currently reside on the database.
Syst-Dumps	The number of System Dumps that currently reside on the database.
Violations	The number of Storage Violations that currently reside on the database.

## Assigning CICS Jobs and Regions to a Database

After you select a database from the primary **Dump Database Management** panel (00), the **Database/CICS Job Definition** panel (02) displays. It lists up to 32 CICS jobs or regions currently assigned to the selected database.

```

Date: 03/15/2007  DA-CICS  DataBase/CICS Job Definition(02)  Time: 15:12:48
Command:                                                    DumpDB: ES01DB01

JobName  - -----Description-----  JobName  - -----Description-----
CICSQ101 Y CICS Q101

PF1(HELP) PF3(END)
    
```

- To add an entry, type a job name and Description on a blank line and press ENTER.
- To delete an entry, erase the job name and press ENTER.

- To change an entry, type over the existing information and press ENTER.

You can add, modify, or delete an entry at any time.



**IMPORTANT!** You must assign each CICS region to a database.

## Selecting and Distributing Dumps

Selecting Option 2 from the primary **Dump Database Management** panel (00) invokes the **Dump Selection/Distribution Screen (10)**. This initiates all the processing screens necessary for the administrator to add, modify, or delete selection/distribution criteria for the dumps in each database.

```
Date:03/15/2007      StarTool DA Dump Selection/Distribution(10)  Time 15:14:41
Command:

  DataBase ----- Description ----- Tran-Dumps  Syst-Dumps  Violations
_  ES01DB01 DATABASE #1                    0           0           0
_
_
_
_
_
_
_
PF1(HELP) PF3(END)
```

Initially, the databases displayed are those defined by the Host Installation Configurator. To select a database, position the cursor next to the appropriate database and press ENTER.



**IMPORTANT!** You must define a database for dump processing to occur.

The fields on the panel have the following meanings:

Field Definitions	
Database	The name of the StarTool DA CICS dump index file defined during installation. This is the same as the DDname specified in the FCT table. You can define up to 127 unique database names.
Description	A unique entry (up to 30 characters) describing the database.
Tran-Dumps	The number of Transaction Dumps that currently reside on the database.
Syst-Dumps	The number of System Dumps that currently reside on the database.
Violations	The number of Storage Violations that currently reside on the database.

## Assigning Dumps to a Database

When you select a database, the secondary **Dump Selection/Distribution** panel (12) displays. This screen lists the selection, retention, restart and notification criteria for each dump that is placed on the database. The name of the current database is specified in the upper right hand corner.

```

Date: 03/15/2007      DA-CICS  Dump Selection/Distribution(12)  Time: 15:15:42
Command:                                                     DumpDB: ES01DB01

-----Selection----- Keep Rstr  Print  -----Notification-----
Tran Code Term CICS-Id Days Tran JobCard Term TDQ  CICS-Id TSO-Id  Job/E-Mail
*              45                                USER01
*              21                                USER02
*              45                                USER03

PF1(HELP) PF3(END) PF7(UP) PF8(DOWN)
    
```

You must define selectivity and notification information for each dump that resides on each database defined for your installation. You can define up to 127 databases. Each assigned dump can also have its own set of criteria. You can add, modify and delete criteria at any time.

- To add an entry, type the new parameters on a blank line after the last entry and press ENTER.
- To delete an entry, erase all of the selection criteria fields and press ENTER.
- To insert an entry, position the cursor where you want the new entry and press ENTER. A blank line displays. Type the new selection parameters and press ENTER.

### **Selection Fields**

Selection fields on the secondary **Dump Selection/Distribution** panel specify the dumps you want to include on the database. If a dump occurs and it cannot be identified by transaction ID, ABEND code, terminal ID or CICS ID, then it is not placed in the database.

Select dumps by any combination of transaction ID, ABEND code, terminal ID, and CICS ID. The parameters can be specific or generic by using variable and fixed length wildcards (\* and ?).



**CAUTION!** Use a single asterisk (without any characters preceding or following it) in the TRAN column only to indicate that all dumps are to be selected for duplicate dump processing. Using a single asterisk across the TRAN, CODE, TERM and CICS-ID fields can have undesirable effects.

For example, although an asterisk in TRAN selects all dumps, an additional asterisk in terminal excludes any dumps that do not have a terminal-id associated with them (that is, a transaction initiated by another transaction).

Use non-generic asterisks (preceded by a alpha character) in as many columns as necessary.

Selection of a dump is based on a left-to-right, top down qualification. StarTool DA checks each dump against the criteria entered, in the exact order as it appears on this screen. When a dump qualifies for inclusion, StarTool DA looks at the other parameters associated with that selection field to determine what to do with the dump.



**TIP** Enter dumps that require specific handling or are exceptions to the general processing rules first. Place dumps with more generic specifications last.

Selection fields are described in the following table.

<b>Selection Fields</b>	
TRAN=XXXX	TRAN specifies that all dumps with this CICS transaction ID, or some derivative thereof, be included in this database. CODING RULES: XXXX is 1 to 4 characters long and follows the standard naming conventions for CICS transaction IDs. XXXX is left-justified and can be any valid entry in the CICS PCT table. You can use wildcards (* and ?).
CODE=XXXX	CODE specifies that all dumps with this CICS transaction, system or user ABEND code, or some derivative thereof, be included in this database. CODING RULES: XXXX is 1 to 4 characters long and must be a valid CICS transaction, system or user ABEND code. XXXX is left-justified. You may use wildcards (* and ?).
TERM=XXXX	TERM specifies that all dumps with this terminal ID, or some derivative thereof, be included in this database. CODING RULES: XXXX is 1 to 4 characters long and follows the standard naming conventions for terminal IDs. XXXX is left-justified and can be any valid CICS terminal ID. You may use wildcards (* and ?).
CICS-ID=XXXXXXX	CICS-ID specifies that all dumps with this CICS user ID, or some derivative thereof, be included in this database. CODING RULES: XXXX is 1 to 7 characters long and follows the standard naming conventions for CICS user IDs. XXXX is left-justified. If the CICS user ID is 8 characters, drop the last character. You may use wildcards (* and ?).

### **Retention Fields**

Retention fields on the Selection fields on the **Dump Selection/ Distribution** panel let you specify dump retention duration and other retention options. Options vary according to the individual needs of the installation and the specific jobs or ABENDs. You can specify, in

conjunction with the selectivity option, that different types of ABENDs be kept on the database for different lengths of time.

<b>Retention Fields</b>		
KEEP DAYS=NNN	Required	KEEP DAYS specifies the number of days that dumps selected with this criteria are kept on the database. CODING RULES: NNN is a numeric value of 0 to 999. The value is entered left-justified. If you specify a value of 0, then the dump is not retained, even if it meets the selection criteria.
RSTR TRAN=XXXX	Optional	RSTR TRAN specifies a valid CICS transaction ID that StarTool DA automatically starts when the dump that meets this selection criteria occurs. CODING RULES: XXXX is 1 to 4 characters long and follows the standard naming conventions for CICS transaction IDs. XXXX is left-justified and can be any valid entry in the CICS PCT table.
PRINT JOBCARD=XXXXXXXX	Optional	PRINT JOBCARD specifies that the selected dumps automatically print when they occur. This field is optional and if left blank, the user is responsible for requesting a hard copy of the dump. CODING RULES: XXXXXXXX is 1 to 8 characters long and specifies a member name inserted in the StarTool DA partitioned dataset that contains JOB statement JCL information. This partitioned dataset was installed with the StarTool DA system. StarTool DA uses this Job statement JCL to route or print and address a hard-copy of the dump. XXXXXXXX follows the IBM Standard Naming Conventions for partitioned dataset member names.

### **Notification Fields**

Notification fields on the **Dump Selection/Distribution** panel specify who will be notified when the particular dump occurs. Notification can be routed to one or more destinations: a terminal ID, a transient data

queue, a CICS or TSO user ID, or an E-MAIL ID. StarTool DA allows one or more notification parameters to be turned on for each dump.

<b>Notification Fields</b>	
TERM=XXXX	<p>TERM specifies a valid CICS Terminal ID to receive immediate notification when this particular dump occurs.</p> <p>CODING RULES: XXXX is 1 to 4 characters long and follows the standard naming conventions for CICS terminal IDs. XXXX is left-justified and can be any valid CICS terminal ID.</p>
TDQ=XXXX	<p>DEFINITION: TDQ specifies a valid Transient Data Queue to receive immediate notification when this particular dump occurs.</p> <p>CODING RULES: XXXX is 1 to 4 characters long and follows the standard naming conventions as established by CICS for transient data queues. XXXX is left-justified.</p>
CICS-ID=XXXXXXX	<p>CICS-ID specifies a CICS user (logon) ID to receive immediate notification when this particular dump occurs.</p> <p>CODING RULES: XXXXXX is 1 to 7 characters long and follows the standard naming conventions for CICS user IDs. XXXXXX is left-justified. If the CICS user ID is 8 characters, drop the last character. If this field is left blank, then no CICS ID notification for this dump occurs.</p>

<b>Notification Fields</b>	
TSO- ID=XXXXXXX	<p>TSO-ID specifies a TSO user (logon) ID to receive immediate notification when this particular dump occurs.</p> <p>CODING RULES: XXXXXX is 1 to 7 characters long and follows the standard naming conventions for TSO user IDs. XXXXXXXX is left-justified. If the TSO user ID is 8 characters, drop the last character. If this field is left blank, then no TSO ID notification for this dump occurs.</p> <p>=CONSOLE is a unique keyword used to route notify messages to the console. StarTool DA uses Route Code 11 to route all CONSOLE messages. Therefore, use normal MVS procedures to tailor the routing of these notifications to your installation requirements by modifying the routing of Route Code 11.</p>
JOB/E-MAIL=XXXXXXXXXX	<p>JOB/E-MAIL specifies that either a Jobcard, which resides in the StarTool DA JCL PDS, or an E-MAIL user ID receive immediate notification when this particular dump occurs.</p> <p>A member name, inserted in the StarTool DA partitioned dta set that contains JOB Statement JCL information follows the //.</p> <p>CODING RULES: If a Jobcard is to receive notification, XXXXXXXX is 1 to 10 characters long and must begin with //. A member name follows the //. This member is inserted into the StarTool DA partitioned dataset that contains JOB Statement JCL information. This partitioned dataset was installed with the StarTool DA system. StarTool DA uses this Job Statement JCL for notification. XXXXXXXX follows the IBM Standard Naming Conventions for partitioned dataset member names.</p> <p>If an E-MAIL user ID is to be notified, then XXXXXXXXXXXX is 1 to 10 characters long and follows the standard naming conventions for E-MAIL user IDs. XXXXXXXXXXXX is left-justified. If this field is left blank it is assumed that no JOB/E-MAIL notification for this dump is required.</p>

### Examples

The following examples illustrate some of the ways to specify different combinations of selectivity and notification on the **Dump Selection/ Distribution** panel.

#### Example 1: Dump Selection by Transaction ID

Selection Fields				Retention Fields			Notification Fields				
Tran	Code	Term	CICS -ID	Keep Days	Rstr Tran	Jobcard	Term	TDQ	CICS -ID	TSO-ID	Job/ E-mail
ABY1				10							
ABY*				10						console	
A*				10			1234			TS01	

The options chosen in the table specify the following:

- Select all transactions that begin with the letter A.
- Retain these transactions in the database for 10 days.
- Route notification to Terminal ID 1234 and TSO ID TS01 with the following exceptions:
  - Transaction ABY1 is excluded from notification.
  - Transactions that start with ABY are routed to the system console.

#### Example 2: Dump Selection by CICS User ID

Selection Fields				Retention Fields			Notification Fields				
Tran	Code	Term	CICS -ID	Keep Days	Rstr Tran	Jobcard	Term	TDQ	CICS -ID	TSO-ID	Job/ E-mail
			5555	10	ABXX	prtjbjcl			5555	TS00	

The options chosen in the table specify the following:

- Select all dumps for CICS user ID 5555 and notify that same user ID.
- Provide the user with a soft landing by restarting transaction ABXX.
- Automatically print the dump and notify TSO user TS00.

**Example 3: Dump Selection by ABEND Code**

Selection Fields				Retention Fields			Notification Fields				
Tran	Code	Term	CICS -ID	Keep Days	Rstr Tran	Jobcard	Term	TDQ	CICS -ID	TSO-ID	Job/E-mail
	SY22						8888				
	SY44						8888				

The options chosen in the table select dumps with ABEND codes SY22 to SY44 and notify Terminal ID 8888.

## Defining Duplicate Dump Suppression

Select Option 3 from the primary **Dump Database Management** panel (00) to display the **Duplicate Dump Definition Screen** (20). This screen lists the available dump databases and itemizes the number of dumps by type.

```

Date: 03/15/2007   StarTool DA Duplicate Dump Definition(20)   Time: 15:16:46
Command:

  DataBase ----- Description ----- Tran-Dumps Syst-Dumps Violations
  _ ES01DB01 DATABASE #1                      0           0           0
  _
  _
  _
  _
  _
  _
  _
  _
  PF1(HELP) PF3(END)

```

You must know in which database your dumps reside. Each system can be set up with one or more databases, each receiving dumps that satisfy specific criteria defined at installation.

To select a database, position the cursor on a database and press ENTER.

Field Definitions	
Database	The name of the StarTool DA dump file defined during installation. This is the same as the DDname specified in the FCT table. Up to 127 unique database names can be defined. All should have been established during installation.
Description	A unique entry (up to 30 characters) describing the database.
Tran-Dumps	The number of Transaction Dumps that currently reside in the database.
Syst-Dumps	The number of System Dumps that currently reside in the database.
Violations	The number of Storage Violations that currently reside in the database.

## Duplicate Dump Definition

When you select a database, the secondary **Duplicate Dump Definition** panel displays. Use this panel to specify the criteria for determining whether a dump is selected for duplicate dump processing, as well as the criteria StarTool DA should use to identify duplicate dumps. The name of the currently selected database displays in the upper right corner.

Date: 03/15/2007	DA-CICS Duplicate Dump Definition(22)	Time: 15:17:25
Command:		DumpDB: ES01DB01
Selection For Duplicate Dump Processing		Duplicate Dump Criteria
Tran Code Program CICS-Job Term CICS-Id		Tran Code Prog Loc Time

The fields on the panel are divided into two groups. Selection fields in the right columns determine whether dumps of a particular type should be filtered for duplicate content. Duplication fields in right columns specify the range of content within a dump that StarTool DA should check to identify duplicates.

You can add, modify, or delete duplicate dump processing criteria at any time.

### **Selection Fields**

When a dump occurs, StarTool DA checks the selection data you specified on the secondary **Duplicate Dump Definition** panel to determine whether the dump should be screened for duplicates. Selection for duplicate dump processing can be based on any combination of CICS transaction ID, ABEND code, program name, CICS job or region name, terminal ID or CICS ID. Wild cards are allowed.



**CAUTION!** Use a single asterisk (without any characters preceding or following it) solely in the TRAN column to indicate that all dumps are to be selected for duplicate dump processing. Using a single asterisk across the TRAN, CODE, TERM and CICS-ID fields can have undesirable effects.

For example, although an asterisk in TRAN selects all dumps, an additional asterisk in terminal excludes any dumps that do not have a terminal-id associated with them (that is, a transaction initiated by another transaction).

Use non-generic asterisks (preceded by a alpha character) in as many columns as necessary.

Selection of a dump is based on a left-to-right, top-down qualification. StarTool DA checks each dump against the criteria entered, in the exact order it appears on this panel. If a match is found, the dump is checked for duplication based on entries in the criteria fields. If a match is not found, the dump is not checked for duplication.



**TIP** Enter dumps that require specific handling or are exceptions to the general processing rules first. Place dumps with more generic specifications last.

Selection fields are described in the following table.

<b>Selection Fields</b>	
TRAN=XXXX	<p>TRAN specifies that all dumps with this CICS transaction ID, or some derivative thereof, be included in this database.</p> <p>CODING RULES: XXXX is 1 to 4 characters long and follows the standard naming conventions for CICS transaction IDs. XXXX is left-justified and can be any valid entry in the CICS PCT table. You may use wildcards (* and ?).</p>
CODE=XXXX	<p>CODE specifies that only one dump with this CICS transaction, system or user ABEND code, or some derivative thereof, be included in this database.</p> <p>CODING RULES: XXXX is 1 to 4 characters long and must be a valid CICS transaction, system or user ABEND code. SEXTETS is left-justified. You may use wildcards (* and ?).</p>
Program=XXXXXXXX	<p>Program specifies that only one dump with this program name, or some derivative thereof, be included in this database.</p> <p>CODING RULES: XXXXXXXX is 1 to 8 characters long and follows the standard naming conventions for program names. XXXXXXXX is left-justified and can be any valid program name. You may use wildcards (* and ?).</p>
CICS - Job=XXXXXXXX	<p>CICS-Job specifies that only one dump with this CICS job or region name, or some derivative thereof, be included in this database.</p> <p>CODING RULES: XXXXXXXX is 1 to 8 characters long and follows the standard naming conventions for CICS jobs or regions. XXXXXXXX is left-justified and can be any valid CICS job or region name defined for the installation. You may use wildcards (* and ?).</p>
TERM=XXXX	<p>TERM specifies that only one dump with this terminal ID, or some derivative thereof, be included in this database.</p> <p>CODING RULES: XXXX is 1 to 4 characters long and follows the standard naming conventions for terminal ID's. XXXX is left-justified and can be any valid CICS terminal ID. You may use wildcards (* and ?).</p>
CICS - ID=XXXXXXXX	<p>CICS-ID specifies that only one dump with this CICS user ID, or some derivative thereof, be included in this database.</p> <p>CODING RULES: XXXXXXXX is 1 to 7 characters long and follows the standard naming conventions for CICS user IDs. XXXXXXXX is left-justified. If the CICS user ID is 8 characters, drop the last character. You may use wildcards (* and ?).</p>

### Criteria Fields

The criteria fields on the secondary **Duplicate Dump Definition** panel determine whether a selected dump is a duplicate. You can specify any combination of fields.

TRAN=X	TRAN specifies that the transaction ID of the dump should be checked for the corresponding selection criteria. CODING RULES: X is any one character.
CODE=x	CODE specifies that the ABEND code of the dump should be checked for the corresponding selection criteria. CODING RULES: X is any one character.
Prog=X	Prog specifies that the program name of the dump should be checked for the corresponding selection criteria. CODING RULES: X is any one character.
Loc=X	Loc specifies the location in the program to check the PSW points. If there is no selection criteria specified with this option, then a match is based on an identical PSW location found in any of the dumps already included on the database. If there are additional criteria and selectivity options specified, they are applied in order to find a match. CODING RULES: X is any one character.
Time= HHHHMM	Time specifies a time frame that will be checked to determine if the dump is a duplicate. The time parameter works with the selectivity options. If time is specified, StarTool DA selects the dump based on the specifications and then checks its time against a matching dump on the database. If there are no additional criteria or selectivity options specified, then StarTool DA checks the time against all the dumps that are already included in the database. CODING RULES: HHHHMM is the number of hours and minutes.

