HCL Z Data Tools

Version 17.1.0

Program Number 19OP1220

FMIDs:English

- AHFMG10
- BHFMG12
- BHFMG14
- BHFMG16

FMIDs:Japanese

- BHFMG11
- BHFMG13
- BHFMG15
- BHFMG17

Program Directory

Document Date:
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Note

Before using this information and the product it supports, be sure to read the general information under Notices on page 30.

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1. Introduction

This program directory is intended for system programmers who are responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of HCL Z Data Tools. This publication also refers to HCL Z Data Tools as ZDT.

The Program Directory contains the following sections:

- 2, Package Content on page 2 identifies the basic program materials and documentation for ZDT.
- 3, Program Support on page 4 describes the HCL support available for ZDT.
- 4, Installation Requirements and Considerations on page 5 identifies the resources and considerations that are required for installing and using ZDT.
- 5, Installation Instructions on page 12 provides detailed installation instructions for ZDT.

1.1 ZDT Description

HCL Z Data Tools provides comprehensive, user-friendly tools for working with IBM MQ data, HFS files and QSAM, VSAM, and IAM data sets. Optional features provide access to IMS™, Db2®, and CICS® resources.

1.2 ZDT FMIDs

Z Data Tools consists of the following FMIDs:

- AHFMG10 Z Data Tools Base
- BHFMG12 Z Data Tools/Db2
- BHFMG14 Z Data Tools/IMS
- BHFMG16 Z Data Tools/CICS

Japanese Components:

- BHFMG11 Z Data Tools Base
- BHFMG13 Z Data Tools/Db2
- BHFMG15 Z Data Tools/IMS
- BHFMG17 Z Data Tools/CICS

2. Package Content

ZDT is delivered as a separately installable package.

2.1 Downloaded Materials

The distribution medium for this program is downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E.

The downloaded materials for ZDT consist of these files:

AHFMG10.pax.Z	Compressed SMP/E RELFILES and SMPMCS
AHFMG10.readme.txt	Readme file with instructions and sample JCL
BHFMG1n.pax.Z	Optional components compressed SMP/E RELFILES
BHFMG1n.readme.txt	Optional components Readme files with instructions and sample JCL

where n = 2, 4, or 6 and n= 1, 3, 5 or 7 Japanese components

For more details see the Package Files tables in section 5.1.5 *Upload the web download package to the host* on page 14.

See 5, Installation Instructions on page 12 for more information about how to install the program.

2.2 Program Publications

This section identifies the publications for ZDT.

These publications can be obtained from https://help.hcl-software.com/zdt/welcome/index.html

ZDT Publications	
Publication Title	**Media Format**
HCL Z Data Tools Customization Guide	PDF
HCL Z Data Tools User's Guide and Reference	PDF
HCL Z Data Tools User's Guide and Reference for Db2 Data	PDF
HCL Z Data Tools User's Guide and Reference for IMS Data	PDF
HCL Z Data Tools User's Guide and Reference for CICS	PDF

3. Program Support

This section describes the HCL support available for ZDT.

Report any problems which you feel might be an error in the product materials to HCL Support.

HCL Software Customer Support is available at:

https://support.hcl-software.com/csm

You might be asked to gather and submit additional diagnostics to assist HCL Support in their analysis.

Product IDs			
FMID	**PID**	**Component Name**	**Release**
AHFMG10	19OP1220	ZDT Base	G10
BHFMG12	19OP1220	ZDT Db2	G12
BHFMG14	19OP1220	ZDT IMS	G14
BHFMG16	19OP1220	ZDT CICS	G16
BHFMG11	19OP1220	ZDT Base Japanese	G11
BHFMG13	19OP1220	ZDT Db2 Japanese	G13
BHFMG15	19OP1220	ZDT IMS Japanese	G15
BHFMG17	19OP1220	ZDT CICS Japanese	G17

4. Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating ZDT. The following terminology is used:

- *Driving system*: the system on which SMP/E is executed to install the program.
- *Target system*: the system on which the program is configured and run.

