ZSS Cross Memory Server

Installation Instructions

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1. Introduction

1.1 Overview

ZSS Cross Memory Server is an authorized server application that provides privileged cross-memory services to unprivileged applications on z/OS in a secure manner.

2. Deployment

2.1 MVS Installation

2.1.1 Load modules

ZSS Cross Memory Server consists of a single load module with the name DOESRV01. This load module is supplied in the *hlq*.HDOE110.SDOELOAD data set as part of SMP/E install.

Note:

- This data set must be a PDSE due to language requirements.
- Where *hlq* is the high-level qualifier value. During the installation process, replace *hlq* with the data set name format that conforms to the naming standards for your installation.
- The started task must use a STEPLIB DD statement to declare the ZSS Cross Memory Server load library name. This is required so that the appropriate version of the software is loaded correctly. Do not add the *hlq*.HDOE110.SDOELOAD data set to the system LNKLST or LPALST concatenations.

2.1.2 PPT entry

A ZSS Cross Memory Server must run in key 4 and be non-swappable. For the server to start in this environment, a corresponding PPT entry must be added to the SCHEDXX member of the system PARMLIB. You can find an example of a PPT entry in the DOESCHED member of the *hlq*.HDOE110.SDOESAMP sample library.

2.1.3 APF-authorization

Due to the nature of the services ZSS Cross Memory Server provides, its load library requires APF-authorization. Before you start the server, make sure the *hlq*.HDOE110.SDOELOAD data set has been APF-authorized.

Example 1:

To check the APF-authorization status of *hlq*.HDOE110.SDOELOAD, enter:

```
D PROG,APF,DSNAME=hlq.HDOE110.SDOELOAD
```

Example 2:

To dynamically add the SMS-managed library *hlq*.HDOE110.SDOELOAD to the APF list, enter:

```
SETPROG APF,ADD,DSNAME=hlq.HDOE110.SDOELOAD,SMS
```

2.1.4 Started task JCL

ZSS Cross Memory Server runs as a started task. An example of the JCL can be found in the DOESRV01 member of the *hlq*.HDOE110.SDOESAMP sample library. You will need to copy the JCL to your system PROCLIB and adjust the STEPLIB DD according to the name *hlq*.HDOE110.SDOELOAD data set on your system.

The user assigned to the started task must have an OMVS segment.

See Appendix B for the runtime parameters that are accepted by the started task.

2.1.5 DOEPRM00 PARMLIB member

The ZSS Cross Memory Server started task requires a valid DOEPRMxx PARMLIB member to be found at startup. Member DOEPRM00 of the *hlq*.HDOE110.SDOESAMP data set contains the default configuration values. Copy this member into your system PARMLIB data set.

See Appendix A for PARMLIB parameter descriptions.

2.2 Security requirements

2.2.1 Required SAF classes and profiles

Once ZSS Cross Memory Server has been deployed and started, trusted applications can make requests for ZSS Cross Memory Server services on that system.

To protect the services from unauthorized callers, ZSS Cross Memory Server performs a sequence of SAF checks at various stages of the request.

System SAF requirements:

- The **FACILITY** class is active and **RACLIST**ed

Example 1:

To see the current class settings, enter the following TSO command:

```
SETROPTS LIST
```

Example 2:

To activate the FACILITY class, enter:

```
SETROPTS CLASSACT(FACILITY)
```

Example 3:

To RACLIST the FACILITY class, enter:

```
SETROPTS RACLIST(FACILITY)
```

A valid caller of ZSS Cross Memory Server services must have the following SAF authority:

- READ access to **DOE.SERVER01.RES01** in the **FACILITY** class

Example 1:

To define the DOE.SERVER01.RES01 profiles in the FACILITY class, enter:

```
RDEFINE FACILITY DOE.SERVER01.RES01 UACC(NONE)
```

Example 2:

To grant a user READ access to the DOE.SERVER01.RES01 profile, enter:

```
PERMIT DOE.SERVER01.RES01 CLASS(FACILITY) ID(user-id) ACCESS(READ)
```

Example 3:

To refresh the FACILITY class, enter:

```
SETROPTS RACLIST(FACILITY) REFRESH
```

Note: ZSS Cross Memory Server will treat 'no decision' style SAF return codes as failures. If there is no covering profile for DOE.SERVER01.RES01 resource in the FACILITY class, the user will be denied.

ZSS Cross Memory Server clients, might have additional SAF security requirements. For more information, see the documentation for the specific client.

3. Operating ZSS Cross Memory Server

3.1 Starting ZSS Cross Memory Server

ZSS Cross Memory Server runs as a started task. To start a ZSS Cross Memory Server, use the standard start z/OS operator commands.

ZSS Cross Memory Server supports reusable address spaces and can be started with the REUSASID=YES keyword.

For example:

S DOESRV01,REUSASID=YES

3.2 Modify commands

ZSS Cross Memory Server supports several modify commands to display service information, enable logging, and so on. The following table lists all the commands an operator can issue.

Command	Short name	Arguments	Description	Example
DISPLAY	D	[OPTION_NAME]	Print service information OPTION_NAME: • CONFIG - Print server configuration information (default)	F DOESRV,D
FLUSH	-	-	Print all pending log messages	F DOESRV,FLUSH
LOG	-	<COMP_ID> <LOG_LEVEL>	Set log level COMP_ID: • CMS - Cross memory server • CMSPC - PC routines • STC - STC base LOG_LEVEL: • SEVERE • WARNING • INFO • DEBUG • DEBUG2 • DEBUG3	The following command will enable log message from inside all services from all callers. F DOESRV,LOG CMSPC DEBUG

3.3 Stopping ZSS Cross Memory Server

Use the standard z/OS operator command (P) to stop ZSS Cross Memory Server.

For example:

```
P DOESRV01
```

ZSS Cross Memory Server is designed to be a long-lived address space. There is no requirement to recycle on a regular basis.

4. Appendix A - PARMLIB parameters

Name	Description	Example
DOE.SECMGMT.CLASS	The SAF class that is used in the security services	DOE.SECMGMT.CLASS=XFACILIT
DOE.SECMGMT.AUTOREFRESH	This parameter determines whether the security services automatically refresh the profiles in the DOE.SECMGMT.CLASS class after performing profile management operations.	DOE.SECMGMT.AUTOREFRESH=YES DOE.SECMGMT.AUTOREFRESH=NO

5. Appendix B – Runtime parameters

Name	Syntax	Description	Example
NAME	NAME=*your_server_name*	Server name	'NAME=DOETESTSVR01'
MEM	MEM=*parmlib_mem_suffix*	PARMLIB member suffix	MEM=02
DEBUG	N/A	Debug mode	PARM='DEBUG'
COLD	N/A	Discard any global data that is associated with the server name	PARM='COLD'

More detailed descriptions can be found below.

5.1 Running multiple ZSS Cross Memory Server instances

Some applications might need to use a certain version of ZSS Cross Memory Server (whereas other applications might require a newer version). To run several instances of ZSS Cross Memory Server, each unique instance must have its own name.

Specify a name using the NAME runtime parameter in the STC JCL. If you do not specify a name, the server will use the default name "DOESRV_STD".

5.2 COLD start

A ZSS Cross Memory Server instance uses common storage to make itself discoverable to the callers. If ZSS Cross Memory Server ends up in a broken state, an operator can use the COLD start runtime parameter to start the server with a clean slate.

NOTE: Contact IBM Support before using COLD start. Starting a server with the COLD start option will reset the other servers' state on the system and leak a small amount common storage.