## Defining Dump File Storage

Select Option 4 from the primary **Dump Database Management** panel (00) to display the **Dump Database Storage Management** panel (05).



## Defining Dump Storage Requirements

For each database you select from the **Database Storage Management** panel (05), a data **Database Storage Definition Screen** (07) displays. This panel defines specifications for the VSAM dump files.

```
Date: 03/15/2007  DA-CICS  Database Storage Definition(07)  Time: 15:19:17
Command:                                           DumpDB: ESPYDB01

FCT Filename Prefix.....: ESPYDD

Dump Cluster Name Qualifiers: STARDA  DUMP  SYSDATE  SYSTIME

Cluster Data Component Name.: STARDA  DUMP  SYSDATE  SYSTIME  DATA
Qualifiers

Cluster Index Component Name: STARDA  DUMP  SYSDATE  SYSTIME  INDEX
Qualifiers

Transaction Dumps Allocation: 045 05
System Dumps Allocation.....: 045 05

Volume Serial Number.....
```

You can modify these fields at any time by typing in the information requested and then pressing ENTER.

## Suppressing Identical Dumps

StarTool DA CICS supports automatic suppression of identical, repetitive transaction dumps. This feature is different from the duplicate dump suppression described in ["Defining Duplicate Dump Suppression"](#) earlier in this chapter.

Identical dump suppression takes place before a dump is produced. For a dump to be suppressed, all of the following must be true:

- The suppressed ABEND must have the same ABEND code, transaction name, program name, and Program Status Word (PSW) as the most recent transaction ABEND. The transaction number and terminal ID need not match.

- If there is a terminal ID associated with the transaction, the ABEND must occur within 2 seconds of the previous transaction ABEND.
- If there is no terminal ID associated with the transaction, the ABEND must occur within 10 seconds of the previous transaction ABEND.
- Suppression occurs only for consecutive ABENDs. There can be no nonidentical ABEND intervening between the original ABEND and the suppressed ABEND.

Audit messages are still written to the CICS log for suppressed dumps.



**NOTE** As shipped, StarTool DA CICS does not suppress dumps for the first two identical ABENDs. Dump suppression starts with the third ABEND. You can change the number of identical dumps allowed by modifying a user exit. Contact Customer Support for more information.

## Preventing Redundant CICS SVC Dumps

The dumps produced by StarTool DA CICS are formatted for interactive, database-driven analysis. Otherwise, they contain the same information as an IBM CICS system service call (SVC) dump. To reduce data duplication and processing overhead, you may wish to suppress the IBM SVC dumps in CICS.

To manage CICS SVC dump processing, include one of the following options in your CICS SYSIN parameters:

- DUMP=NO Prevents CICS from generating an SVC dump for each CICS transaction ABEND. StarTool DA CICS handles dump generation for CICS ABENDs.
- DUMP=YES CICS SVC dumps are generated. These can be accessed by StarTool DA CICS using the storage ownership feature.

CICS SVC dump suppression is not managed directly by the StarTool DA CICS Installation and Configuration Server (ICS).



## Chapter 9

---

# ChangeMan ZMF Integration

Customers who use ChangeMan ZMF for mainframe software change management can integrate their change control data with the debugging facilities of StarTool DA. Use the ChangeMan ZMF integration to:

- Retrieve ZMF source code for a failing module while in the StarTool DA Debugging and Viewing Server (DVS).
- Identify the change package associated with a failing module.
- Identify the developer who made the suspicious change.

The following topics address the configuration and setup of StarTool DA's integration with ChangeMan ZMF.

<a href="#">Enabling ChangeMan ZMF Integration</a>	150
<a href="#">ChangeMan ZMF User Authorization</a>	152
<a href="#">ChangeMan ZMF Compile Options</a>	153
<a href="#">Customizing StarTool DA for ChangeMan ZMF Options</a>	153

## Enabling ChangeMan ZMF Integration

ChangeMan ZMF integration with StarTool DA is enabled using the Host Installation Configurator. The first step in enabling the integration occurs on **Configuration Definition** panel **ESPYIP1C**.

In response to the question **Do you want to integrate Changeman support?**, type **Y** to enable DA integration with ChangeMan ZMF.

This response causes the configurator to later display the **Base Definition** panel **ESPYIP1S**, where you identify your ChangeMan ZMF libraries and specify the ZMF subsystems you want to integrate.

```

ESPYIP1S ----- StarTool DA Base Definition -----
Command/Option ==>                               Use PF3/END to exit

Configuration ID ==> ES01

Define the ChangeMan(R) environment for StarTool DA

Identify the SERCOMS load library (shipped with DA) :
    SERCOMS loadlib ==> SERCOMS.VvRrMm.LOAD

Identify the SERNET TCP/IP reference library :
    SERPARM DSN    ==> SER#PARM.DSN

ChangeMan subsystem identifier ==>

```

Enter the following information:

- SERCOMS loadlib:** Enter the dataset name of the SERCOMS common load library shipped with StarTool DA. This library is used by the StarTool DA Workload Server for its communication with ChangeMan ZMF. The dataset name takes the form:

```
SERCOMS.VvRrMm.LOAD
```

Note that this library is used by the StarTool DA Workload Server only.

When an attempt to retrieve a ChangeMan ZMF listing is made by an abending job or an ISPF user using the Debugging and Viewing Server (DVS), the SERNET modules needed for ChangeMan ZMF communication will be retrieved according to standard z/OS rules.

For abending batch jobs, the SERNET modules must be made available through the z/OS linklist.

For ISPF users, the SERNET modules can be made available either through the z/OS linklist or through a STEPLIB library in the TSO logon JCL procedure.

For ISPF users, be aware that the level of SERNET made available to StarTool DA MUST match the level of ChangeMan ZMF accessed from ISPF.

- **SER#PARM DSN:** Enter the dataset name of the SERNET TCP/IP reference library. Get this information from your ChangeMan ZMF administrator.
- **ChangeMan subsystem identifier:** Enter a list of up to 32 single-byte ChangeMan ZMF subsystem IDs to be accessed by StarTool DA. Get this information from your ChangeMan ZMF administrator.

The following conventions apply to the ZMF subsystem ID list:

- Subsystem IDs in the list should not be separated by commas or spaces.
- Subsystems should be listed in the search order desired when retrieving change control information about a failing module.
- Use a question mark (?) character to identify the null or default ZMF subsystem ID. StarTool DA will map this to a null in communications with ChangeMan ZMF.
- Enter an asterisk (\*) to temporarily deactivate the ChangeMan ZMF integration.



**TIP** You can modify the ChangeMan ZMF subsystem list by changing the value of the CMN\_SSID SYSIN keyword for the Workload Server (WLS) at startup. See the topic ["Modifying SYSIN Keyword Parameters"](#) in [Chapter 7, "Workload Server Administration"](#), for details.

The integration feature automatically connects to the currently active ChangeMan ZMF subsystems you identify whenever you start the StarTool DA Workload Server (WLS).



**IMPORTANT!** Start TCP/IP and the desired ChangeMan ZMF subsystems before you initialize the StarTool DA Workload Server (WLS) that communicates with ChangeMan ZMF.

## ChangeMan ZMF User Authorization

StarTool DA must be identified to ChangeMan ZMF as an authorized user before you can start the Workload Server (WLS) that accesses ZMF. Work with your ChangeMan ZMF installer to perform the following steps.

- 1 Update the ChangeMan ZMF security exit SERLCSEC to identify the WLS started task as an alternate ID for authorization checks.
  - a In the source for SERLCSEC, read the program comments at label ACF2BAT that describe the ACF2 logon table. This table is used with RACF, CA-ACF2, or CA-TopSecret to specify alternate user IDs that are authorized to execute functions in Serena products.
  - b Add a nine-byte entry to the ACF2 logon table to authorize the user ID of the StarTool DA started task in all SERNET instances.

```
*****
          DC      C'*'
ACF2BATL EQU    CL8'SERBATCH'      Batch STC logonid default
          EQU    *-ACF2BAT        length of an entry
          DC      C'*'
          DC      CL8'CMNBATCH'    Batch STC logonid default 2
          DC      C'*'
          DC      CL8'SERBTCH2'    Batch STC logonid default 3
          DC      C'*'
          DC      CL8'SERBTCH2'    Batch STC logonid default 4
* Start StarTool entry
          DC      C'*'
          DC      CL8'DAstid'      Added for StarTool DA
* End StarTool Entry
          DC      C'*'
          DC      CL8'GENERIC'     userid GENERIC applies to ALL
          DC      C'A'            subsys SERA
          DC      CL8'CMNBAT1'    userid CMNBAT1 applies to SERA only
          DC      C'B'            subsys SERB
          DC      CL8'CMNBAT2'    userid CMNBAT2 applies to SERB only
          DC      X'FF'          end of table
*****
```

- 2 Recompile SERLCSEC.
- 3 Recycle the ChangeMan ZMF started task.
- 4 Add the entire SERCOMS load library to the LNKLST.

# ChangeMan ZMF Compile Options

Depending on whether you are using StarTool DA Batch or StarTool DA CICS, verify the following:

- If you are compiling COBOL programs in ChangeMan ZMF for use with StarTool DA Batch, you must use the LIST and MAP options if you want to see the failing COBOL statement. These options may already be the default at your site. If you are using COBOL programs that were previously compiled without these options, the failing COBOL statement will not be displayed.
- If you are compiling COBOL programs in ChangeMan ZMF for use with StarTool DA CICS, you must update the Language Database (LDB) with the ChangeMan ZMF program listing using PROCs supplied with StarTool DA.



**NOTE** When using StarTool DA CICS, you can use the GETSRC command to dynamically update the LDB with ZMF program listings. See the *Serena® StarTool® DA CICS User's Guide* for details.

## Customizing StarTool DA for ChangeMan ZMF Options

You can customize the Master Control Table (EMCT) to specify non-default StarTool DA processing. You should become familiar with the content of [Chapter 10, "Advanced Customization of StarTool DA Batch" on page 161](#) before beginning your customizations.

Customizations specific to the StarTool DA ChangeMan ZMF option include:

- [Overriding the User ID for ZMF Listings](#)
- [Specifying Region Size for ZMF Listings](#)

## Overriding the User ID for ZMF Listings

Allow DA to override the user ID used in the retrieval of a ZMF listing. This will allow a user to specify a single RACF user ID that will be used for all tasks when retrieving a ZMF listing.

Support was added for a site to specify the user ID that DA will use when retrieving ZMF listings for batch jobs, started tasks, and TSO users.

The user IDs can be set either during DA WLS startup or dynamically using operator commands.

### **Control During DA Startup**

The following new statements can be added to the ESxxSPRM startup parameter member to specify user ID overrides :

```
sernet_userid_batch=xxxxxxx  
sernet_userid_stc=xxxxxxx  
sernet_userid_tso=xxxxxxx
```

Each command supplies the user ID to be used for that type of task. For example, specification of the following:

```
sernet_userid_batch=GLOBAL1
```

will instruct DA to use a user ID of GLOBAL1 whenever it retrieves a ZMF listing on behalf of a batch job.

If no override user IDs are specified, none will be used. DA does not provide any default `sernet_userid_` statements.

### **Dynamic Control Using Operator Commands**

The above statements can be issued as commands against a DA WLS (Workload Server) by using the z/OS modify (F) command to dynamically modify an override.

For example, the following command:

```
f wls,sernet_userid_batch=NEWUSER
```

will cause DA to use a user ID of NEWUSER when it retrieves a ZMF listing on behalf of a batch job.

Coding a null user ID will cause overrides to not be used for that user ID type. For example, the following command:

```
f wls, sernet_userid_batch=
```

will cause DA to not use user ID overrides for batch jobs.

(Any user ID overrides for either started tasks or TSO users will not be affected).

## Specifying Region Size for ZMF Listings

You can customize a site to specify:

- The region size that DA will use when retrieving a ZMF listing.
- The scope of the DA region support (which types of tasks are to have region override support provided to them by DA).

While DA is retrieving a ZMF listing, DA will:

- Use the requested value as the region size.
- Use a corresponding region limit value equal to 125% of the region size.

Note that DA will perform the above processing for only those tasks whose task type has been identified as being within the scope of the region override processing.

The region size and scope can be set either during DA WLS startup or dynamically using an operator command.

### **Control During DA Startup**

The following new statements can be added to the ESxxSPRM startup parameter member to specify these values :

```
sernet_region=xxxx specifies region size and scope.
```

The region limit is implied to be 125% of the region size.

```
sernet_rgnsiz=xxxx specifies region size
```

```
sernet_rgnlim=xxxx specifies region limit
```

### Specification of region sizes and limits:

When specifying a size or limit value, the 'xxxx' value can be coded in any of the following formats and must resolve to be greater than 1m:

- As a number of bytes
- As a number of kilobytes
- As a number of megabytes

For example, all of the following request a 64mb region size (and an implied 80mb region size limit):

<code>sernet_region=67108864</code>	No suffix
<code>sernet_region=65536k</code>	Suffix of 'k'
<code>sernet_region=65536kb</code>	Suffix of 'kb'
<code>sernet_region=64m</code>	Suffix of 'm'
<code>sernet_region=64mb</code>	Suffix of 'mb'

Subsequent statements can override values set using previous statements.

### Examples

**1** Given the following input:

```
sernet_region=64mb
sernet_rgnlim=200mb
sernet_rgnsiz=100mb
```

DA will use a region size of 100mb and a region limit of 200mb. Note that the region size of 64mb and region limit of 80mb (125% of 64mb) requested by the `sernet_region` statement will be overridden by the `sernet_rgnlim` and `sernet_rgnsiz` statements.

**2** Given the following input:

```
sernet_rgnsiz=200mb
```

DA will use a region size of 200mb and will use the installation's region limit value (no `sernet_rgnlim` statement was present).

### Specification of region scope:

The following statements are used to identify the scope of the region support:

<code>sernet_region=all</code>	Set region for all tasks
<code>sernet_region=batch</code>	Set region for batch
<code>sernet_region=stc</code>	Set region for STCs
<code>sernet_region=tso</code>	Set region for TSO users

Note that the effect of ESxxSRPM input statements is cumulative. For example, the following input will activate DA's region support for batch jobs and TSO address spaces that request ZMF listings:

```
sernet_region=batch
sernet_region=tso
```

STCs will be allowed to retrieve ZMF listings, but their region size and limit will not be overridden.

The following default statements are created by DA during the installation and configuration process:

<code>sernet_region=128m</code>	Sets a default for DA to use a region size of 128mb and a region limit of 160mb.
<code>sernet_region=all</code>	Indicates that DA is to perform the region override for all tasks requesting ZMF listings.

### ***Dynamic Control Using Operator Commands***

The same statement format used in the ESxxSPRM input can be used in issuing operator commands against a DA WLS (Workload Server) for dynamic modification of the region size and limit.

The z/OS `modify (F)` command is used for communication with the DA WLS.

For example, to issue a `sernet_region` command against a DA WLS, an operator command in the following format can be used:

```
f wls,sernet_region=...
```

where 'wls' is the name of the DA WLS.

The following operator commands are supported:

sernet\_region=xxxx                      Specifies region size and scope

The region limit is implied to be 125% of the region size.

sernet\_rgnsiz=xxxx                      Specifies region size

sernet\_rgnlim=xxxx                      Specifies region limit

### **Specification of region sizes and limits:**

When specifying a size or limit value, the 'xxxx' value can be coded in any of the formats supported by the corresponding ESxxSPRM input statements.

Additionally, coding either a null value or a value of zero will cause overrides to not be used. For example, all of the following commands will cause DA to use the installation's default region size and region limit:

```
f wls,sernet_region=  
f wls,sernet_region=0  
f wls,sernet_region=0k  
f wls,sernet_region=0kb  
f wls,sernet_region=0m  
f wls,sernet_region=0mb
```

### **Specification of region scope:**

In addition to the values supported by the corresponding ESxxSPRM input statement, the following value is also supported using an operator command:

```
f wls,sernet_region=none
```

Specification of this value will set the scope for DA's region support to 'none' and will effectively disable the support.

### **Examples**

**1** Given the following commands:

```
f wls,sernet_region=128m
```

DA will use a region size of 128mb and a region limit of 160mb (125% of 128mb) when retrieving a ZMF listing.

**2** Given the following commands:

```
f wls,sernet_region=64mb  
f wls,sernet_rgnlim=200mb  
f wls,sernet_rgnsiz=100mb
```

DA will use a region size of 100mb and a region limit of 200mb. Note that the region size of 64mb and region limit of 80mb (125% of 64mb) requested by the `sernet_region` statement will be overridden by the `sernet_rgnlim` and `sernet_rgnsiz` statements.

**3** Given the following commands:

```
f wls,sernet_region=64mb  
f wls,sernet_rgnlim=0  
f wls,sernet_region=batch
```

DA will use a region size of 64mb and will use the installation's region limit value. The second of the two commands requests that DA not override the region limit. DA's region optimization will be active for batch jobs only.

**4** Given the following commands:

```
f wls,sernet_rgnlim=200mb  
f wls,sernet_rgnsiz=100mb  
f wls,sernet_region=
```

DA will use the installation region size and region limit. The `sernet_region` command with a null operand overrides the region size and limit requested by the two previous commands.



## Chapter 10

---

# Advanced Customization of StarTool DA Batch

The StarTool DA Batch Workload Server (WLS) and Error Detection Server (EDS) operate differently depending upon the Master Control Table (EMCT) selected when the WLS is started. EMCT selections can be customized based on specific ABEND code, programming language, file access method, and system control table options.

There is generally no need to customize a Master Control Table (EMCT), since several predefined tables covering the most common preferences are shipped with the product. Simple table selection should address most requirements. However, if your shop demands a non-standard implementation, the JCL and source for all distributed tables are included with the product.

The following customization options are available.

<a href="#">Master Control Tables</a>	<a href="#">162</a>
<a href="#">Predefined Control Table Options</a>	<a href="#">164</a>
<a href="#">Modifying Control Tables</a>	<a href="#">166</a>
<a href="#">Customizing StarTool DA JCL</a>	<a href="#">167</a>
<a href="#">Customizing Panel Attributes</a>	<a href="#">172</a>

## Master Control Tables

**EMCT Members** The Master Control Table (EMCT) source members shipped with StarTool DA are assembled by a job generated by the StarTool DA Configurator during product installation and configuration.

This job can be found by referencing member xxxxI000 (where xxxx is the the StarTool DA configuration ID) in the INSTALL library. The source EMCT macros are distributed in the MACLIB library.

### Naming Conventions

EMCT member names take the form ESPYMC`xx`, where `xx` is the table suffix:

- A1 for table ESPYMCA1
- A2 for table ESPYMCA2
- A3 for table ESPYMCA3
- E1 for table ESPYMCE1
- E2 for table ESPYMCE2
- E3 for table ESPYMCE3

The table suffix identifies the parameters included in the table. The following suffix naming conventions indicate which control tables should be selected for which purpose at Workload Server (WLS) startup.