4.1 Driving and Target System Requirements

4.1.1 System Software Requirements

Requires a supported version of z/OS® plus hardware sufficient to run z/OS.

System Software Requirements		
Program Number	**Product Name**	**Minimum VRM**
5650-ZOS	z/OS	V02.05.00 or higher

Note:

See the following link to view supported z/OS levels:
https://www.ibm.com/support/pages/lifecycle/

Refer to product documentation for any additional target system software requisites.

4.1.2 DASD Storage Requirements

ZDT libraries can reside on all supported DASD types.

The figures in this section list the total space that is required for each type of library and describe the target and distribution libraries required to install ZDT.

Total DASD Space Required by ZDT		
Library Type	**Total Space Required in 3390 Trks**	**Description**
Target	4080 Tracks	All components installed
Distribution	4080 Tracks	All components installed
Extracted Relfiles and SMPMCS	3800 Tracks (approximate)	All components extracted. These are temporary data sets that can be removed after the SMP/E install.

The storage allocation values for both Target and DLIB data sets can be found in sample HFMALLOC.

The storage requirements of ZDT must be added to the storage required by other programs that have data in the same library.

Total DASD Space Required by ZDT Japanese Components		
Library Type	**Total Space Required in 3390 Trks**	**Description**
Target	1470 Tracks	All components installed
Distribution	1470 Tracks	All components installed
Extracted Relfiles and SMPMCS	1900 Tracks (approximate)	All components extracted. These are temporary data sets that can be removed after the SMP/E install.

Note:

Use the data in these tables to determine which libraries can be merged into common data sets. Because some ALIAS names may not be unique, you must ensure that no naming conflicts will be introduced before merging libraries.

ZDT Target Libraries					
Library DDNAME	**Member Type**	**Target Volume**	**ORG**	**RECFM**	**LRECL**
SHFMCLIB	Clist	ANY	PDS	FB	80
SHFMDBRM	Data	ANY	PDS	FB	80
SHFMEXEC	EXEC	ANY	PDS	FB	80
SHFMMAC1	Macro	ANY	PDS	FB	80
SHFMMENU	Message	ANY	PDS	FB	80
SHFMMODA	LMOD	ANY	PDSE	U	0
SHFMMOD1	LMOD	ANY	PDSE	U	0
SHFMMOD2	LMOD	ANY	PDSE	U	0
SHFMPENU	Panel	ANY	PDS	FB	80
SHFMSAM1	Sample	ANY	PDS	FB	80
SHFMSLIB	Skeleton	ANY	PDS	FB	80
SHFMTENU	Table	ANY	PDS	FB	80

- SHFMMOD1 must be a PDSE.
- SHFMMODA must be a PDSE.

ZDT Target Libraries Japanese Components					
Library DDNAME	**Member Type**	**Target Volume**	**ORG**	**RECFM**	**LRECL**
SHFMMJPN	Message	ANY	PDS	FB	80
SHFMMODJ	LMOD	ANY	PDSE	U	0
SHFMPJPN	Panel	ANY	PDS	FB	80
SHFMTJPN	Table	ANY	PDS	FB	80

ZDT Distribution Libraries			
Library DDNAME	**ORG**	**RECFM**	**LRECL**
AHFMCLIB	PDS	FB	80
AHFMDBRM	PDS	FB	80
AHFMEXEC	PDS	FB	80
AHFMMAC1	PDS	FB	80
AHFMMENU	PDS	FB	80
AHFMMODA	PDSE	U	0
AHFMMOD1	PDSE	U	0
AHFMMOD2	PDSE	U	0
AHFMPENU	PDS	FB	80
AHFMSAM1	PDS	FB	80
AHFMSLIB	PDS	FB	80
AHFMTENU	PDS	FB	80

- AHFMMOD1 must be a PDSE.
- AHFMMODA must be a PDSE.