- The first digit of the table suffix:
  - A Use A tables if you use some other ABEND product in your shop and you want StarTool DA Batch to honor their DDnames. To force StarTool DA Batch to conform to the other product DDnames, change the default DDnames provided in the ESxxMACX member in the INSTALL library. Then reassemble the EMCT table, refresh the linklist, and restart the Workload Server for these changes to take effect.
  - E Use E tables if you want to use the StarTool DA Batch DDnames to control processing.

- The second digit of the table suffix:
  - 1 DDname and stepname control only. Use this table suffix for controlling the product through DDnames or stepnames only.
  - 2 Mini dump only. Use this table suffix to produce a mini dump only. With this option, an IBM dump or viewer dump is produced only by using a DDname override.
  - 3 Viewer and mini dump. Use this table suffix to produce both a mini dump and a viewer dump.

## Table Structure

The StarTool DA MVS Control Table (EMCT) is composed of the following sections.

### ***Global Parameters***

This section is fixed in architecture and is always the first section. It contains:

- Table prefix
- Offsets to all remaining sections
- Global flags and variables

### ***Selection Criteria***

Contains a variable number of entries that identify the ABENDs for which the StarTool DA Batch product is to perform processing. Define entries to select an ABEND for processing or reject an ABEND from processing. Supported selection criteria includes any combination of the following. Reference the appropriate operand for coding details.

- Jobname (using operand &JOBNAME)
- Stepname (using operand &STEPNAME)
- Program name (using operand &PGMNAME)
- ABEND code (using operand &ABEND\_CODE)

### **ABEND Code Definitions**

Contains a variable number of entries that the StarTool DA Batch product uses to identify special ABEND codes and the associated dump options.

## **Predefined Control Table Options**

### **StarTool DA Batch Only Option**

The E2 option turns on StarTool DA Batch for all jobs processing on this machine. Only StarTool DA Batch native options function with this table.

The following is coded within E2:

STEPNAME=ESPYI *	StarTool DA Batch creates a regular IBM dump only for jobs that use a step name starting with ESPYI. Use this if you want to see what IBM creates for the Demo ABEND jobs.
STEPNAME=ESPYB*	StarTool DA Batch creates a Mini Dump and an IBM dump for jobs that use a step name starting with ESPYB. Use this for testing the demo ABEND jobs so that you can see a variety of ABENDs and compare a Mini Dump report to an IBM dump.

### **Implementing a Mini Dump**

The Mini Dump Debugging Report contains summary information and COBOL source statements for error analysis. The following EMCT table options modify Mini Dump behavior.

The A2 option turns on the Mini Dump output for all jobs ending on this machine. The following is coded within A2:

STEPNAME=ESPYI*	StarTool DA Batch creates a regular IBM dump only for jobs that use a step name starting with ESPYI. Use this if you want to see what IBM creates for the Demo ABEND jobs.
STEPNAME=ESPYB*	StarTool DA Batch creates both a Mini Dump and an IBM dump for jobs that use a step name starting with ESPYB. Use this for testing the Demo ABEND jobs that are shipped with the product so that you can see a variety of ABENDs and compare a StarTool DA Batch Mini Dump report to an IBM dump.

## Implementing the Debugging and Viewing Server

The Debugging and Viewing Server (DVS) dump is presented through an ISPF-based menu system. It includes diagnostics, summary information, point-and-shoot interface, COBOL statement error analysis, and storage contents.

### **A3 Option**

The A3 Option causes a DVS dump or a Mini Dump to be generated, depending upon the actual ABEND code. For example, most complex ABENDs (such as SOCx) generate DVS dumps; whereas, simple ABEND codes (such as S813) generate Mini Dump output.

The A3 table causes StarTool DA Batch to select only the following stepnames for ABEND processing. All other program ABENDs are ignored by StarTool DA Batch.

STEPNAME=ESPYM*	StarTool DA Batch creates a Mini Dump only for jobs that use this stepname. Use this for testing the Demo ABEND jobs so that you can see a variety of ABENDs.
-----------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------

STEPNAME=ESPYI*	StarTool DA Batch creates a regular IBM dump only for jobs that use this stepname. Use this if you want to see what IBM creates for the Demo ABEND jobs.
STEPNAME=ESPYB*	StarTool DA Batch creates a Mini Dump and an IBM dump for jobs that use this stepname. Use this for testing the Demo ABEND jobs that are shipped with the product so that you can see a variety of ABENDs and compare a Mini Dump report to an IBM dump.

### ***E3 Option***

The E3 option causes generation of a DVS dump or a Mini Dump, depending upon the actual ABEND code. For example, most complex ABENDs (such as SOCx) generate DVS dumps; whereas, simple ABEND codes (such as S813) generate Mini Dump output.

The following stepnames are supported within E3:

STEPNAME=ESPYI*	StarTool DA Batch creates a regular IBM dump only for jobs that use this step name. Use this if you want to see what IBM creates for the Demo ABEND jobs.
STEPNAME=ESPYB*	StarTool DA Batch creates both DVS panels and an IBM dump for jobs that use this stepname. Creating both is unnecessary.

## **Modifying Control Tables**

To modify a StarTool DA Master Control Table (EMCT), choose the preconfigured table that is closest to how you want to control ABENDs in your shop. Make a copy, modify the copy, use the assembly JCL in member EMCTASM to create a new suffix, and start the Workload Server (WLS) with this suffix.

## Customizing StarTool DA JCL

You can override settings in the Master Control Table (EMCT) with JCL statements in the Workload Server (WLS) startup JCL. Check with your administrator to find out what the current defaults are before applying JCL overrides.

### Overriding Default Dump Selection

To override StarTool DA Batch dump defaults, insert a DD statement from the following table into your execution JCL. The WLS will produce the kinds of dumps indicated by the presence of an X in the table.

DD Statement	IBM Dump	Mini Dump	DVS Dump
//ESPYALL DD DUMMY	X	X	X
//ESPYBOTH DD DUMMY	X	X	
//ESPYE390 DD DUMMY		X	X
//ESPYIBM DD DUMMY	X		
//ESPYMINI DD DUMMY		X	
//ESPYDVS DD DUMMY			X



**NOTE** If mutually exclusive DD statements are present in the JCL, StarTool DA uses the last statement found. For example, if ESPYIGNR and ESPYNODP DD statements are coded in that order, ESPYNODP takes precedence.

Alternatively, you can use STEPNAMEs to override the StarTool DA Batch dump defaults. This has the same effect as using DDname overrides. The STEPNAME must begin with the characters listed in the following table.

STEPNAME	IBM Dump	Mini Dump	DVS Dump
//ESPYA*	X	X	X
//ESPYB*	X	X	
//ESPYE*		X	X

STEPNAME	IBM Dump	Mini Dump	DVS Dump
//ESPYI*	X		
//ESPYM		X	
//ESPYV			X

For example, STEPNAMEs ESPYALL and ESPYACT would both be instances of ESPYA\* and would therefore create all three types of dumps.



**NOTE** If a conflict arises between DD statement JCL overrides and STEPNAME JCL overrides, the DD overrides take precedence.

## Suppressing Dump Processing

The following DD statements in your WLS startup JCL suppress dump processing. They act in conjunction with the defined dump type options.

DD Statement	Description
//ESPYIGNR DD DUMMY	Suppresses StarTool DA Batch dump processing and allows normal IBM dump processing.
//ESPYNODP DD DUMMY	Suppresses the printing of the normal IBM dump.

## Alternate DDs for Mini Dump Report

The Mini Dump Debugging Report automatically goes to the SYSUDUMP DD. Alternatively, it can be routed to one of the following DDs:

```
//ESPYDUMP DD SYSOUT=x
```

```
// ddvar DD SYSOUT=x
```

where

*ddvar* = Name used by non-Serena ABEND software vendor.



**NOTE** The use of the *ddvar* DD statement is valid only if you turn on the HONOR\_USER\_DD\_STATEMENTS flag in the EMCT table.

A SYSUDUMP or SYSABEND DD statement is still required when using an alternate DD statement.

## Overriding QUIESCE and IBNCHGD

StarTool DA provides support for both local and global overrides of the following DVS dump options:

**QUIESCE** specifies whether or not the system is to be set as non-dispatchable until the contents of common storage (CSA and SQA are dumped).

The following values are supported:

QUIESCE=YES: StarTool DA Batch will request that the system be set as non-dispatchable when dumping the common storage for a DA-DVS dump.

Note that this is the default value for both z/OS and DA.

- QUIESCE=NO: StarTool DA Batch will request that the system not be set as non-dispatchable when dumping the common storage for a DA-DVS dump.

**IGNCHGD** specifies whether or not StarTool DA Batch is to request that DVS dumps ignore any options set using the CHNGDUMP command.

The following values are supported:

IGNCHGD=YES: StarTool DA Batch will request that the system ignore any options set using the CHNGDUMP command.

Note that this is the default value for DA.

IGNCHGD=NO: StarTool DA Batch will request that the system honor any options set using the CHNGDUMP command.



**NOTE** Use the IGNCHGD=NO option with care. Options set through the CHNGDUMP command can cause data needed by StarTool DA Batch to be excluded from the dump, potentially making the dump unusable to StarTool DA Batch.

These options are set using the ESPYEMCT macro.

### **Global Options**

Global options will set the global defaults to be used by all DA-DVS dumps. They can be overridden using a locally set option.

The DA configuration process generates the following members into the DA install library:

```
ESxxMCAx
ESxxMCEX
```

where the ESxx values correspond to the name of the DA configuration.

These members contain the source for defining the global defaults. When the EMCT generation job is submitted, these members are included as part of the SYSIN data for the assembly steps. To change the defaults, update these members with the desired global options and re-submit the EMCT generation job

### **Local Options**

Local options are specified on a specific SELECT rule and apply to that rule only. They will override any corresponding option that was globally set.

The DA macro library contains a member named ESPYMCUA. This member is for use in providing user SELECT and REJECT rules to DA. The shipped member contains sample SELECT rules that can be used as a model rule definition.

When the EMCT generation job is submitted, this member is included as part of the SYSIN data for the assembly steps.

To request that a global option be overridden for anyabend selected using this rule, add the desired local options and re-submit the EMCT generation job.

For example:

For DA configuration ES01, set the global IGNCHGD option to NO, but allow it to be overridden if DDname IGNCHGD is present in the abending step. Request both a DVS dump and the DA minidump.

**1** Add the following line of code to members ES01MCAx and ES01MCEX:

```
IGNCHGD=NO, . . . X
```

- 2 Add the following rule to member ESPYMCUA in the DA macro library:

```
ESPYEMCT ,           - Use an IGNCHGD=YES override ... X
  ACTION=ENTRY,      ... X
  DSN_PREFIX=USER,   ... X
  ENTRY=SELECT,      ... X
  IGNCHGD=YES,       ... X
  TASK=(JOB),        ... X
  DDNAME=IGNCHGD,    ... X
  DUMP=(MINI,DVS)
```

- 3 Submit the assembly job for the EMCT tables.

## Customizing Panel Attributes

To change attributes for the StarTool DA Batch panels, type ATTR on the command line at any StarTool DA Batch panel. The **Attribute Definition Panel** appears.

```
ESPYIP98      ---  StarTool DA Attribute Definition Panel  -----
Command ==>                                     Use PF3/END to exit
Userid   - TEST999                               Terminal - 3278
Time     - 15:09                                Applid   - E522

                Select Your Default Attributes

Intensity H = High   Color W = White   B = Blue           Hilite U = Underscore
                    L = Low           G = Green   Y = Yellow       R = Reverse video
                                        R = Red     P = Pink           B = Blinking
                                        T = Turquoise        N = Normal

Text fields      Intensity ==> L   Color ==> G   Hilite ==> N
Text titles     Intensity ==> L   Color ==> T   Hilite ==> R
Text pointers   Intensity ==> L   Color ==> T   Hilite ==> N

Panel titles    Intensity ==> L   Color ==> T   Hilite ==> R
Panel names     Intensity ==> H   Color ==> T   Hilite ==> N

Input fields    Intensity ==> H   Color ==> W   Hilite ==> N
Error messages  Intensity ==> L   Color ==> R   Hilite ==> R
Output fields   Intensity ==> L   Color ==> Y   Hilite ==> N

Special fields  Intensity ==> H   Color ==> P   Hilite ==> N
```

Any change you make on this panel affects all StarTool DA Batch application panels.

## Chapter 11

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# Advanced Customization of StarTool DA CICS

The following topics provide information that you need for understanding and configuring global StarTool DA CICS options:

	<a href="#">Selecting the Screen Capture Method</a>	174
	<a href="#">Customizing the System Table</a>	176
	<a href="#">Dynamic Modification of System Table Options</a>	180
	<a href="#">IBM Debug Tool Integration</a>	181
	<a href="#">Adding DSECTS</a>	184

## Selecting the Screen Capture Method

You can select the method StarTool DA CICS uses when capturing the user's screen at the time of an abend.

The supported methods are as follows:

- Using the CICS Program Error Program (commonly known as the DFHPEP exit) to capture the screen.
- Using an internally started transaction to capture the screen.

### How it Works

When StarTool DA CICS is started, it will test the currently installed DFHPEP exit to determine whether or not it calls StarTool DA CICS program ESPYAOPE.

- If it does, StarTool DA CICS will use DFHPEP to capture the screens.
- If it does not, StarTool DA CICS will use the internally started transaction to capture the screens.

By default, DA does not install a DFHPEP exit. Therefore, the default method of capturing the screen is through the internally started transaction. If you want to use the DFHPEP exit, you must install the DFHPEP exit.

- If you do not have an existing DFHPEP exit, you can use one of the load modules shipped with StarTool DA CICS. The selected load module must be given a name of DFHPEP before it can be used as a DFHPEP exit:
  - DFHPEP22 : For CICS releases prior to CICS TS 4.1
  - DFHPEP41 : For CICS release TS 4.1 (and later)
- If you have an existing DFHPEP exit, you can either add your DFHPEP logic to the StarTool DA CICS DFHPEP source or add the StarTool DA CICS DFHPEP logic to their DFHPEP source.

### Samples

The StarTool DA CICS DFHPEP source is shipped in MACLIB member DFHPEPDA.

Sample JCL for generating the StarTool DA CICS DFHPEP load module is shipped in the INSTALL library member DFHPEPDA.

Comments in each member include instructions on how to use them alone or in combination with their DFHPEP source.

If you want to install the DFHPEP into an IBM CICS load library, member DFHPEPUM in the INSTALL library contains sample SMP/E usermods.

## Customizing the System Table

**ESPYATCS System Table Module** The StarTool DA CICS system table, load module ESPYATCS, contains all the global parameters and constraints honored by StarTool DA CICS.

**ESPYETB Macro** The ESPYETB macro generates the StarTool DA system table load module ESPYATCS. To customize the StarTool DA CICS system table, perform the following steps:

- 1 Edit the operands of interest in the ESPYETB macro.
- 2 Regenerate the StarTool DA CICS system table ESPYATCS by following the instructions in configuration checklist member `ESxxI000`, which resides in installation library `somnode`.INSTALL.
- 3 Issue the following CICS command for each CICS region using the newly generated system table:  

```
“cemt set prog (espyatcs) newcopy”
```

### ESPYETB Operands

The most useful operands to modify in ESPYETB are the following:

- [BYPASS TERMINAL TYPE PROCESSING ABEND CODE LIST](#)
- [CICS DUMP MATCHING CRITERIA](#)
- [DA\\_DB2](#)
- [SUBSYSTEM\\_ID](#)
- [DFHDMP Operands](#)
- [DFHDMP\\_MAX\\_MSGS](#)
- [DFHDMP\\_MSG\\_DELTA](#)
- [DFHDMP\\_WAIT\\_LIMIT](#)

#### ***BYPASS TERMINAL TYPE PROCESSING ABEND CODE LIST***

This operand lists ABEND codes for which all terminal processing is bypassed by ESPYAOPE (the StarTool DA error program). Code this operand as:

BYPASS\_TERMINAL\_TYPE\_PROCESSING\_ABEND\_CODE\_LIST=(X1,X2,...Xn)

where each entry identifies an ABEND code (or a group of ABEND codes) for which processing is to be bypassed.

Code the entries as an actual ABEND code (ASRA) or as a generic ABEND code using wild card characters. For example:

- AT\* matches all ATxx ABEND codes
- AT?V matches all ATxV ABEND codes
- A\*V matches all AxxV ABEND codes

**CICS DUMP MATCHING CRITERIA**

This operand defines one or more dump attributes that phase-2 of the dump building process uses when matching a dump and the work (WRK) record that contains the diagnostics gathered at ABEND time. Operand values are:

Value	Description
ABENDCode	ABEND code in the work record must match ABEND code in the dump.
ABENDDate	ABEND date in the work record must match ABEND date in the dump.
XpctaCntr	Entry counter in the work record must match XPCTA entry counter in the dump. StarTool DA CICS updates the XPCTA counter each time it accepts an ABEND or a dump request for processing.
ABENDTimeRange	ABEND time in the work record must be within 3 minutes of the ABEND time in the dump.
JobName	Job name in the work record must match the job name in the dump
PgmName	Program name in the work record must match program name in the dump.

Value	Description
TaskNumber	The CICS assigned task number in the work record must match the task number in the dump.
TransId	The transaction ID in the work record must match the transaction ID in the dump.

To change any of these values, contact Customer Support.

### **DA\_DB2**

The DA\_DB2 operand identifies whether or not a StarTool DA CICS region using this system table is to activate the DB2 Option.

Value	Description
NO	DA-CICS will not activate the DB2 Option.
YES	DA-CICS will activate the DB2 Option.

### **SUBSYSTEM\_ID**

SUBSYSTEM\_ID defines the name of the Solaris subsystem assigned for any StarTool DA component that uses this table.

### **DFHDMP Operands**

Three DFHDMP operands are used in conjunction to define how StarTool DA CICS responds when DFHDMPA and DFHDMPB contain data.

For example, if we assume a StarTool DA CICS subsystem ESO3 is being used and the default operand values are taken:

- DFHDMP\_WAIT\_LIMIT=30
- DFHDMP\_MSG\_DELTA=002
- DFHDMP\_MAX\_MSGS=15

The following occurs:

- When both DFHDMPA and DFHDMPB contain data (with DFHDMPA being the active dump dataset), StarTool DA CICS waits up to 30 minutes (the value coded on the &DFHDMP\_WAIT\_LIMIT operand) for DFHDMPB to be either emptied or reset.

If the 30 minute interval expires without DFHDMPB becoming available for use, StarTool DA CICS looks for an active ES03 StarTool DA CICS WLS.

- If one is not found, a message requesting that the WLS for SSN=ES03 be activated will be issued once every 2 minutes (as per the value coded for operand &DFHDMP\_MSG\_DELTA operand) until either 15 messages have been issued, or a valid active WLS is located.
- If one is found, StarTool DA CICS requests that CICS switch dumps and start recording on DFHDMPB, and StarTool DA CICS requests that the WLS start formatting task for DFHDMPA.
- If DFHDMPB becomes available within the 30 minute time interval, normal dump processing will be initiated.

See the following topics for a detailed description of each operand:

- [DFHDMP\\_MAX\\_MSGS](#)
- [DFHDMP\\_MSG\\_DELTA](#)
- [DFHDMP\\_WAIT\\_LIMIT](#)

### **DFHDMP\_MAX\_MSGS**

Defines the maximum number of WLS related error messages that a StarTool DA CICS EDS (Error Detector Server) issues while processing the DFHDMP datasets.

Any value between 1 and 999 (inclusive) is supported.

See "[DFHDMP Operands](#)" for an explanation of how this operand works with DFHDMP\_MSG\_DELTA and DFHDMP\_WAIT\_LIMIT.

### **DFHDMP\_MSG\_DELTA**

Defines the number of minutes between the issuances of any StarTool DA CICS messages auditing errors encountered during DFHDMPA/DFHDMPB dump formatting start processing. Any value between 1 and 360 (inclusive) is supported.

See "[DFHDMP Operands](#)" for an explanation of how this operand works with DFHDMP\_MAX\_MSGS and DFHDMP\_WAIT\_LIMIT.

**DFHDMP\_WAIT\_LIMIT**

This operand defines the number of minutes for which a StarTool DA CICS EDS (Error Detector Server) waits for a (busy) dump dataset to become available.

Any value between 1 and 360 (inclusive) is supported.

See "[DFHDMP Operands](#)" for an explanation of how this operand works with DFHDMP\_MSG\_DELTA and DFHDMP\_MAX\_MSGS.

## Dynamic Modification of System Table Options

You can dynamically change some options specified in the StarTool DA CICS system table ESPYATCS using CICS transaction ESTR. The **ATCS Modification** (TR) screen displays.

```

Date:02/21/2007          DA-CICS - ATCS Modification(TR)          Time: 09:52:43
Command:

    ESPYC000 ===> I      ESPYC060 ===> I      ESPYA0AD ===> I
    ESPYC001 ===> I      ESPYC070 ===> I      ESPYA0AX ===> I
    ESPYC002 ===> I      ESPYC074 ===> I      ESPYA0CK ===> I
    ESPYC005 ===> I      ESPYC076 ===> I      ESPYA0DS ===> I
    ESPYC007 ===> I      ESPYC078 ===> I      ESPYA0EI ===> I
    ESPYC012 ===> I      ESPYC081 ===> I      ESPYA0ID ===> I
    ESPYC022 ===> I      ESPYC084 ===> I      ESPYA0LE ===> I
    ESPYC030 ===> I      ESPYC090 ===> I      ESPYA0PE ===> I
    ESPYC040 ===> I                        ESPYA0PP ===> I
    ESPYC050 ===> I      ESPYC0TR ===> I      ESPYA0SS ===> I
    ESPYC055 ===> I                        ESPYA0ST ===> I
    ESPYC056 ===> I      ESPYDB2  ===> I
    ESPYC057 ===> I      ESPYIMS  ===> I      ULTITSA  ===> I

Note: "S" = Standard trace.      DT dump option      ===> 1
      "D" = Detailed trace.      DA subsystem name ===> ES02
      "I" = Inactive trace.      Activate DA-DB2   ===> Y
                                   Activate DA-IMS      ===> Y

```

On the **ATCS Modification** screen, you can modify the following StarTool DA CICS options:

- **Program tracing:** Request a standard or detailed trace for specific StarTool DA CICS modules. The following values are allowed:

**S** = Standard trace

**D** = Detailed trace

**I** = Inactive (default)

- **DT dump option:** Used with [IBM Debug Tool Integration](#). Requests an IBM Debug Tool dump using the Debug Tool command CALL %FA.
- **DA subsystem name:** Subsystem ID (same as configuration ID) of the StarTool DA CICS Workload Server (WLS) that processes dumps captured in the CICS region.
- **Activate DA-DB2:** Activates the StarTool DA DB2 Option the CICS region. Allowed values are **Y** (Yes) and **N** (No).
- **Activate DA-IMS:** Activates the StarTool DA IMS Option for the CICS region. Allowed values are **Y** (Yes) and **N** (No).



**NOTE** Any changes you make through this screen are reverted when CICS is restarted.

## IBM Debug Tool Integration

StarTool DA CICS can capture any ABENDs generated by a CICS program viewed using the IBM Debug Tool. This feature allows you to obtain a multiple memory snapshot of the failing CICS transaction while debugging a program under the IBM Debug Tool.

Debug Tool Snapshot    The user triggers a snapshot by issuing the following IBM Debug Tool command:

```
CALL %FA
```

StarTool DA CICS intercepts this command, initiates a dump, and processes it. You then invoke the CICS transaction ESPY and review the processed dump.

These dumps appear as entries in the **Dump Selection** panel under the default ABEND code DA01.

## Debug Tool Integration Setup

To activate the interface to the IBM Debug Tool, place the StarTool DA CICS load library in the STEPLIB concatenation of the respective CICS regions. (The basic StarTool DA CICS installation requires that the load library be added only to the DFHRPL concatenation.) If the IBM fault analyzer is installed in the CICS region, the StarTool DA load library must precede the fault analyzer load library in the concatenation.

To control the StarTool DA parameters for the IBM Debug Tool Integration:

- StarTool DA can unilaterally suppress the taking of selected dumps by CICS. StarTool DA allows you to select dumps for suppression based on any combination of:
  - ABEND code
  - program name
  - terminal name
  - transaction name

StarTool DA macro UDSE generates these criteria. Place the macro at label CP19\_UDSE\_LIST in copy-code member ESPYCP19 in the DA MACLIB. StarTool DA Batch ships with the default definitions that suppress dumps for ABEND codes 4038 and 4094. The system generates both ABENDs when you prematurely terminate Debug Tool.

To implement the definitions, re-generate the StarTool DA system table ESPYATCS (see ESxxI000 for details) and reload the following command in the CICS regions:

```
"cemt set prog (espyatcs) newcopy"
```

- To request that StarTool DA produce an "on demand" dump for the transaction currently being tested with IBM Debug Tool, issue the IBM Debug Tool command CALL %FA.

## Customizing the System Table

To control the actions of StarTool DA CICS as it interfaces with the IBM Debug Tool, the following operands can be supplied to the ESPYETB macro. This macro generates the StarTool DA system table load module ESPYATCS.

---

## **DT\_DUMP\_OPTION**

DT\_DUMP\_OPTION defines the dump option that StarTool DA CICS uses for dumps requested with CALL %FA.

Dump options are:

- StarTool DA includes standard CICS options, the current storage segment of the application program, all application storage segments whose length is less than the value specified in the DT\_MAX\_SEGMENT\_LV operand.

Using this option results in a smaller dump taken by StarTool DA. Most data areas that are needed in application debugging are included in the dump.

- StarTool DA requests a TERMINAL dump only.
- StarTool DA requests a TASK dump. This includes all IBM Debug Tool programs and storage in the dump.

Using this option results in a much larger dump taken by StarTool DA.

- StarTool DA does not request a dump. This option is used primarily for debugging.

The default value is DT\_DUMP\_OPTION=1.

You can change this option (DT\_DUMP\_OPTION) using the ESTR transaction. See ["Dynamic Modification of System Table Options"](#) earlier in this chapter.

## **DT\_MAX\_SEGMENT\_LV**

The DT\_MAX\_SEGMENT\_LV operand defines the maximum length of a storage segment included in a StarTool DA dump requested from the IBM Debug Tool. StarTool DA excludes any segment of storage whose length exceeds this value.

The value applies only to dumps taken for DT\_DUMP\_OPTION=1. The default is DT\_MAX\_SEGMENT\_LV=X'00007FFF'.

## **DT\_ABEND\_CODE**

DT\_ABEND\_CODE defines the ABEND code to be used by any dump produced by StarTool DA in response to CALL %FA.

The default is `DT_ABEND_CODE=DA01`.

## Adding DSECTS

To add control block definitions to StarTool DA you must do the following:

- 1 Build the source to assemble the control block mapping DSECT.
- 2 Build the control statement describing the CICS, MVS or DFP component and the names of the DSECTS within the control block.
- 3 Run the job in the ESxxCDBU member of the installation library somnode.INSTALL to add the control block definitions to the StarTool DA CICS DSECT database.

### Step 1: Building the Source

The source to assemble the mapping DSECT must be a macro. If the source is not a macro, then you must build a macro as input to the assembler. The following examples define the source statements for each situation.

The AFCB control block is defined using the DFHAFCS macro. The required assembler statements to build the StarTool DA DSECT database records follow:

- DFHAFCS
- END

The AID control block is mapped by the DFHAIDDS copy code. The required assembler statements to build the StarTool DA DSECT database records follow:

- MACRO
- AID
- COPY DFHAIDDS
- MEND
- AID

- END

## Step 2: Building the Control Statement

The control statement must be a record 121 characters long with the following information:

- The first eight columns must contain the control block system component id.
  - For CICS, use the release number. For example, if the control block is for CICS Transaction Server 2.3 (which IBM internally calls CICS630), then type CICS0630 in the first eight columns.
  - If the control block is for MVS, enter the FMID.
  - If the control block is for DFP, enter the DFP version number (four characters) in column one through four and leave the other four columns blank.
- The next 16 columns contain the name of the control block and the name of the corresponding DSECT that is to be found in the assembly of the macro. If there is more than one DSECT defined within the macro, define their names subsequently for a maximum of seven occurrences.

The control statement used to build the CICS CSA (Common System Area) follows:

```
1234567812345678123456781234567812345678123456781234567812345678
CICS0630CSA    DFHCSADSCSA0PPL CSA0PFL CSAMXT  CSAMXTDSCSASSA  DFHSSADS
```



## Chapter 12

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# Customizing Database Maintenance

StarTool DA automatically installs certain database maintenance and housekeeping processes. These maintenance processes purge obsolete batch and CICS dumps, perform housekeeping tasks on your language databases (DBDFs and DBKFs), and maintain the dump database indexes (DBIs) for your dump databases.

You can customize the following maintenance options:

[Dump Database Purge Parameters](#)

188

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## Dump Database Purge Parameters

To configure the dump maintenance process, edit the member ESPYMCTL in the installation library to set the parameters to your desired values. Detailed instructions are contained in the member.

Parameters include the following:

- PURGE\_INTERVAL defines the age at which a WRK/TRF record is eligible to be purged.

Format: PURGE\_INTERVAL=hhmmss

where :

- hh is the "hours" value
- mm is the "minutes" value (from 00 to 59)
- ss is the "seconds" value (from 00 to 59)

- WLS\_WAIT\_COUNT defines the maximum number of times that the StarTool DA maintenance process will wait for a response from the WLS.

Format: WLS\_WAIT\_COUNT=xxx

where xxx is a value from 1 to 999

- WLS\_WAIT\_INTERVAL defines the length of time that the StarTool DA maintenance process will wait for a response from the WLS.

Format: WLS\_WAIT\_INTERVAL=mmssth

where:

- mm is the "minutes" value (from 00 to 59)
- ss is the "seconds" value (from 00 to 59)
- t is the "10ths of seconds" value (0 to 9)
- h is the "100ths of seconds" value (0 to 9)

- ECB\_SCAN\_WAIT\_INTERVAL defines the length of time that the StarTool DA maintenance process will wait prior to restarting the scan for an available ECB.

Format: ECB\_SCAN\_WAIT\_INTERVAL=mmssth

where:

- mm is the "minutes" value (from 00 to 59)
- ss is the "seconds" value (from 00 to 59)
- t is the "10ths of seconds" value (0 to 9)
- h is the "100ths of seconds" value (0 to 9)

- RETPD\_0000 identifies the action to be taken when a dump having a retention period of zero is encountered.

Format: RETPD\_0000=option

where "option" is one of the following:

- KEEP: The dump is to be treated as not yet being expired.
  - EXPIRE: The dump is to be treated as being expired.
- RETPD defines how the retention period is to be used in determining whether or not a dump has expired.

Format: RETPD=option

where "option" is one of the following:

- REACH: The retention period needs only to be reached for the dump to be considered "expired".
  - EXCEED: The retention period needs to be exceeded for the dump to be considered "expired".
  - IGNORE: The retention period will be ignored. All dumps in the selected DBI are considered to be "expired".
- DEL\_ERRORS identifies the action to be taken when an error is detected in the deletion of a dump dataset.

Format: DEL\_ERRORS=option

where "option" is one of the following:

- IGNORE: The error is to be ignored. An attempt to delete any associated data base records will be made.
  - HONOR: The error is to be honored. No attempt to delete any associated data base records will be made.
- DSN identifies the StarTool DA Batch dump dataset names that are to be selected for processing. (Note that a maximum of 4 DSN= requests can be made.)

Format: DSN=dsn\_mask

where "dsn\_mask" is a mask value identifying the dsnames to be selected. The \* and ? wild-card characters can be used.

- EXCL identifies the StarTool DA Batch dump dataset names that are to be excluded from processing. (Note that a maximum of 4 EXCL= requests can be made.)

Format: EXCL=dsn\_mask

# Chapter 13

## Validating the Configured Install

Configuration checklist member `xxxxI000` in library `somnode`. INSTALL lists the customized test jobs generated by the Host Installation Configurator to validate your execution libraries. The test jobs generate the ABENDs you use to verify that StarTool DA is functioning properly.

### Before You Begin

Before you validate the configured StarTool DA execution libraries, you must complete the following steps:

- **Generate the execution libraries.** (See [Chapter 6, "Building the Execution Libraries"](#).)
- **Apply *SER10TY* license keys and update your security system.** (See [Chapter 6, "Building the Execution Libraries"](#) and [Chapter 2, "Installation Prerequisites and Planning"](#).)
- **Configure the StarTool DA CICS Error Detection Server (EDS)** if the installation includes StarTool DA CICS. (See [Chapter 8, "Configuring StarTool DA CICS"](#).)
- **Configure ChangeMan ZMF** if the installation includes integration between StarTool DA and ChangeMan ZMF. (See [Chapter 9, "ChangeMan ZMF Integration"](#).)

You may also perform the following optional customizations:

- **Customize the StarTool DA Batch Master Control Table.** (See [Chapter 10, "Advanced Customization of StarTool DA Batch"](#).)
- **Customize the StarTool DA CICS system table.** (See [Chapter 11, "Advanced Customization of StarTool DA CICS"](#).)
- **Customize dump database maintenance processing.** (See [Chapter 12, "Customizing Database Maintenance"](#).)

This chapter describes the following validation procedures:

<a href="#">Validating StarTool DA Batch</a>	192
<a href="#">Validating StarTool DA CICS</a>	192
<a href="#">Accepting the Install in SMP/E</a>	194

## Validating StarTool DA Batch

To validate a configured StarTool DA Batch installation using the generated test jobs, perform the following steps:

- 1 Start the Workload Server (WLS) for the configured installation. The startup procedure name is `xxxxWLS`, where `xxxx` is the configuration ID you specified to the Host Installation Configurator. (For example, the WLS startup procedure for configuration ID `ES01` would be `ES01WLS`.)



**NOTE** Be sure the StarTool DA load library for the named configuration is included in the LNKLIST for the WLS startup procedure.

WLS startup and administration is described in [Chapter 7, "Workload Server Administration"](#).

- 2 Refer to checklist member `xxxxI000` to obtain a list of customized test jobs appropriate for your installation. Review the execution instructions contained in each test job member.
- 3 Run the test jobs in the order listed in checklist member `xxxxI000` and verify the results.



**CAUTION!** The test jobs must be executed in the order listed in the checklist member.

## Validating StarTool DA CICS

You should validate the basic StarTool DA CICS configuration before you customize it further using the CICS Installation and Configuration Server (ICS). For basic testing purposes, the default dump database you specified to the Host Installation Configurator will be assigned to the CICS region(s) you defined in that configurator for the named configuration.

You should validate StarTool DA CICS again after performing any desired ICS configurations. See [Chapter 8, "Configuring StarTool DA CICS"](#), for information about how to use the ICS.

To validate a configured StarTool DA CICS installation using the supplied test jobs, perform the following steps:

- 1 Start the Workload Server (WLS) for the configured installation. The startup procedure name is *xxxxWLS*, where *xxxx* is the configuration ID you specified to the Host Installation Configurator. For example, the WLS startup procedure for configuration ID ES01 would be ES01WLS. (See [Chapter 7, "Workload Server Administration"](#).)



**IMPORTANT!** Start the Workload Server (WLS) before you start the CICS region(s) associated with that server.

- 2 Start the CICS regions associated with the named configuration. This should invoke the StarTool DA CICS Error Detection Servers (EDSs) associated with each region.



**IMPORTANT!** You must run the CICS Installation and Configuration Server (ICS) to configure the EDS before you start a CICS region that invokes an EDS. (See [Chapter 8, "Configuring StarTool DA CICS"](#).)

- 3 Stop StarTool DA CICS by issuing the **yyPP** CICS transaction, where *yy* is the CICS transaction prefix for this configuration. For example, if the transaction prefix is ES, the CICS transaction would be ESPP. Ignore any error messages, such as "Error Detector was not active".
- 4 Switch the recording of dumps from one dump dataset to another a couple of times by issuing the following CICS command:  

```
CEMT SET DU SW
```
- 5 Restart StarTool DA CICS by issuing the **yyST** CICS transaction, where *yy* is the CICS transaction prefix for this configuration. For example, if the transaction prefix is ES, the CICS transaction would be ESST.



**IMPORTANT!** You must stop and restart each configured StarTool DA CICS instance the first time you run it after configuration. This forces initialization of the EDS. Thereafter, starting the CICS region automatically initiates the EDS associated with that region.

- 6 Refer to checklist member `xxxxI000` in `somnode.INSTALL` to obtain a list of customized test jobs appropriate for your installation. Review the execution instructions contained in each test job member.
- 7 Run the test jobs in the order listed in checklist member `xxxxI000` and verify the results.



**CAUTION!** The test jobs must be executed in the order listed in the checklist member.

## Accepting the Install in SMP/E

After acceptance testing is complete, customers who performed an SMP/E install should run the SMP/E ACCEPT CHECK and ACCEPT jobs to copy the consolidated software libraries to the SMP/E distribution libraries (DLIBs).

See the following topics for more information:

- ["Run the ACCEPT CHECK Job"](#) in Chapter 4, "Installing the Base Software".
- ["Accepting the Install in SMP/E"](#) in Chapter 4, "Installing the Base Software".

# Chapter 14

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## Troubleshooting

If you have issues with the installation and configuration process, the following topics may provide troubleshooting assistance.

<a href="#">Workload Server Troubleshooting</a>	196
<a href="#">Conflicting SVC 51 Intercepts</a>	199
<a href="#">Opening Old StarTool DA Batch Dump Files</a>	200
<a href="#">Running Multiple Instances of StarTool DA</a>	200

## Workload Server Troubleshooting

Certain cautions should be observed concerning the functionality of the Workload Server program (ESPYAMON) and the Workload Server address space.