ZDT Distribution Libraries Japanese Components			
Library DDNAME	**ORG**	**RECFM**	**LRECL**
AHFMMJPN	PDS	FB	80
AHFMMODJ	PDSE	U	0
AHFMPJPN	PDS	FB	80
AHFMTJPN	PDS	FB	80

5. Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of ZDT.

Note the following points:

- If you want to install ZDT into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets. Sample HFMALSMP is provided to assist in this task.
- You can use the sample jobs that are provided to perform part or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries that are required for SMP/E execution have been defined in appropriate zones.
- You can use the SMP/E dialogs instead of the sample jobs to accomplish the SMP/E installation steps.

5.1 Installing ZDT

5.1.1 SMP/E Considerations for Installing ZDT

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of ZDT.

Since the ZDT package contains optional components, the supplied SMP/E samples must be modified to select only those FMIDs required.

It is recommended that ZDT is installed into a new SMP/E environment, see sample HFMALSMP.

The SMPMCS for optional English components is supplied in the SMPMCS file for the base component (AHFMG10).

The SMPMCS for optional Japanese components is supplied in the SMPMCS file for the base component (BHFMG11).

5.1.2 SMP/E Options Subentry Values

The following table shows the recommended values for certain SMP/E CSI subentries.

Attention:

Using values lower than the recommended values can result in failures in the installation.

SMP/E Options Subentry Values		
Subentry	**Value**	**Comment**
DSSPACE	(1200,1200,1400)	Space allocation
PEMAX	SMP/E Default	HCL recommends using the SMP/E default for PEMAX.

DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry.

See the SMP/E manuals for instructions on updating the global zone.

5.1.3 Overview of the installation steps

Overview of steps required to install HCL Z Data Tools.

1. Allocate file system to hold web download package.
2. Upload the web download package to the host.
3. Extract and expand the compressed SMPMCS and RELFILEs.
4. Extract the sample jobs.
5. Create new SMP/E environment for ZDT.
6. Perform SMP/E RECEIVE.
7. Allocate SMP/E target and distribution libraries.

8. Create DDDEF entries.

9. Perform SMP/E APPLY.

10. Perform SMP/E ACCEPT.

11. Clean Up Obsolete Data Sets, Paths.

5.1.4 Allocate file system to hold web download package

The SMP/E input data sets to install HCL Z Data Tools are provided as compressed files in archive AHFMG10.pax.Z (and additional files containing optional components) which must be uploaded to z/OS as a z/OS UNIX file.

You can either create a new z/OS UNIX file system (zFS) or create a new directory in an existing file system to place the download package.

You can use the sample JCL in AHFMG10.readme.txt file to create a new file system, and directory, for the download package.

5.1.5 Upload the web download package to the host

Upload the AHFMG10.readme.txt file, and the AHFMG10.pax.Z file from your workstation to the z/OS UNIX file system. See the following table for the files and formats.

Upload files for the optional components as required.

Package Files		
File Name	**Format**	**Size (approximate)**
Required ZDT Base files		
AHFMG10.pax.Z	Binary	32 MB
AHFMG10.readme.txt	ASCII	21 KB

Optional ZDT/Db2 files		
BHFMG12.pax.Z	Binary	19 MB
BHFMG12.readme.txt	ASCII	21 KB
Optional ZDT/IMS files		
BHFMG14.pax.Z	Binary	2.6 MB
BHFMG14.readme.txt	ASCII	20 KB
Optional ZDT/CICS files		
BHFMG16.pax.Z	Binary	441 KB
BHFMG16.readme.txt	ASCII	20 KB
License utility files		
HCLLICSA.XMI	Binary	8 KB
HCLLICSA.readme.txt	ASCII	4 KB
Package Files Japanese Components		
File Name	**Format**	**Size (approximate)**
ZDT Base files Japanese		
BHFMG11.pax.Z	Binary	2.8 MB
BHFMG11.readme.txt	ASCII	20 KB
Optional ZDT/Db2 files Japanese		
BHFMG13.pax.Z	Binary	4.5 MB