- ESPYAMON initializes and supports three PC routines. These are all SPACE SWITCH routines that are, by definition, CALLABLE from any address space in the system. Because they are CALLABLE from any address space, the z/OS system cannot release the table connection of the PCs until all address spaces are freed, such as when an IPL is performed.

When ESPYAMON terminates in any manner, the address space that it was using becomes unavailable until the system is IPLed. In systems MVS/ESA 4.3 and above, IEF352I ADDRESS SPACE UNAVAILABLE is issued to the operator console to notify you of this condition.

The IBM manual *VS/ESA Application Development Guide: Extended Addressability* (GC28-1652) in Chapter 3, *Using IEASYSxx to Avoid Running Out of ASIDs*, describes how to alleviate a potential IPL situation by using the RSVNONR and RSVSTRT parameters.

- The IBM manual *VS/ESA Application Development Guide: Extended Addressability* (GC28-1652) notes that there are only 1024 'SYSTEM' Linkage Indexes (LXs) available in the z/OS system. ESPYAMON uses a 'SYSTEM' LX.

Since the Workload Server (ESPYAMON program) usually remains active at all times, a conscious decision was made to not differentiate between a P or a C command. All control blocks are freed when ESPYAMON terminates, so the 'SYSTEM' LX is always lost.

In addition to the preceding cautions, users may encounter the following error messages during the installation process.

### Subsystem Not Found

StarTool DA issues Subsystem Not Found messages for any CICS region that attempts to use Workload Server services.

These messages come from programs ESPYAOPE and ESPYAOCK. They have two lines of text, with the first line having the following format:

---

```
aaaaaaaa bbbb, SSI error, FC=X"cc", RQ=X"dd", RC=X"eeee", RS=X"ffff",  
RV=X"gggggggg", SSN=hhhh.
```

where:

<i>aaaaaaaa</i>	= name of the program that detects the error
<i>bbbb</i>	= message number
<i>cc</i>	= requested function code (in hexadecimal)
<i>dd</i>	= request code (in hexadecimal)
<i>ee</i>	= return code from the request (in hexadecimal)
<i>ffff</i>	= reason code from the request (in hexadecimal)
<i>gggggggg</i>	= variable reason code (in hexadecimal)
<i>hhhh</i>	= request subsystem name

The second line of the message contains (for some of the more common error conditions) text that describes the error condition. The message and corrective action are:

- Subsystem function not supported. See ["Checking the Workload Server"](#).
- Subsystem exists but is not active. See ["Checking the Workload Server"](#).
- Subsystem does not exist. See ["Checking the Workload Server"](#).
- Subsystem function did not complete.
- SSOB/SSIB format error.
- SSI not initialized. Check that all jobs in member ESxxIOOO have been run.

If you receive other error messages, contact Customer Support for the appropriate action.

## Checking the Workload Server

If this message appears, follow these steps:

- 1 Check to see that the Workload Server is started.

- 2 Check to see if your CICS region has the same subsystem name as your workload server.
- 3 Check to see if someone altered the subsystem name in the EMCT table.
- 4 If the problem persists, contact Customer Support.

## Reference Code = x"0081"

An error with reference code 0081 (hex) and a message that no records are available means that there is an allocation problem with the WRK file (if referenced program is ESPYAOPE) or the Tickler file (if referenced program is ESPYAOCK).

- 1 Check to see if the dump maintenance program ran. If not, run it.
- 2 If the problem persists, contact Customer Support.

## Subsystem Activation Errors

Program ESPYAMON detects these errors during Workload Server initialization. The messages consist of two lines of text.

The first line of text has the following format:

```
ESPYAMON xxxx,ULTISSI error,PSSIRC=yyyyyyyy,PSSIFC=zzzzzzzz
```

where:

xxxx = message number

yyyyyyyy = return code from ULTISSI (in hexadecimal)

zzzzzzzz = function code passed to ULTISSI (in hexadecimal)

The second line of text has the following format:

```
ESPYAMON xxxx,PSSIRCB=yyyyyyyy,PSSIRSB=zzzzzzzz,PSSIRS=aaaaaaaa
```

where:

xxxx = message number

yyyyyyyy = return code "b" from ULTISSI (in hexadecimal)

zzzzzzzz = reason code "b" from ULTISSI (in hexadecimal)

aaaaaaaa = reason code from ULTISSI (in hexadecimal)

The message numbers used by ESPYAMON are:

0220E	ULTISSI failure
0221E	subsystem was already active but ULTISSI was not able to locate the appropriate SSCVT
0222E	Invalid parameter list passed to ULTISSI

For SSI error messages, contact Customer Support.

## **DB2 or IMS Does Not Initialize**

Start the WLS before starting the CICS region and its StarTool DA CICS Error Detection Server (EDS).

# **Conflicting SVC 51 Intercepts**

StarTool DA intercepts system service call SVC 51, as does other dump processing software. The following problem might arise in an environment where two software products try to intercept SVC 51.

Some tools must be the first program to intercept SVC 51. (StarTool DA does not require this.) If you bring up one of these other tools before bringing up StarTool DA, you may not be able to shut down the first tool until you remove the tool brought in after it. To address this issue, StarTool DA provides the UNHOOK operator command.

The SDSF command, `F xxxxWLS,si2=unhook` where `xxxxWLS` is the name of the Workload Server started task, causes the StarTool DA command processor to unhook the StarTool DA system interface for SVC 51. StarTool DA must be the current SVC intercept for this to work. The program verifies that the current SVC intercept is a StarTool DA module; if it is not, an error message is issued.

After unhooking the StarTool DA system interface, the SVC intercept is inactive as far as StarTool DA is concerned. The Workload Server does not allow that particular module to be used anymore, and you can shut down the other tool that is using SVC 51. After you unhook the

StarTool DA SVC, stop the Workload Server and then restart it whenever you want. The next time you start StarTool DA, the product recognizes that the previous interface was unhooked and will load and hook a new intercept.

## Opening Old StarTool DA Batch Dump Files

Architectural changes in StarTool DA 5.5 and later are incompatible with the dump file formats of prior versions.

If you have an older version of StarTool DA Batch (such as Version 4.1 or 5.4) and want to install a new version of StarTool DA CICS (Version 5.5 or later), you need to run two workload servers and have two distinct databases (one for each version). The workload server for the new version needs to be running in TEST mode.

This also applies to adding a new version of StarTool DA Batch to an old version of StarTool DA CICS.

## Running Multiple Instances of StarTool DA

If StarTool DA is already active and you want to add an additional server instance, contact Serena Customer Support for instructions.

## Appendix A

---

# Sample JCL for an IEBCOPY Installation

StarTool DA includes a sample JCL member that may be customized to perform an IEBCOPY install of the product. The example JCL shown here is similar to that installation member, but may differ from the actual code and is shown for informational purposes only. Please review the actual JCL shipped with the product before customizing it for use.

The IEBCOPY install member can be found in the uncompressed product library *somnode.JCS*, where *somnode* is the high-level qualifier (HLQ) you supplied to the PC installer for the [PDS libraries](#)—that is, the [uncompressed product libraries](#)—when you unloaded the product media. This JCL member is copied to the *somnode*.INSTALL installation library in the [consolidated software libraries](#) when the SMP/E APPLY job is run.

Sample JCL members for an IEBCOPY installation of the StarTool DA base software observe the following conventions for dataset names and parameters:

- **&PFXI** – The high-level qualifier for the software libraries serving as input to the library allocation and consolidation process for StarTool DA. The parameter value should match the HLQ supplied to the PC installer for the “PDS libraries”—that is, the uncompressed product libraries.
- **&PFXO** – The high-level qualifier for the consolidated software libraries where installation and configuration activities take place.
- **&DA** – The middle-level qualifier for all library datasets associated with StarTool DA. By default, this parameter takes the value STRDA.VvRrMm, where *v* is the version number, *r* is the release number, and *m* is the modification level of the current release.

## Base Software Install Job for IEBCOPY

Sample member NONSMPE1 provides example JCL to allocate and populate the consolidated software libraries for an IEBCOPY install of the base software for StarTool DA. This job must be run before you start the host installation configurator.

```
//jobname JOB (...),' ,REGION=4M, V572
// MSGCLASS=?,CLASS=? V572
//*-----* V572
/** JCL Source : DA.INSTALL(NONSMPE1) * V572
/** Purpose : Sample JCL for non-SMP/E library consolidation. * V572
/**-----* V572
/**- SERENA - Program product property of SERENA Software, Inc * V572
/** DA Copyright (c) 1994-2011 by SERENA Software, Inc * V572
/**-----* V572
// SET PFXI='somnode.input' Prefix of input libraries V572
// SET PFXO='somnode.output' Prefix of output libraries V572
// SET DA='STRDA.V5R7M2' 203053
// SET FB='(DSORG=PO,RECFM=FB,LRECL=80,BLKSIZE=27920)' V572
// SET VB='(DSORG=PO,RECFM=VB,LRECL=256,BLKSIZE=23474)' V572
// SET U='(DSORG=PO,RECFM=U,LRECL=0,BLKSIZE=27920)' V572
/** ----- S010 ----- Delete any existing target libraries ----- V572
//S010 EXEC PGM=IEFBR14 V572
//DA57INS DD DISP=(MOD,DELETE),DSN=&PFXO..&DA..INSTALL, V572
// SPACE=(TRK,(1,0,1)) V572
//DA57MAC DD DISP=(MOD,DELETE),DSN=&PFXO..&DA..MACLIB, V572
// SPACE=(TRK,(1,0,1)) V572
//DA57DBR DD DISP=(MOD,DELETE),DSN=&PFXO..&DA..DBRLIB, V572
// SPACE=(TRK,(1,0,1)) V572
//DA57DSC DD DISP=(MOD,DELETE),DSN=&PFXO..&DA..DSCLIB, V572
// SPACE=(TRK,(1,0,1)) V572
//DA57HLP DD DISP=(MOD,DELETE),DSN=&PFXO..&DA..HLPLIB, V572
// SPACE=(TRK,(1,0,1)) V572
//DA57LOD DD DISP=(MOD,DELETE),DSN=&PFXO..&DA..LODLIB, V572
// SPACE=(TRK,(1,0,1)) V572
/** ----- S020 ----- Build the new target libraries ----- V572
//S020 EXEC PGM=IEBCOPY V572
/**----- Define the new target libraries ----- V572
//DA57INS DD DISP=(NEW,CATLG),DSN=&PFXO..&DA..INSTALL, V572
// DCB=&FB,SPACE=(27920,(1200,500,200)) V572
//DA57MAC DD DISP=(NEW,CATLG),DSN=&PFXO..&DA..MACLIB, V572
// DCB=&FB,SPACE=(27920,(260,100,50)) V572
//DA57DBR DD DISP=(NEW,CATLG),DSN=&PFXO..&DA..DBRLIB, V572
// DCB=&FB,SPACE=(27920,(10,5,10)) V572
//DA57DSC DD DISP=(NEW,CATLG),DSN=&PFXO..&DA..DSCLIB, V572
// DCB=&VB,SPACE=(27920,(200,100,10)) V572
//DA57HLP DD DISP=(NEW,CATLG),DSN=&PFXO..&DA..HLPLIB, V572
// DCB=&FB,SPACE=(27920,(300,100,10)) V572
//DA57LOD DD DISP=(NEW,CATLG),DSN=&PFXO..&DA..LODLIB, V572
```

```

//          DCB=&U,SPACE=(27920,(510,200,150))                                V572
//*----- Define the input libraries ----- V572
//SZD57CLS DD DISP=SHR,DSN=&PFXI..&DA..CLS                                V572
//SZD57CPS DD DISP=SHR,DSN=&PFXI..&DA..CPS                                V572
//SZD57CTC DD DISP=SHR,DSN=&PFXI..&DA..CTC                                V572
//SZD57DBR DD DISP=SHR,DSN=&PFXI..&DA..DBR                                V572
//SZD57DSC DD DISP=SHR,DSN=&PFXI..&DA..DSC                                V572
//SZD57HLP DD DISP=SHR,DSN=&PFXI..&DA..HLP                                V572
//SZD57JCS DD DISP=SHR,DSN=&PFXI..&DA..JCS                                V572
//SZD57LDC DD DISP=SHR,DSN=&PFXI..&DA..LDC                                V572
//SZD57LOD DD DISP=SHR,DSN=&PFXI..&DA..LOD                                V572
//SZD57MAS DD DISP=SHR,DSN=&PFXI..&DA..MAS                                V572
//SZD57MSG DD DISP=SHR,DSN=&PFXI..&DA..MSG                                V572
//SZD57PNL DD DISP=SHR,DSN=&PFXI..&DA..PNL                                V572
//SZD57REX DD DISP=SHR,DSN=&PFXI..&DA..REX                                V572
//SZD57SKL DD DISP=SHR,DSN=&PFXI..&DA..SKL                                V572
//SZD57SRS DD DISP=SHR,DSN=&PFXI..&DA..SRS                                V572
//SZD57TBL DD DISP=SHR,DSN=&PFXI..&DA..TBL                                V572
//*----- Define the IEBCOPY control input ----- V572
//SYSPRINT DD SYSOUT=*                                                    V572
//SYSIN DD *                                                                V572
COPY I=((SZD57CLS,R)),O=DA57INS
COPY I=((SZD57CPS,R)),O=DA57MAC
COPY I=((SZD57CTC,R)),O=DA57INS
COPY I=((SZD57DBR,R)),O=DA57DBR
COPY I=((SZD57DSC,R)),O=DA57DSC
COPY I=((SZD57HLP,R)),O=DA57HLP
COPY I=((SZD57JCS,R)),O=DA57INS
COPY I=((SZD57LDC,R)),O=DA57LOD
COPY I=((SZD57LOD,R)),O=DA57LOD
COPY I=((SZD57MAS,R)),O=DA57MAC
COPY I=((SZD57MSG,R)),O=DA57INS
COPY I=((SZD57PNL,R)),O=DA57INS
COPY I=((SZD57REX,R)),O=DA57INS
COPY I=((SZD57SKL,R)),O=DA57INS
COPY I=((SZD57SRS,R)),O=DA57MAC
COPY I=((SZD57TBL,R)),O=DA57INS
/*                                                                            V572
//*eoj                                                                        V572

```



## Appendix B

# Sample JCL for SMP/E Installation

StarTool DA includes several sample JCL members that may be customized to perform an SMP/E install of the product. The example JCL here is similar to those installation members, but may differ from the actual code and is shown for informational purposes only. Please review the actual JCL shipped with the product before customizing it for use.

The SMP/E install members can be found in the uncompressed product library *somnode.JCS*, where *somnode* is the high-level qualifier (HLQ) you supplied to the PC installer for the [PDS libraries](#)—that is, the [uncompressed product libraries](#)—when you unloaded the product media. These JCL members are copied to the *somnode.INSTALL* library in the [consolidated software libraries](#) when the SMP/E APPLY job is run.

All sample JCL members for an SMP/E install of StarTool DA observe the following conventions for dataset names and parameters:

- **&PFX** – The high-level qualifier for all installation-related datasets defined to SMP/E for StarTool DA. It should match the HLQ supplied to the PC installer for the “PDS libraries”—that is, the uncompressed product libraries.
- **&DA** – The middle-level qualifier for all library datasets associated with StarTool DA. By default, it takes the value *STRDA.VvRrMm*, where *v* is the version number, *r* is the release number, and *m* is the modification level of the current release.
- **&CSI** – The low-level qualifier for SMP/E’s internal execution environment datasets and logs. By default, it takes the value *SMPE.CSI*; this should not be modified.
- **&WORKUNIT** – Any valid unit name for temporary DASD storage.

## Sample DD Statements

Sample member SMPEDD01 provides example JCL DD statements for use defining the SMP/E input (TXLIB), target (TLIB), and distribution (DLIB) libraries used to manage the installation of StarTool DA. It defines the StarTool DA uncompressed product libraries as SMP/E's input libraries (TXLIBs) and the StarTool DA consolidated software libraries as SMP/E's target libraries (TLIBs). This member is included in other SMP/E sample JCL members by reference.

```

//*-----* V570
//* JCL Source : DA.INSTALL(SMPEDD01) * V570
//* Purpose : DD statements for SMP/E distribution, target, * V570
//* and input libraries. * V570
//*-----* V570
/*- SERENA - Program product property of SERENA Software, Inc * V570
/* DA Copyright (c) 1994-2011 by SERENA Software, Inc * V570
/*-----* V550
/*----- Define the input (TXLIB) libraries ----- V570
//SZD57CLS DD DISP=SHR,DSN=&PFX..&DA..CLS V570
//SZD57CPS DD DISP=SHR,DSN=&PFX..&DA..CPS V570
//SZD57CTC DD DISP=SHR,DSN=&PFX..&DA..CTC V570
//SZD57DBR DD DISP=SHR,DSN=&PFX..&DA..DBR V570
//SZD57DSC DD DISP=SHR,DSN=&PFX..&DA..DSC V570
//SZD57HLP DD DISP=SHR,DSN=&PFX..&DA..HLP V570
//SZD57JCS DD DISP=SHR,DSN=&PFX..&DA..JCS V570
//SZD57LDC DD DISP=SHR,DSN=&PFX..&DA..LDC V570
//SZD57LOD DD DISP=SHR,DSN=&PFX..&DA..LOD V570
//SZD57MAS DD DISP=SHR,DSN=&PFX..&DA..MAS V570
//SZD57MSG DD DISP=SHR,DSN=&PFX..&DA..MSG V570
//SZD57PNL DD DISP=SHR,DSN=&PFX..&DA..PNL V570
//SZD57REX DD DISP=SHR,DSN=&PFX..&DA..REX V570
//SZD57SKL DD DISP=SHR,DSN=&PFX..&DA..SKL V570
//SZD57SRS DD DISP=SHR,DSN=&PFX..&DA..SRS V570
//SZD57TBL DD DISP=SHR,DSN=&PFX..&DA..TBL V570
/*----- Define the target (TLIB) libraries ----- V570
//DA57CLS DD DISP=SHR,DSN=&PFX..&DA..INSTALL V570
//DA57CPS DD DISP=SHR,DSN=&PFX..&DA..MACLIB V570
//DA57CTC DD DISP=SHR,DSN=&PFX..&DA..INSTALL V570
//DA57DBR DD DISP=SHR,DSN=&PFX..&DA..DBRLIB V570
//DA57DSC DD DISP=SHR,DSN=&PFX..&DA..DSCLIB V570
//DA57HLP DD DISP=SHR,DSN=&PFX..&DA..HLPLIB V570
//DA57JCS DD DISP=SHR,DSN=&PFX..&DA..INSTALL V570
//DA57LDC DD DISP=SHR,DSN=&PFX..&DA..LODLIB V570
//DA57LOD DD DISP=SHR,DSN=&PFX..&DA..LODLIB V570
//DA57MAS DD DISP=SHR,DSN=&PFX..&DA..MACLIB V570
//DA57MSG DD DISP=SHR,DSN=&PFX..&DA..INSTALL V570
//DA57PNL DD DISP=SHR,DSN=&PFX..&DA..INSTALL V570
//DA57REX DD DISP=SHR,DSN=&PFX..&DA..INSTALL V570

```

---

```
//DA57SKL DD DISP=SHR,DSN=&PFX..&DA..INSTALL V570
//DA57SRS DD DISP=SHR,DSN=&PFX..&DA..MACLIB V570
//DA57TBL DD DISP=SHR,DSN=&PFX..&DA..INSTALL V570
//*----- Define the distribution (DLIB) libraries ----- V570
//ADA57CLS DD DISP=SHR,DSN=&PFX..&DA..CLSDLB V570
//ADA57CPS DD DISP=SHR,DSN=&PFX..&DA..CPSDLB V570
//ADA57CTC DD DISP=SHR,DSN=&PFX..&DA..CTCDLB V570
//ADA57DBR DD DISP=SHR,DSN=&PFX..&DA..DBRDLB V570
//ADA57DSC DD DISP=SHR,DSN=&PFX..&DA..DSCDLB V570
//ADA57HLP DD DISP=SHR,DSN=&PFX..&DA..HLPDLB V570
//ADA57JCS DD DISP=SHR,DSN=&PFX..&DA..JCSDLB V570
//ADA57LDC DD DISP=SHR,DSN=&PFX..&DA..LDCDLB V570
//ADA57LOD DD DISP=SHR,DSN=&PFX..&DA..LODDL B V570
//ADA57MAS DD DISP=SHR,DSN=&PFX..&DA..MASDLB V570
//ADA57MSG DD DISP=SHR,DSN=&PFX..&DA..MSGDLB V570
//ADA57PNL DD DISP=SHR,DSN=&PFX..&DA..PNLDLB V570
//ADA57REX DD DISP=SHR,DSN=&PFX..&DA..REXDLB V570
//ADA57SKL DD DISP=SHR,DSN=&PFX..&DA..SKLDLB V570
//ADA57SRS DD DISP=SHR,DSN=&PFX..&DA..SRSDLB V570
//ADA57TBL DD DISP=SHR,DSN=&PFX..&DA..TBLDLB V570
//*----- Define additional SMP/E DDnames ----- V570
//SYSLIB DD DISP=SHR,DSN=&PFX..&DA..MACLIB V570
```

## SMP/E Dataset and CSI Zone Definition

Sample member SMPEJCL1 provides example JCL to allocate the SMP/E execution environment datasets, define the Consolidated Software Inventory (CSI) datasets, and define the associated CSI zones for StarTool DA.

```

//jobname JOB (DA),'SMP/E allocation      ',REGION=6M,          V570
//          CLASS=A,MSGCLASS=X                      V570
//*-----* V570
//* JCL Source : DA.INSTALL(SMPEJCL1)                * V570
//* Purpose   : Sample JCL for (re)allocation of the SMP/E data * V570
//*           : sets and definition of the CSI and its zones.    * V570
//* Parameters: &PFX      = The high level qualifier used for   * V570
//*           : data set names.                                * V570
//*           : &DA       = The middle qualifier used for data  * V570
//*           : set names.                                     * V570
//*           : &CSI      = The low level qualifier for the     * V570
//*           : SMP/E CSI data set. This parameter              * V570
//*           : should not be changed.                         * V570
//*           : &WORKUNIT = A valid unit-name for temporary    * V570
//*           : DASD storage.                                   * V570
//*-----* V570
//*- SERENA - Program product property of SERENA Software, Inc * V570
//*   DA     Copyright (c) 1994-2011 by SERENA Software, Inc * V570
//*-----* V570
//          SET PFX='somnode'                        V570
//          SET DA='STRDA.V5R7M2'                    V570
//          SET CSI='SMPE.CSI'                      V570
//          SET WORKUNIT='VIO'                      V570
//JCLLIB1 JCLLIB ORDER=(&PFX..&DA..JCS)            V570
//* ----- S010 ----- Delete any existing data sets ----- V570
//S010 EXEC PGM=IEFBR14                             V570
//SMPLOG DD DISP=(MOD,DELETE),DSN=&PFX..&DA..SMPLOG, V570
//          DCB=(DSORG=PS,RECFM=VB,LRECL=510,BLKSIZE=27998), V570
//          SPACE=(TRK,(5,1))                      V570
//SMPMTS DD DISP=(MOD,DELETE),DSN=&PFX..&DA..SMPMTS, V570
//          DCB=(DSORG=PO,RECFM=FB,LRECL=80,BLKSIZE=27920), V570
//          SPACE=(CYL,(1,1,25))                  V570
//SMPPTS DD DISP=(MOD,DELETE),DSN=&PFX..&DA..SMPPTS, V570
//          DCB=(DSORG=PO,RECFM=FB,LRECL=80,BLKSIZE=6160), V570
//          SPACE=(CYL,(50,25,15))                V570
//SMPSCDS DD DISP=(MOD,DELETE),DSN=&PFX..&DA..SMPSCDS, V570
//          DCB=(DSORG=PO,RECFM=FB,LRECL=80,BLKSIZE=27920), V570
//          SPACE=(CYL,(1,1,25))                  V570
//SMPSTS DD DISP=(MOD,DELETE),DSN=&PFX..&DA..SMPSTS, V570
//          DCB=(DSORG=PO,RECFM=FB,LRECL=80,BLKSIZE=27920), V570
//          SPACE=(CYL,(1,1,25))                  V570
//* ----- S020 ----- Allocate the new data sets ----- V570
//S020 EXEC PGM=IEFBR14                             V570

```

```

//SMPLOG DD DISP=(NEW,CATLG),DSN=&PFX..&DA..SMPLOG, V570
// DCB=(DSORG=PS,RECFM=VB,LRECL=510,BLKSIZE=27998), V570
// SPACE=(TRK,(5,1)) V570
//SMPMTS DD DISP=(NEW,CATLG),DSN=&PFX..&DA..SMPMTS, V570
// DCB=(DSORG=PO,RECFM=FB,LRECL=80,BLKSIZE=27920), V570
// SPACE=(CYL,(1,1,25)) V570
//SMPPTS DD DISP=(NEW,CATLG),DSN=&PFX..&DA..SMPPTS, V570
// DCB=(DSORG=PO,RECFM=FB,LRECL=80,BLKSIZE=6160), V570
// SPACE=(CYL,(50,25,15)) V570
//SMPSCDS DD DISP=(NEW,CATLG),DSN=&PFX..&DA..SMPSCDS, V570
// DCB=(DSORG=PO,RECFM=FB,LRECL=80,BLKSIZE=27920), V570
// SPACE=(CYL,(1,1,25)) V570
//SMPSTS DD DISP=(NEW,CATLG),DSN=&PFX..&DA..SMPSTS, V570
// DCB=(DSORG=PO,RECFM=FB,LRECL=80,BLKSIZE=27920), V570
// SPACE=(CYL,(1,1,25)) V570
//* ----- S030 ----- Build control records for CSI allocation ---- V570
//S030 EXEC PGM=SDACREC, V570
// PARM='&PFX.&DA.&CSI' V570
//STEPLIB DD DISP=SHR,DSN=&PFX..&DA..LOD V570
//SYSIN DD DUMMY V570
//SYSPRINT DD SYSOUT=* V570
//SYSUT1 DD DISP=SHR,DSN=&PFX..&DA..CTC(ESPYSMP1) V570
//SYSUT2 DD DSN=&&S030F001,DISP=(,PASS,DELETE), V570
// UNIT=&WORKUNIT,SPACE=(TRK,(1,1)), V570
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=23440) V570
//* ----- S040 ----- Build and initialize the CSI ----- V570
//S040 EXEC PGM=IDCAMS V570
//SYSPRINT DD SYSOUT=* V570
//INITCSI DD DISP=SHR,DSN=SYS1.MACLIB(GIMZPOOL) V570
//SYSIN DD DISP=(SHR,DELETE),DSN=&&S030F001 V570
//* ----- S050 ----- Build control records for zone definition --- V570
//S050 EXEC PGM=SDACREC, V570
// PARM='&PFX.&DA.&CSI,SMPPTS,SMPLOG' V570
//STEPLIB DD DISP=SHR,DSN=&PFX..&DA..LOD V570
//SYSIN DD DUMMY V570
//SYSPRINT DD SYSOUT=* V570
//SYSUT1 DD DISP=SHR,DSN=&PFX..&DA..CTC(ESPYSMP2) V570
//SYSUT2 DD DSN=&&S050F001,DISP=(,PASS,DELETE), V570
// UNIT=&WORKUNIT,SPACE=(TRK,(1,1)), V570
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=23440) V570
//* ----- S060 ----- Define the zones within the CSI ----- V570
//S060 EXEC ESPYSMPE,CSI=&PFX..&DA..SMPE.CSI V570
//SMPLOG DD DISP=SHR,DSN=&PFX..&DA..SMPLOG V570
//SMPPTS DD DISP=SHR,DSN=&PFX..&DA..SMPPTS V570
//SMPPTFIN DD DUMMY V570
//SMPHOLD DD DUMMY V570
//SMPCNTL DD DISP=(SHR,DELETE),DSN=&&S050F001 V570
//*eoj V570

```

# SMP/E Software Library Allocation

Sample member SMPEJCL2 provides example JCL for allocating the SMP/E target and distribution libraries needed for StarTool DA installation.

```

//jobname JOB (DA),'SMP/E allocation      ',REGION=4M,          V572
//          CLASS=A,MSGCLASS=X                                V572
//*-----* V572
//* JCL Source : DA.INSTALL(SMPEJCL2)                          * V572
//* Purpose   : Sample JCL for (re)allocation of the DA product * V572
//*           : SMP/E target and distribution libraries.        * V572
//* Parameters : &PFX      = The high level qualifier used for  * V572
//*           :              data set names.                    * V572
//*           : &DA        = The middle qualifier used for data  * V572
//*           :              set names.                          * V572
//*           : &FB        = DCB parameters used in the defining * V572
//*           :              of RECFM=FB libraries. This value  * V572
//*           :              should not be modified.            * V572
//*           : &VB        = DCB parameters used in the defining * V572
//*           :              of RECFM=VB libraries. This value  * V572
//*           :              should not be modified.            * V572
//*           : &U         = DCB parameters used in the defining * V572
//*           :              of RECFM=U libraries. This value  * V572
//*           :              should not be modified.            * V572
//*-----* V572
//*- SERENA - Program product property of SERENA Software, Inc * V572
//*   DA    Copyright (c) 1994-2011 by SERENA Software, Inc   * V572
//*-----* V572
//          SET PFX='somnode'                                  V572
//          SET DA='STRDA.V5R7M2'                              V572
//          SET FB='(DSORG=PO,RECFM=FB,LRECL=80,BLKSIZE=27920)' V572
//          SET VB='(DSORG=PO,RECFM=VB,LRECL=256,BLKSIZE=23474)' V572
//          SET U='(DSORG=PO,RECFM=U,LRECL=0,BLKSIZE=27920)'   V572
//JCLLIB1 JCLLIB ORDER=(&PFX.&DA..JCS)                        V572
//* ----- S010 ----- Delete any existing target libraries ----- V572
//S010 EXEC PGM=IEFBR14                                         V572
//DAXXINS DD DISP=(MOD,DELETE),DSN=&PFX.&DA..INSTALL,         V572
//          SPACE=(TRK,(1,0,1))                                V572
//DAXXMAC DD DISP=(MOD,DELETE),DSN=&PFX.&DA..MACLIB,           V572
//          SPACE=(TRK,(1,0,1))                                V572
//DAXXDBR DD DISP=(MOD,DELETE),DSN=&PFX.&DA..DBRLIB,           V572
//          SPACE=(TRK,(1,0,1))                                V572
//DAXXDSC DD DISP=(MOD,DELETE),DSN=&PFX.&DA..DSCLIB,           V572
//          SPACE=(TRK,(1,0,1))                                V572
//DAXXHLP DD DISP=(MOD,DELETE),DSN=&PFX.&DA..HLPLIB,           V572
//          SPACE=(TRK,(1,0,1))                                V572
//DAXXLOD DD DISP=(MOD,DELETE),DSN=&PFX.&DA..LODLIB,           V572
//          SPACE=(TRK,(1,0,1))                                V572

```

```

//* ----- S020 ----- Delete any existing distribution libraries -- V572
//S020 EXEC PGM=IEFBR14 V572
//ADAXXCLS DD DISP=(MOD,DELETE),DSN=&PFX..&DA..CLSDLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXCPS DD DISP=(MOD,DELETE),DSN=&PFX..&DA..CPSDLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXCTC DD DISP=(MOD,DELETE),DSN=&PFX..&DA..CTCDLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXDBR DD DISP=(MOD,DELETE),DSN=&PFX..&DA..DBRDLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXDSC DD DISP=(MOD,DELETE),DSN=&PFX..&DA..DSCDLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXHLP DD DISP=(MOD,DELETE),DSN=&PFX..&DA..HLPDLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXJCS DD DISP=(MOD,DELETE),DSN=&PFX..&DA..JCSDLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXLDC DD DISP=(MOD,DELETE),DSN=&PFX..&DA..LDCDLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXL0D DD DISP=(MOD,DELETE),DSN=&PFX..&DA..LODDL0B, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXMAS DD DISP=(MOD,DELETE),DSN=&PFX..&DA..MASDLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXMSG DD DISP=(MOD,DELETE),DSN=&PFX..&DA..MSGDLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXPNL DD DISP=(MOD,DELETE),DSN=&PFX..&DA..PNL0DLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXREX DD DISP=(MOD,DELETE),DSN=&PFX..&DA..REXDLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXSKL DD DISP=(MOD,DELETE),DSN=&PFX..&DA..SKL0DLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXSRS DD DISP=(MOD,DELETE),DSN=&PFX..&DA..SRSDLB, V572
// SPACE=(TRK,(1,0,1)) V572
//ADAXXTBL DD DISP=(MOD,DELETE),DSN=&PFX..&DA..TBL0DLB, V572
// SPACE=(TRK,(1,0,1)) V572
//* ----- S030 ----- Allocate new target libraries (TLIBs) ----- V572
//S030 EXEC PGM=IEFBR14 V572
//DAXXINS DD DISP=(NEW,CATLG),DSN=&PFX..&DA..INSTALL, V572
// DCB=&FB,SPACE=(27920,(1200,500,200)) V572
//DAXXMAC DD DISP=(NEW,CATLG),DSN=&PFX..&DA..MACLIB, V572
// DCB=&FB,SPACE=(27920,(260,100,50)) V572
//DAXXDBR DD DISP=(NEW,CATLG),DSN=&PFX..&DA..DBRLIB, V572
// DCB=&FB,SPACE=(27920,(10,5,10)) V572
//DAXXDSC DD DISP=(NEW,CATLG),DSN=&PFX..&DA..DSCLIB, V572
// DCB=&VB,SPACE=(27920,(200,100,10)) V572
//DAXXHLP DD DISP=(NEW,CATLG),DSN=&PFX..&DA..HPLIB, V572
// DCB=&FB,SPACE=(27920,(300,100,10)) V572
//DAXXL0D DD DISP=(NEW,CATLG),DSN=&PFX..&DA..LODLIB, V572
// DCB=&U,SPACE=(27920,(510,200,150)) V572
//* ----- S030 ----- Allocate new distribution libraries (DLIBs) - V572
//A030 EXEC PGM=IEFBR14 V572
//ADAXXCLS DD DISP=(NEW,CATLG),DSN=&PFX..&DA..CLSDLB, V572
// DCB=&FB,SPACE=(27920,(65,10,10)) V572

```

```

//ADAXXCPS DD DISP=(NEW,CATLG),DSN=&PFX.&DA..CPSDLB, V572
// DCB=&FB,SPACE=(27920,(30,10,25)) V572
//ADAXXCTC DD DISP=(NEW,CATLG),DSN=&PFX.&DA..CTCDLB, V572
// DCB=&FB,SPACE=(27920,(30,5,50)) V572
//ADAXXDDBR DD DISP=(NEW,CATLG),DSN=&PFX.&DA..DBRDLB, V572
// DCB=&FB,SPACE=(27920,(10,5,10)) V572
//ADAXXDSC DD DISP=(NEW,CATLG),DSN=&PFX.&DA..DSCDLB, V572
// DCB=&VB,SPACE=(27920,(200,100,10)) V572
//ADAXXHLP DD DISP=(NEW,CATLG),DSN=&PFX.&DA..HLPDLB, V572
// DCB=&FB,SPACE=(27920,(300,100,10)) V572
//ADAXXJCS DD DISP=(NEW,CATLG),DSN=&PFX.&DA..JCSDLB, V572
// DCB=&FB,SPACE=(27920,(10,5,10)) V572
//ADAXXLDC DD DISP=(NEW,CATLG),DSN=&PFX.&DA..LDCDLB, V572
// DCB=&U,SPACE=(27920,(210,100,50)) V572
//ADAXXLOD DD DISP=(NEW,CATLG),DSN=&PFX.&DA..LODDL, V572
// DCB=&U,SPACE=(27920,(300,100,100)) V572
//ADAXXMAS DD DISP=(NEW,CATLG),DSN=&PFX.&DA..MASDLB, V572
// DCB=&FB,SPACE=(27920,(125,25,50)) V572
//ADAXXMSG DD DISP=(NEW,CATLG),DSN=&PFX.&DA..MSGDLB, V572
// DCB=&FB,SPACE=(27920,(10,1,10)) V572
//ADAXXPDL DD DISP=(NEW,CATLG),DSN=&PFX.&DA..PNL, V572
// DCB=&FB,SPACE=(27920,(50,10,30)) V572
//ADAXXREX DD DISP=(NEW,CATLG),DSN=&PFX.&DA..REXDLB, V572
// DCB=&FB,SPACE=(27920,(15,5,10)) V572
//ADAXXSKL DD DISP=(NEW,CATLG),DSN=&PFX.&DA..SKL, V572
// DCB=&FB,SPACE=(27920,(65,10,30)) V572
//ADAXXSRS DD DISP=(NEW,CATLG),DSN=&PFX.&DA..SRS, V572
// DCB=&FB,SPACE=(27920,(100,25,20)) V572
//ADAXXTBL DD DISP=(NEW,CATLG),DSN=&PFX.&DA..TBL, V572
// DCB=&FB,SPACE=(27920,(30,5,10)) V572
// *eoj V572