BHFMG13.readme.txt	ASCII	20 KB
Optional ZDT/IMS files Japanese		
BHFMG15.pax.Z	Binary	1 MB
BHFMG15.readme.txt	ASCII	20 KB
Optional ZDT/CICS files Japanese		
BHFMG17.pax.Z	Binary	252 KB
BHFMG17.readme.txt	ASCII	19 KB

5.1.6 Extract and expand the compressed SMPMCS and RELFILEs

The AHFMG10.readme.txt file uploaded in the previous step holds a sample JCL to expand the compressed SMPMCS and RELFILEs from the uploaded AHFMG10.pax.Z files into data sets for use by the SMP/E RECEIVE job.

There is an equivalent *fmid*.readme.txt for all other components containing sample JCL.

The following tables list extracted data sets that are not used by ZDT, but are required as input for SMP/E.

Data Set Name	**ORG**	**RECFM**	**LRECL**
Required ZDT Base RelFiles and SMPMCS			
hlq.HCL.AHFMG10.F1	PDS	FB	80
hlq.HCL.AHFMG10.F2	PDS	FB	80
hlq.HCL.AHFMG10.F3	PDS	U	0
hlq.HCL.AHFMG10.F4	PDS	FB	80

hlq.HCL.AHFMG10.F5	PDS	FB	80
hlq.HCL.AHFMG10.F6	PDS	FB	80
hlq.HCL.AHFMG10.F7	PDS	FB	80
hlq.HCL.AHFMG10.F8	PDS	FB	80
hlq.HCL.AHFMG10.F9	PDS	FB	80
hlq.HCL.AHFMG10.F10	PDS	FB	80
hlq.HCL.AHFMG10.F11	PDSE	U	0
hlq.HCL.AHFMG10.F12	PDSE	U	0
hlq.HCL.AHFMG10.SMPMCS	SEQ	FB	80

Optional RelFiles for ZDT/Db2			
hlq.HCL.BHFMG12.F1	PDS	FB	80
hlq.HCL.BHFMG12.F2	PDS	FB	80
hlq.HCL.BHFMG12.F3	PDS	U	0
hlq.HCL.BHFMG12.F4	PDS	FB	80
hlq.HCL.BHFMG12.F5	PDS	FB	80
hlq.HCL.BHFMG12.F6	PDS	FB	80
hlq.HCL.BHFMG12.F7	PDS	FB	80
hlq.HCL.BHFMG12.F8	PDS	FB	80

hlq.HCL.BHFMG12.F9	PDS	FB	80
hlq.HCL.BHFMG12.F10	PDS	FB	80
hlq.HCL.BHFMG12.F11	PDS	FB	80
hlq.HCL.BHFMG12.F12	PDSE	U	0
Optional RelFiles for ZDT/IMS			
hlq.HCL.BHFMG14.F1	PDS	FB	80
hlq.HCL.BHFMG14.F2	PDS	FB	80
hlq.HCL.BHFMG14.F3	PDS	U	0
hlq.HCL.BHFMG14.F4	PDS	FB	80
hlq.HCL.BHFMG14.F5	PDS	FB	80
hlq.HCL.BHFMG14.F6	PDS	FB	80
hlq.HCL.BHFMG14.F7	PDS	FB	80
hlq.HCL.BHFMG14.F8	PDS	FB	80
hlq.HCL.BHFMG14.F9	PDSE	U	0
Optional RelFiles for ZDT/CICS			
hlq.HCL.BHFMG16.F1	PDS	FB	80
hlq.HCL.BHFMG16.F2	PDS	FB	80
hlq.HCL.BHFMG16.F3	PDS	U	0
hlq.HCL.BHFMG16.F4	PDS	FB	80