```

# The SMP/E RECEIVE Job

Sample member SMPEJCL3 invokes the SMP/E RECEIVE job, which defines the previously allocated input, target, and distribution libraries for StarTool DA to SMP/E, primes the CSI and control tables needed for installation, and itemizes to SMP/E the software modules that are new or have changed since the last install.

```
//jobcard JOB (DA),'SMP/E RECEIVE          ',REGION=6M,          V572
//          CLASS=A,MSGCLASS=X          V572
//*-----* V572
//* JCL Source : DA.INSTALL(SMPEJCL3) * V572
//* Purpose   : Sample JCL for SMP/E "RECEIVE". * V572
//* Parameters : &PFX           = The high level qualifier used for * V572
//*           data set names. * V572
//*           &DA              = The middle qualifier used for data * V572
//*           set names. * V572
//*           &CSI             = The low level qualifier for the * V572
//*           SMP/E CSI data set. This parameter * V572
//*           should not be changed. * V572
//*           &WORKUNIT       = A valid unit-name for temporary * V572
//*           DASD storage. * V572
//*-----* V572
//*- SERENA - Program product property of SERENA Software, Inc * V572
//*   DA      Copyright (c) 1994-2011 by SERENA Software, Inc * V572
//*-----* V572
//          SET PFX='somnode'          V572
//          SET DA='STRDA.V5R7M2'      V572
//          SET CSI='SMPE.CSI'         V572
//          SET WORKUNIT='VIO'         V572
//JCLLIB1 JCLLIB ORDER=(&PFX..&DA..JCS) V572
//* ----- S010 ----- Perform the SMP/E processing ----- V572
//S010 EXEC ESPYSMPE,CSI=&PFX..&DA..SMPE.CSI V572
//SMPLOG DD DISP=SHR,DSN=&PFX..&DA..SMPLOG V572
//SMPPTS DD DISP=SHR,DSN=&PFX..&DA..SMPPTS V572
//SMPPTFIN DD DISP=SHR,DSN=&PFX..&DA..MCS V572
//SMPHOLD DD DUMMY V572
//SMPCNTL DD * V572
//          SET BDY(GLOBAL) .
//          RECEIVE SYSMODS .
/*
//SMPWRK1 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
//          DCB=BLKSIZE=6160 V572
//SMPWRK2 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
//          DCB=BLKSIZE=6160 V572
//SMPWRK3 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
//          DCB=BLKSIZE=6160 V572
//SMPWRK4 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
//          DCB=BLKSIZE=6160 V572
//SMPWRK5 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
```

```
//          DCB=BLKSIZE=6160                                V572
//SMPWRK6  DD  DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
//          DCB=BLKSIZE=6160                                V572
//SYSUT1   DD  DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5))    V572
//SYSUT2   DD  DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5))    V572
//SYSUT3   DD  DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5))    V572
//SYSUT4   DD  DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5))    V572
//SMPSNAP  DD  SYSOUT=*                                           V572
//*eoj                                           V572
```

## The APPLY CHECK Job

Sample member SMPEJCL4 invokes the SMP/E APPLY CHECK job. The APPLY CHECK job verifies that the uncompressed product libraries (TXLIBs) identified for SMP/E input contain the software modules and control data needed for a successful APPLY to the target libraries (TLIBs), and that new or changed software modules will not create regressions or conflicts with modules from the previous release.

```
//jobcard  JOB (DA),'SMP/E APPLY CHECK ',REGION=6M,           V572
//          CLASS=A,MSGCLASS=X                                V572
//*-----* V572
//* JCL Source : DA.INSTALL(SMPEJCL4)                        * V572
//* Purpose   : Sample JCL for SMP/E "APPLY CHECK".         * V572
//* Parameters: &PFX      = The high level qualifier used for * V572
//*              data set names.                            * V572
//*              &DA      = The middle qualifier used for data * V572
//*              set names.                                  * V572
//*              &CSI     = The low level qualifier for the    * V572
//*              SMP/E CSI data set. This parameter          * V572
//*              should not be changed.                      * V572
//*              &WORKUNIT = A valid unit-name for temporary  * V572
//*              DASD storage.                               * V572
//*-----* V572
//*- SERENA - Program product property of SERENA Software, Inc * V572
//*   DA      Copyright (c) 1994-2011 by SERENA Software, Inc * V572
//*-----* V572
//          SET PFX='somnode'                                V572
//          SET DA='STRDA.V5R7M2'                            V572
//          SET CSI='SMPE.CSI'                                V572
//          SET WORKUNIT='VIO'                                V572
//JCLLIB1  JCLLIB ORDER=(&PFX..&DA..JCS)                    V572
//* ----- S010 ----- Perform the SMP/E processing ----- V572
//S010     EXEC ESPYSMPE,CSI=&PFX..&DA..SMPE.CSI            V572
//SMPLOG   DD  DISP=SHR,DSN=&PFX..&DA..SMPLOG              V572
//SMPMTS   DD  DISP=SHR,DSN=&PFX..&DA..SMPMTS              V572
//SMPPTS   DD  DISP=SHR,DSN=&PFX..&DA..SMPPTS              V572
```

```

//SMPPTFIN DD DISP=SHR,DSN=&PFX..&DA..MCS V572
//SMPSCDS DD DISP=SHR,DSN=&PFX..&DA..SMPSCDS V572
//SMPSTS DD DISP=SHR,DSN=&PFX..&DA..SMPSTS V572
//SMPHOLD DD DUMMY V572
//SMPCNTL DD * V572
SET BDY(DA57T) .
APPLY FORFMID(HSZD572) FUNCTIONS CHECK .
LIST LOG .
/* V572
//SMPWRK1 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SMPWRK2 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SMPWRK3 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SMPWRK4 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SMPWRK5 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SMPWRK6 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SYSUT1 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5)) V572
//SYSUT2 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5)) V572
//SYSUT3 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5)) V572
//SYSUT4 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5)) V572
//SMPSNAP DD SYSOUT=* V572
//INC1 INCLUDE MEMBER=SMPEDD01 Define DLIBs and TLIBs V572
//*eoj V572

```

## The APPLY Job

Sample member SMPEJCL5 invokes the SMP/E APPLY job. The SMP/E APPLY job populates the consolidated software libraries (which are defined as target libraries, or TLIBs, to SMP/E) with StarTool DA software consolidated from the uncompressed product libraries (defined as input libraries, or TXLIBs, to SMP/E).

```
//jobcard JOB (DA),'SMP/E APPLY',REGION=6M, V572
// CLASS=A,MSGCLASS=X V572
//*-----* V572
//* JCL Source : StarTool.DA.INSTALL(SMPEJCL5) * V572
//* Purpose : Sample JCL for SMP/E "APPLY". * V572
//* Parameters : &PFX = The high level qualifier used for * V572
//* data set names. * V572
//* &DA = The middle qualifier used for data * V572
//* set names. * V572
//* &CSI = The low level qualifier for the * V572
//* SMP/E CSI data set. This parameter * V572
//* should not be changed. * V572
//* &WORKUNIT = A valid unit-name for temporary * V572
//* DASD storage. * V572
//*-----* V572
//*- SERENA - Program product property of SERENA Software, Inc * V572
//* DA Copyright (c) 1994-2011 by SERENA Software, Inc * V572
//*-----* V572
// SET PFX='somnode' V572
// SET DA='STRDA.V5R7M2' V572
// SET CSI='SMPE.CSI' V572
// SET WORKUNIT='VIO' V572
//JCLLIB1 JCLLIB ORDER=(&PFX..&DA..JCS) V572
//*----- S010 ----- Perform the SMP/E processing ----- V572
//S010 EXEC ESPYSMPE,CSI=&PFX..&DA..SMPE.CSI V572
//SMPLOG DD DISP=SHR,DSN=&PFX..&DA..SMPLOG V572
//SMPMTS DD DISP=SHR,DSN=&PFX..&DA..SMPMTS V572
//SMPPTS DD DISP=SHR,DSN=&PFX..&DA..SMPPTS V572
//SMPPTFIN DD DISP=SHR,DSN=&PFX..&DA..MCS V572
//SMPSCDS DD DISP=SHR,DSN=&PFX..&DA..SMPSCDS V572
//SMPSTS DD DISP=SHR,DSN=&PFX..&DA..SMPSTS V572
//SMPHOLD DD DUMMY V572
//SMPCNTL DD * V572
// SET BDY(DA57T) .
// APPLY FORFMID(HSZD572) FUNCTIONS .
// LIST LOG .
//*----- V572
//SMPWRK1 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SMPWRK2 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SMPWRK3 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
```

```

//          DCB=BLKSIZE=6160                                V572
//SMPWRK4 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
//          DCB=BLKSIZE=6160                                V572
//SMPWRK5 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
//          DCB=BLKSIZE=6160                                V572
//SMPWRK6 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
//          DCB=BLKSIZE=6160                                V572
//SYSUT1 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5))    V572
//SYSUT2 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5))    V572
//SYSUT3 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5))    V572
//SYSUT4 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5))    V572
//SMPSNAP DD SYSOUT=*                                          V572
//INC1 INCLUDE MEMBER=SMPEDD01      Define DLIBs and TLIBs    V572
//*eoj                                                         V572

```

## The SMP/E ACCEPT CHECK Job

Sample member SMPEJCL6 invokes the SMP/E ACCEPT CHECK job. ACCEPT CHECK performs a test run of the ACCEPT job to inform you in advance of possible error conditions, regressions, SYSMODs that will be deleted, and the like. No permanent updates are made.

```

//jobcard JOB (DA),'SMP/E ACCEPT CHECK ',REGION=6M,           V572
//          CLASS=A,MSGCLASS=X                                V572
//*-----* V572
//* JCL Source : StarTool.DA.INSTALL(SMPEJCL6)                * V572
//* Purpose   : Sample JCL for SMP/E "ACCEPT CHECK".          * V572
//* Parameters : &PFX = The high level qualifier used for    * V572
//*              data set names.                              * V572
//*              &DA  = The middle qualifier used for data    * V572
//*              set names.                                    * V572
//*              &CSI = The low level qualifier for the       * V572
//*              SMP/E CSI data set. This parameter           * V572
//*              should not be changed.                       * V572
//*              &WORKUNIT = A valid unit-name for temporary * V572
//*              DASD storage.                                 * V572
//*-----* V572
//*- SERENA - Program product property of SERENA Software, Inc * V572
//*   DA      Copyright (c) 1994-2011 by SERENA Software, Inc * V572
//*-----* V572
//          SET PFX='somnode'                                  V572
//          SET DA='STRDA.V5R7M2'                              V572
//          SET CSI='SMPE.CSI'                                  V572
//          SET WORKUNIT='VIO'                                  V572
//JCLLIB1 JCLLIB ORDER=(&PFX..&DA..JCS)                      V572
//* ----- S010 ----- Perform the SMP/E processing ----- V572
//S010 EXEC ESPYSMPE,CSI=&PFX..&DA..SMPE.CSI                 V572

```

Appendix B Sample JCL for SMP/E Installation

---

```
//SMPLOG DD DISP=SHR,DSN=&PFX..&DA..SMPLOG V572
//SMPMTS DD DISP=SHR,DSN=&PFX..&DA..SMPMTS V572
//SMPPTS DD DISP=SHR,DSN=&PFX..&DA..SMPPTS V572
//SMPPTFIN DD DISP=SHR,DSN=&PFX..&DA..MCS V572
//SMPSCDS DD DISP=SHR,DSN=&PFX..&DA..SMPSCDS V572
//SMPSTS DD DISP=SHR,DSN=&PFX..&DA..SMPSTS V572
//SMPHOLD DD DUMMY V572
//SMPCNTL DD * V572
SET BDY(DA57D) .
ACCEPT FORFMID(HSZD572) FUNCTIONS CHECK .
LIST LOG .
/* V572
//SMPWRK1 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SMPWRK2 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SMPWRK3 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SMPWRK4 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SMPWRK5 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SMPWRK6 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SYSUT1 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5)) V572
//SYSUT2 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5)) V572
//SYSUT3 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5)) V572
//SYSUT4 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5)) V572
//SMPSNAP DD SYSOUT=* V572
//INC1 INCLUDE MEMBER=SMPEDD01 Define DLIBs and TLIBs V572
//*eoj V572
```

# The SMP/E ACCEPT Job

Sample member SMPEJCL7 invokes the SMP/E ACCEPT job. The SMP/E ACCEPT job copies the installed software from the SMP/E target libraries (TLIBs) to the SMP/E distribution libraries (DLIBs) for archival. You should run the ACCEPT job after the StarTool DA installation has been configured, the execution libraries have been generated, and user acceptance testing is complete.

```
//jobcard JOB (DA),'SMP/E ACCEPT',REGION=6M, V572
// CLASS=A,MSGCLASS=X V572
//*-----* V572
//* JCL Source : StarTool.DA.INSTALL(SMPEJCL7) * V572
//* Purpose : Sample JCL for SMP/E "ACCEPT". * V572
//* Parameters : &PFX = The high level qualifier used for * V572
//* data set names. * V572
//* &DA = The middle qualifier used for data * V572
//* set names. * V572
//* &CSI = The low level qualifier for the * V572
//* SMP/E CSI data set. This parameter * V572
//* should not be changed. * V572
//* &WORKUNIT = A valid unit-name for temporary * V572
//* DASD storage. * V572
//*-----* V572
//*- SERENA - Program product property of SERENA Software, Inc * V572
//* DA Copyright (c) 1994-2011 by SERENA Software, Inc * V572
//*-----* V572
// SET PFX='somnode' V572
// SET DA='STRDA.V5R7M2' V572
// SET CSI='SMPE.CSI' V572
// SET WORKUNIT='VIO' V572
//JCLLIB1 JCLLIB ORDER=(&PFX..&DA..JCS) V572
//*----- S010 ----- Perform the SMP/E processing ----- V572
//S010 EXEC ESPYSMPE,CSI=&PFX..&DA..SMPE.CSI V572
//SMPLOG DD DISP=SHR,DSN=&PFX..&DA..SMPLOG V572
//SMPMTS DD DISP=SHR,DSN=&PFX..&DA..SMPMTS V572
//SMPPTS DD DISP=SHR,DSN=&PFX..&DA..SMPPTS V572
//SMPPTFIN DD DISP=SHR,DSN=&PFX..&DA..MCS V572
//SMPSCDS DD DISP=SHR,DSN=&PFX..&DA..SMPSCDS V572
//SMPSTS DD DISP=SHR,DSN=&PFX..&DA..SMPSTS V572
//SMPHOLD DD DUMMY V572
//SMPCNTL DD * V572
// SET BDY(DA57D) .
// ACCEPT FORFMID(HSZD572) FUNCTIONS .
// LIST LOG .
//* V572
//SMPWRK1 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
//SMPWRK2 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
// DCB=BLKSIZE=6160 V572
```

## Appendix B Sample JCL for SMP/E Installation

---

```
//SMPWRK3 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
//          DCB=BLKSIZE=6160 V572
//SMPWRK4 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
//          DCB=BLKSIZE=6160 V572
//SMPWRK5 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
//          DCB=BLKSIZE=6160 V572
//SMPWRK6 DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(5,5,10)), V572
//          DCB=BLKSIZE=6160 V572
//SYSUT1  DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5)) V572
//SYSUT2  DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5)) V572
//SYSUT3  DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5)) V572
//SYSUT4  DD DISP=(,DELETE),UNIT=&WORKUNIT,SPACE=(CYL,(1,5)) V572
//SMPSNAP DD SYSOUT=* V572
//INC1 INCLUDE MEMBER=SMPEDD01 Define DLIBs and TLIBs V572
//*eoj V572
```

---

# Index

---

## Symbols

&CSI parameter 54, 55, 56, 57, 58, 205  
 &DA parameter 52, 54, 55, 56, 57, 58, 201, 205  
 &PFX parameter 54, 55, 56, 57, 58, 205  
 &PFXI parameter 52, 201  
 &PFXO parameter 52, 201  
 &WORKUNIT parameter 54, 55, 56, 57, 58, 205  
 %ESPYCL00 command 62, 98

## A

A table 162  
 A2 table 165  
 A3 table 165  
 ABEND 9, 16  
 ABEND codes 19  
 ABEND detection 16  
 ABEND notifications 16  
 ABENDs 30  
 ACCEPT CHECK job, SMP/E 57, 214, 217  
 ACCEPT job, SMP/E 28, 58, 219  
 activating  
   IBM Debug Tool 182  
 adding DSECTS 184  
 Adobe Acrobat 12  
 AFCB  
   defining 184  
 AID  
   defining 184  
 APPLY CHECK job, SMP/E 56, 214  
 APPLY job, SMP/E 56, 216  
 ASRA 177  
 assigning  
   CICS region to dump database 131  
   dump distribution criteria 132

  dump selection criteria 132  
   dumps to a database 133  
 attributes  
   panel 172  
 authorization 19, 34  
   Authorized Program Facility (APF) 33  
   CICS Installation and Configuration Server (ICS) 35  
   CICS region 35  
   dump viewing 19  
   JES 34  
   language database files (DBDFs) 34  
   RACROUTE macro 19  
   started tasks 34  
   VSAM ESDS files 34, 35  
 authorizations  
   installation 24  
   runtime 25  
 Authorized Program Facility (APF) 33, 37

## B

base software installation  
   described 51  
   IEBCOPY 52, 201, 202  
   methods 24  
   SMP/E 53  
 binary product libraries 26

## C

CALL %FA 183  
 CALL %FA command 181, 182  
 ChangeMan ZMF integration 69, 70, 73  
   defining 73  
   planning 33  
   SERCOMS load library 74, 150

- SERPARM dataset name 74, 151
- subsystem ID 74, 151
- TCP/IP library 74, 151
- CICS
  - configuration jobs 103
  - configuration server 126
  - CSD dataset name 82
  - DB2 support 83
  - DBI DDNAMEs 76
  - DBIs, maximum 75
  - dump database indexes 76
  - error detector server 126
  - group list 39
  - language server 126
  - library prefix 82
  - region definitions 77
  - region SYSIDNT 78
  - region/server assignment 77, 78
  - region/server assignment, deleting 80
  - regions 39
  - regions, maximum 75
  - server assignments 77
  - server selection 77
  - SMF LPAR name 82
  - SVC dumps 75, 83
  - SYSIDNT 78, 80, 81
  - System Definition (CSD) 39
  - system ID 39, 78, 80, 81
  - System Initialization Table (SIT) 78
  - version 34
  - version number 82
  - workload server 126
- CICS ABENDs 20
- CICS configuration
  - assigning CICS JOBS to a dump database 130
  - dump file storage definition 144
  - dump selection and distribution/ notification 132
  - duplicate dump suppression definition 140
- CICS control block 20
- CICS debug/viewing server 126
- CICS exits
  - capturing screens 174
  - detecting abends 16
- CICS Installation and Configuration Server (ICS)
  - described 21
- CICS region
  - assigning to dump database 131
  - security changes 35
- CICS server selection
  - exiting 81
- CICS trace table 19
- CICS transactions 193
- CICS\_DUMP\_MATCHING\_CRITERIA
  - operand 177
- CLISTs 37
- CMN\_SSID keyword 113
- COBOL
  - compile environment 86
  - Language Environment specifications 90
- COBOL debugging 18
- COBOL Language Server (CLS)
  - Database Key File (DBKF) 17
  - described 17
- COBOL statement
  - failing 153
- commands
  - UNHOOK 199
- compatibility mode 19
- compile generations, maximum 89
- components
  - workload server 16
- configuration checklist member 98, 192, 194
- Configuration Definition panels 67, 69, 70, 72, 150
- configuration file 127
- configuration IDs 34, 61
- configuration IDs, assigning 66
- configuration job directory member 95
- configuration jobs
  - checklist member 191
  - directory 98