hlq.HCL.BHFMG16.F5	PDS	FB	80
hlq.HCL.BHFMG16.F6	PDS	FB	80
hlq.HCL.BHFMG16.F7	PDS	FB	80
hlq.HCL.BHFMG16.F8	PDSE	U	0
Data Set Name	**ORG**	**RECFM**	**LRECL**
Required ZDT Base RelFiles and SMPMCS Japanese component			
hlq.HCL.BHFMG11.F1	PDS	FB	80
hlq.HCL.BHFMG11.F2	PDS	U	0
hlq.HCL.BHFMG11.F3	PDS	FB	80
hlq.HCL.BHFMG11.F4	PDS	FB	80
hlq.HCL.BHFMG11.F5	PDS	FB	80
hlq.HCL.BHFMG11.SMPMCS	SEQ	FB	80
Optional RelFiles for ZDT/Db2 Japanese component			
hlq.HCL.BHFMG13.F1	PDS	FB	80
hlq.HCL.BHFMG13.F2	PDS	U	0
hlq.HCL.BHFMG13.F3	PDS	U	0
hlq.HCL.BHFMG13.F4	PDS	FB	80
hlq.HCL.BHFMG13.F5	PDS	FB	80
hlq.HCL.BHFMG13.F6	PDS	FB	80

Optional RelFiles for ZDT/IMS Japanese component			
hlq.HCL.BHFMG15.F1	PDS	FB	80
hlq.HCL.BHFMG15.F2	PDS	U	0
hlq.HCL.BHFMG15.F3	PDS	FB	80
hlq.HCL.BHFMG15.F4	PDS	FB	80
hlq.HCL.BHFMG15.F5	PDS	FB	80
Optional RelFiles for ZDT/CICS Japanese component			
hlq.HCL.BHFMG17.F1	PDS	FB	80
hlq.HCL.BHFMG17.F2	PDS	U	0
hlq.HCL.BHFMG17.F3	PDS	U	0
hlq.HCL.BHFMG17.F4	PDS	FB	80

Note:

These are temporary data sets, which can be removed after the SMP/E install.

5.1.7 Sample jobs

The following sample installation jobs are provided as part of the product to help you install ZDT. It is recommended that sample HFMCOPY is used to extract the other samples from the SMP/E RELFILES.

If you want to install the ZDT Japanese components, it is recommended that sample job HFMCOPYJ is used to extract the other samples from the SMP/E RELFILES.

Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
HFMCOPY	COPY	Sample to copy other sample members	hlq.HCL.AHFMG10.F2
HFMALSMP	ALLOCATE	Sample to allocate new SMP/E environment for ZDT and related products	hlq.HCL.AHFMG10.F2
HFMRECEV	RECEIVE	Sample SMP/E RECEIVE job	hlq.HCL.AHFMG10.F2
HFMALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	hlq.HCL.AHFMG10.F2
HFMDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	hlq.HCL.AHFMG10.F2
HFMAPPLY	APPLY	Sample SMP/E APPLY job	hlq.HCL.AHFMG10.F2
HFMACCEP	ACCEPT	Sample SMP/E ACCEPT job	hlq.HCL.AHFMG10.F2
Sample Installation Jobs Japanese Components			
Job Name	**Job Type**	**Description**	**RELFILE**
HFMCOPYJ	COPY	Sample to copy other sample members	hlq.HCL.AHFMG10.F2
HFMRECVJ	RECEIVE	Sample SMP/E RECEIVE job	hlq.HCL.AHFMG10.F2
HFMALLOJ	ALLOCATE	Sample job to allocate target and distribution libraries	hlq.HCL.AHFMG10.F2
HFMDDDFJ	DDDEF	Sample job to define SMP/E DDDEFs	hlq.HCL.AHFMG10.F2
HFMAPLYJ	APPLY	Sample SMP/E APPLY job	hlq.HCL.AHFMG10.F2
HFMACPTJ	ACCEPT	Sample SMP/E ACCEPT job	hlq.HCL.AHFMG10.F2

Expected Return Codes and Messages:

Return code of 0 is expected for all steps if each job runs correctly.