- generating 93
  - Host Installation Configurator 93
  - instructions 98
  - JES subsystem 91
  - job card image 91
  - library 91, 98
  - member naming conventions 98
  - configuration library 62
  - Configuration Selection panel 63
  - configuration server
    - CICS 126
  - configurations
    - copying 65, 66
    - creating 65
    - deleting 65
    - editing 65
    - importing from a prior release 62
  - configurator
    - configuration IDs 61
    - described 24, 59
    - ESPYCL00 job 60
    - exiting 62
    - prerequisites 59
    - Primary Option panel 62
    - starting 61
    - SYSPROC concatenation for 25
    - TSO line command 62, 98
  - configurators
    - user exit CLISTS 61
  - consolidated software libraries 27, 55, 69, 70, 71, 201, 210, 216
  - control blocks
    - adding 184
    - defining AFCB 184
    - defining AID 184
  - control file 127
  - control statement
    - building 185
  - count
    - retry 114
  - CSI zones 42, 54, 208
  - customization
    - JCL member naming conventions 100
  - customizing
    - CICS dump database validation 61
    - CICS prefix and DBI CLIST 76
    - dump database validation 61
- D**
- DA subsystem name option 181
  - database files
    - ESPYBDF 128
    - ESPYCFG 127
    - ESPYCTL 127
    - ESPYDBxx 128
    - ESPYHLP 128
    - ESPYINF 127
    - ESPYLDF 128
    - ESPYTKF 127
    - ESPYWRK 127
  - database indexes (DBIs) 70
    - DDNAMEs 76
    - enabling remote dumps 110
  - databases
    - adding 130
    - assigning 130
    - changing description 130
  - DB2
    - configuration planning 40
    - DSN command 40
    - DSNTIAD utility 40
    - SDSNEXIT library 40
    - subsystem name 40
  - DB2 specifications 88
  - DBI
    - see Dump Database Index 30
  - DBIs
    - see dump database indexes
  - DBKF
    - see Database Key File (DBKF) 17
  - DD names
    - EMCT tables 162
  - DDname overrides 167
  - debug tool
    - integrating 181
  - debug/viewing server

- CICS 126
- Debugging and Viewing Server (DVS)
  - authorization 19
  - batch dumps 19
  - CICS control block facility 20
  - CICS dumps 19
  - CICS trace table 19
  - COBOL debugging facility 18
  - compatibility mode 19
  - described 18
  - environment 86
  - point-and-shoot facility 18
  - RACROUTE macro 19
  - remote dumps 110
  - viewing modes 19
- defining
  - abend codes 164
  - dump storage 146
  - duplicate dump criteria 141
- defining global configuration parameters
  - global parameters
    - defining 68
- DFHAFCS macro 184
- DFHPEP exit 174
- disassembler 19
- distribution libraries (DLIBs), SMP/E 28,  
55, 206, 210
- downloaded software 44
- DSECT file 128
- DSECTS
  - adding 184
- dump analysis
  - batch 17
  - CICS 17
  - Debugging and Viewing Server (DVS)  
18
  - debugging report 20
  - interactive 18
  - Mini Dump 20
- dump database
  - assigning dumps to 133
  - batch 31
  - CICS 31
  - described 16
  - indexes (DBIs) 17
    - management 16
    - notification fields 136
    - obsolete 33
    - organization 30
    - retention fields 135
    - selection fields 134
    - storage requirements 30
  - dump database allocation 70
  - dump database customization 71
  - dump database default DSN prefix 85
  - dump database index file 128
  - Dump Database Indexes (DBIs)
    - described 30
    - maximum 31
  - dump database indexes (DBIs) 70, 75
    - described 17
    - maximum 17
  - dump databases 70
    - configurable options, high-level 32
    - configurable options, low-level 32
    - maintenance 69
  - dump datasets 70
  - dump distribution criteria 132
  - dump options
    - requested with CALL %FA 183
  - dump selection criteria 132
  - dump storage
    - defining VSAM files 146
  - dump table options
    - DA subsystem name 181
  - dump viewing authorization 19
- dumps
  - assigning 133
  - distributing 132
  - notification of 136
  - selecting 132, 134, 142
- duplicate dumps
  - defining criteria 141

## E

- E table 162

- 
- E2 table 164
  - E3 table 166
  - editing
    - FTP input file 47
  - EMCT
    - defined 163
    - see Master Control Table 31
  - EMCT control table 85
  - EMCT table
    - A2 table 165
    - A3 table 165
    - defining abend codes 164
    - E2 table 164
    - E3 table 166
    - eighth digit 163
    - modifying 161
    - seventh digit 162
  - Error Detection Server (EDS)
    - batch 16
    - CICS 16
    - described 16
  - Error Detection Servers (EDSs)
    - ABEND detection 16
    - notifications 16
  - error detector server 126
    - CICS 126
  - ES00 transaction 129
  - ESnnWLST JCL procedure 108
  - ESPY transaction 181
  - ESPYALL DD 167
  - ESPYAMON program 196
  - ESPYAOPE
    - bypassing abend codes 176
    - using DFHPEP to capture screens 174
  - ESPYATCS module 176
  - ESPYATCS options
    - changing 180
  - ESPYATCS system table 182
  - ESPYBDF file 128
  - ESPYBOTH DD 167
  - ESPYCFG file 127
  - ESPYCL00 configurator job 60
  - ESPYCTL file 127
  - ESPYDBxx file 128
  - ESPYDUMP DD 168
  - ESPYDVS DD 167
  - ESPYE390 DD 167
  - ESPYETB macro 176, 182
  - ESPYHLP file 128
  - ESPYIBM DD 167
  - ESPYIGNR DD 168
  - ESPYINF file 127
  - ESPYIP01 panel 63
  - ESPYIP10 panel 63, 65, 93, 99
  - ESPYIP1A panel 67
  - ESPYIP1B panel 67, 91
  - ESPYIP1C panel 69, 72, 73, 150
  - ESPYIP1D panel 70
  - ESPYIP1E panel 68
  - ESPYIP1F panel 28, 71
  - ESPYIP1G panel 28, 72
  - ESPYIP1J panel 75
  - ESPYIP1P panel 88
  - ESPYIP1Q panel 85
  - ESPYIP1R panel 86
  - ESPYIP1S panel 73, 86
  - ESPYIP1T panel 86
  - ESPYIP1V panel 88
  - ESPYIP1X panel 89
  - ESPYIP20 panel 77, 78, 80, 81
  - ESPYIP3A panel 81
  - ESPYIP3B panel 76
  - ESPYIP5A panel 89
  - ESPYIP5B panel 90
  - ESPYIP7C panel 75, 83
  - ESPYIP7Z panel 91, 95
  - ESPYIP95 panel 94
  - ESPYIP99 panel 92, 93
  - ESPYLDF file 128
  - ESPYMCA2 table 161
  - ESPYMCA3 table 161
  - ESPYMe2 table 161
  - ESPYMINI DD 167
  - ESPYNODP DD 168
  - ESPYTKF file 127
  - ESPYWRK file 127
  - ESTR transaction 183
  - ESxxCyyy started task 34
-

ESxxESPM started task 34  
ESxxSPRM member 111  
ESYMCE3 table 161  
execution libraries 28, 72, 97

## F

### files

    ESPYBDF 128  
    ESPYCTL 127  
    ESPYDBxx 128  
    ESPYHLP 128  
    ESPYINF 127  
    ESPYLDF 128  
    ESPYTKF 127  
    ESPYWRK 127  
fix install 54  
FTP 24  
FTP errors 48  
FTP input file  
    creating 45  
    customizing 46, 47  
    defined 45  
    editing 47  
FTP.input file 47  
full install 54

## H

help file 128  
high-level qualifiers (HLQs)  
    &PFX prefix 205  
    &PFXI parameter 201  
    &PFXO parameter 201  
    allocation JCL HLQ 27  
    binary product libraries 26  
    consolidated software libraries 27,  
        52, 70, 72  
    database indexes (DBIs) 70  
    distribution libraries (DLIBs), SMP/E  
        29  
    dump databases 70

    execution libraries 72  
    global SMP/E HLQ 205  
    language database files (DBKFs) 70  
    naming conventions 46  
    PDS libraries 27, 52, 53, 201, 205  
    PDS libraries HLQ 49  
    PDS library HLQ 27  
    product files 46  
    production library HLQ 28  
    SMP/E target libraries (TLIBs) 70  
    somnode.CLS 60  
    somnode.input 52  
    somnode.INSTALL 62, 201, 205  
    somnode.JCS 52, 53, 201, 205  
    somnode.output 52  
    target libraries (TLIBs), SMP/E 27  
    transmitted file HLQ 26, 49  
    transmitted files 26  
    uncompressed product libraries 27,  
        52, 53, 201, 205  
    VSAM internal datasets, permanent  
        70  
    VSAM internal datasets, transient 71

### HLQs

    PDS libraries 27  
    transmitted files 26

### hook

    new interface  
    unhook  
        interface 200

### Host Installation Configurator 20

    CLIST setup 60  
    described 24  
    exiting 92  
    job card for install jobs 91  
    prerequisites 60  
    Primary Option Panel 63  
    startup command 62

## I

IBM Debug Tool  
    activating 182

IBM Language Environment (LE)  
 configuration planning 38  
 importing configurations from a prior  
 release 62

**IMS**

configuration planning 40  
 MACLIB 40  
 RESLIB 40

IMS specifications 88

information file 127

input libraries (TXLIBs), SMP/E 27, 206,  
 216

install jobs

member names 98

INSTALL library 25

installation jobs

CICS configuration jobs 103

general 102

installer requirements 24

Interactive Problem Control System  
 (IPCS) 19

configuration planning 37

internal datasets, non-VSAM 70

internal datasets, VSAM 70, 71

interval

retry 114

IP address, host 24

IPCS libraries 86

IPCS viewer 19

ISPF viewer 19

**J**

JCL member naming conventions 100

JCL overrides

ESPYALL DD 167

ESPYBOTH DD 167

ESPYDUMP DD 168

ESPYDVS DD 167

ESPYE390 DD 167

ESPYIBM DD 167

ESPYIGNR DD 168

ESPYMINI DD 167

job card specifications 91

Job Entry Subsystem (JES)

configuration planning 37

**L**

language database 128

Database Key File (DBKF) 17

described 17

management 17

language database files (DBDFs) 34

language database files (DBKFs) 90

high-level qualifier (HLQ) 70

retention 69

language databases (DBKFs) 70

maintenance 69

Language Processor environment 89

language server

CICS 126

languages

COBOL 38

IBM Language Environment (LE) 38

libraries

allocating 55, 210

binary product libraries 26

CICS product libraries 39

configuration job library 98

consolidated software libraries 27,  
 55, 69, 70, 71, 201, 210, 216

consolidated software library 25

distribution libraries (DLIBs), SMP/E  
 28

execution libraries 28, 72, 97

FTP input file 47

input libraries (TXLIBs), SMP/E 27

INSTALL library 25

IPCS libraries 86

JCL configuration jobs 91

panel ESPYIP1C 70

PDS libraries 27, 201, 205

PDS libraries HLQ 46, 51, 52, 53, 54,  
 55, 56, 57, 58

SERCOMS load library 74, 150

- SMP/E distribution libraries (DLIBs) 55, 206, 210
- SMP/E input libraries (TXLIBs) 206, 216
- SMP/E target libraries (TLIBs) 55, 206, 210, 216
- somnode.INSTALL 27, 62
- target libraries (TLIBs) 28, 69
- target libraries (TLIBs), SMP/E 27
- transmitted file HLQ 46
- TXLIB HLQ 54, 55, 56, 57, 58
- TXLIBs 53
- uncompressed product libraries 27, 201, 205, 216
- library naming conventions 26
- license SERTificates 103
- LINKLISTs 37
- LIST option 153

## M

- macros
  - DFHAFCS 184
  - ESPYETB 176, 182
  - RACROUTE 19
  - UDSE 182
- maintenance and housekeeping 69
- maintenance release 54
- MAP option 153
- Master Control Table (EMCT) 31
- mid-level qualifier (MLQ)
  - allocation JCL MLQ 27
- Mini Dump Debugging Report 17
  - described 20
  - viewing in ISPF 19
- mini dumps
  - A2 option 165
  - A3 option 165
  - E2 option 164
  - E3 option 166
  - EMCT table entry 163
  - implementing 164

- modifying the MVS control table (EMCT) 161
- MVS control table
  - abend code definitions 164
  - defined 163
  - global section 163
  - modifying 161
  - selection criteria 163

## N

- naming conventions
  - configuration IDs 61
  - JCL members 100
- notifications 16

## O

- online documentation 12
- operands
  - BYPASS\_TERMINAL\_TYPE\_PROCESSI  
NG\_ABEND\_CODE\_LIST 176
  - CICS\_DUMP\_MATCHING\_CRITERIA  
176, 177
  - DA\_DB2 178
  - DT\_ABEND\_CODE 178, 183
  - DT\_DUMP\_OPTION 178
  - DT\_MAX\_SEGMENT\_LV 183
  - SUBSYSTEM\_ID 178, 183
- options
  - installing 67

## P

- panel attributes 172
- panels
  - ESPYIP10 65, 93, 99
  - ESPYIP1C 73
  - ESPYIP1J 75
  - ESPYIP1T 86
  - ESPYIP20 77, 78, 80, 81

ESPYIP5B 90  
 patch installation 54  
 PC installer  
   starting 44  
 PDS libraries 27, 201, 205  
 PDS libraries HLQ 46, 51, 52, 53, 54, 55,  
   56, 57, 58  
 point-and-shoot facility 18  
 problems  
   workload server 197

## R

RACROUTE macro 19  
 README 9  
 Readme  
   accessing 9  
 RECEIVE job, SMP/E 55, 213  
 RECEIVE job, StarTool DA 26, 27, 47, 49  
 RECEIVE.TXT file 47  
 redundant SVC/system dumps  
   preventing 147  
 remote dumps 110  
 retry count 114  
 retry interval 114  
 REXX environment 89

## S

sample JCL  
   &CSI parameter 54, 55, 56, 57, 58,  
   205  
   &DA parameter 52, 54, 55, 56, 57,  
   58, 201, 205  
   &PFX parameter 54, 55, 56, 57, 58,  
   205  
   &PFXI parameter 52, 201  
   &PFXO parameter 52, 201  
   &WORKUNIT parameter 54, 55, 56,  
   57, 58, 205  
 DD statements, SMP/E 206  
 IEBCOPY 201

NONSMPE1 member 52, 202  
 SMP/E 205  
 SMP/E CSI definition 208  
 SMP/E execution dataset allocation  
   208  
 SMPEDD01 member 53, 206  
 SMPEJCL1 member 54  
 SMPEJCL2 member 55, 210  
 SMPEJCL3 member 55, 213  
 SMPEJCL4 member 56, 214  
 SMPEJCL5 member 56, 216  
 SMPEJCL6 member 57, 217  
 SMPEJCL7 member 58, 219  
 SMPEJCL $n$  members 53, 54  
 screen capture method, DA CICS 174  
 Screen Display and Search Facility  
   (SDSF)  
   P (Stop) command 109  
   S (Start) command 106  
 SDSF command input 121  
 SDSF operator command format 121  
 security  
   Authorized Program Facility (APF) 33  
   CICS region 35  
   installation 24  
   runtime 25  
   started tasks 34  
 SERCOMS load library 74, 150  
 SMP/E  
   ACCEPT CHECK job 57, 214, 217  
   ACCEPT job 28, 58, 194, 219  
   APPLY CHECK job 56, 214  
   APPLY job 56, 216  
   base installation process 53  
   Consolidated Software Inventory  
   (CSI) datasets 54  
   CSI zones 54, 208  
   defining CSI zones 54, 208  
   distribution libraries (DLIBs) 28, 55,  
   206, 210  
   execution dataset allocation 54, 208  
   input libraries (TXLIBs) 27, 206, 216  
   RECEIVE job 55, 213  
   sample DD statements 206

- target libraries (TLIBs) 27, 55, 69, 206, 210, 216
- TXLIB HLQ 54, 55, 56, 57, 58
- TXLIB libraries 53
- SMPE
  - CSI zones 54
- somnode.INSTALL library 27, 62
- started task
  - ESxxCyyy 34
  - ESxxESPM 34
- StarTool DA
  - Language Processor 89
- StarTool DA Batch
  - EMCT control table 85
  - validating a configuration 192
- StarTool DA CICS
  - ESPP transaction 193
  - ESST transaction 193
  - starting 193
  - stopping 193
  - system table 176
  - validating the configuration 192
- StarTool DA subsystem name 68
- StarTool MVS Control Table (EMCT) 85
- stopping workload server 109
- storage requirements
  - DASD 29
  - dump database 30
  - memory 29
  - software 29
- storage violations 131, 133, 141
- submitting the receive job 49
- SUBSYSTEM\_ID operand 178
- SYSIN keyword parameters 111
- SYSIN verbs 112
- system dumps 131, 133, 141
- System Management Facility (SMF) 16
  - configuration planning 37
- system table
  - changing options 180
  - ESPYATCS 182
- system table, StarTool DA CICS 176

## T

- table
  - A 162
  - E 162
- tables
  - ESPYMCA2 161
  - ESPYMCA3 161
  - ESPYMCE2 161
  - ESPYMCE3 161
- target libraries (TLIBs) 28, 69
- target libraries (TLIBs), SMP/E 27, 55, 206, 210, 216
- TCP/IP 24
- test mode 107, 108
- TEST parameter 108
- tickler file 127
- time interval 114
- TLIBs 28
- transactions
  - ES00 129
  - ESPY 181
- transmitted file HLQ 46
- transmitted files 26
- troubleshooting 195

## U

- UDSE macro 182
- uncompressed product libraries 27, 201, 205, 216
- UNHOOK command 199
- unloading product files 43
- user exits
  - ESPYUCL1, dump database validation CLIST 61
  - ESPYUCL2, CICS dump database validation CLIST 61
  - ESPYUCL2, CICS prefix and DBI CLIST 76

---

**V**

- validating StarTool DA Batch 192
- validating StarTool DA CICS 192
- validating the installation 25
- validation
  - checklist member 191
- view options
  - of the debug/viewing server 19
- VSAM datasets, permanent 70

**W**

- work file 127
- Workload Configurator
  - SYSIN verbs 112
- workload server 16
  - for CICS 126
  - problems 197
  - stopping 109
- Workload Server (WLS)
  - CMN\_SSID keyword 113
  - described 16
  - ESPYAMON program 196
  - ESxxSPRM member 111
  - JCL startup parameters 110
  - number installed 36
  - starting 106
  - startup 25
  - status inquiries 16
  - SYSIN keyword parameters 111
  - test mode 107, 108
  - troubleshooting 196
- worksheets
  - listed 36

**Z**

- ZMF Integration Option 9