5.1.8 Create new SMP/E Environment for ZDT (Optional)

Edit and submit sample job HFMALSMP to create a new SMP/E environment for ZDT and related products such as Z Common Components.

5.1.9 Perform SMP/E RECEIVE

Edit and submit sample job HFMRECEV to perform the SMP/E RECEIVE for ZDT. Consult the instructions in the sample job for more information.

If you want to receive the ZDT Japanese components, edit and submit the sample job HFMRECVJ to perform the SMP/E RECEIVE for these components.

5.1.10 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job HFMALLOC to allocate the SMP/E target and distribution libraries for ZDT. Consult the instructions in the sample job for more information.

If you have received any ZDT Japanese components, edit and submit the sample job HFMALLOJ to allocate SMP/E target and distribution libraries for these components.

5.1.11 Create DDDEF Entries

Edit and submit sample job HFMDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for ZDT. Consult the instructions in the sample job for more information.

If you have received any ZDT Japanese components, edit and submit the sample job HFMDDDFJ to create DDDEF entries for the SMP/E target and distribution libraries for these components.

5.1.12 Perform SMP/E APPLY

1. Edit and submit sample job HFMAPPLY to perform an SMP/E APPLY CHECK for ZDT. Consult the instructions in the sample job for more information.

2. If you have received any ZDT Japanese components, edit and submit the sample job HFMAPLYJ to perform an SMP/E APPLY CHECK for these components.

3. After you take actions that are indicated by the APPLY CHECK, remove the CHECK operand and run the job(s) again to perform the APPLY.

5.1.13 Perform SMP/E ACCEPT

1. Edit and submit sample job HFMACCEP to perform an SMP/E ACCEPT CHECK for ZDT. Consult the instructions in the sample job for more information.
2. If you have applied any ZDT Japanese components, edit and submit the sample job HFMACPTJ to perform an SMP/E ACCEPT CHECK for these components.
3. After you take actions that are indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

5.1.14 Clean Up Obsolete Data Sets, Paths

The web download data sets listed in 5.1.6 “Extract and expand the compressed SMPMCS and RELFILEs” are temporary data sets. You can delete these data sets after you complete the SMP/E install.

5.2 HCL License Certificate Implementation

HCL should have provided you with the license certificates that you need to run this product on your z/OS systems. If you have not received them, contact your HCL representative.

This section describes how you install the license certificates on your systems and how you can bypass the requirement for users to have read access to the data sets in the system PARMLIB concatenation.

5.2.1 Installing an HCL Software Z product certificate

HCL Software Z products validate entitlement by examining a license certificate during execution. Accordingly, these license certificates must be made available to executing software by performing the steps listed below. Some steps may have already been performed if this is not the first time that an HCL Software Z licensed product has been installed on your system.

HCL Z product license certificates are 800 bytes in size, and the first 80-byte section contains readable EBCDIC text to help support staff identify the systems, products, and date ranges to which individual certificates pertain.

License certificate installation steps

1. Create a **TEMPCERT** DASD sequential data set with fixed-length 800-byte records to hold the license certificate to be uploaded. One track is sufficient for this temporary holding data set. A suggested name is *prefix*.TEMPCERT where *prefix* would typically be your user ID.
2. BINARY transfer any license certificates you have received to the **TEMPCERT** data set.
3. Make the certificate data accessible to address spaces executing on your system as follows:

   If you have already performed the first-time set up necessary for HCL Software Z products then proceed to step 3.b.

   a. If this is the first HCL Software Z product you have licensed, you will need to perform these once-only steps:

      i. Create a **HCLZCERT** HCL Software Z product license certificate repository. Ideally it will have a data set name that facilitates sufficiently wide read access. This data set will be read by all address spaces which execute HCL Software Z product components that verify license entitlement. You may elect to place this data set on shared DASD and use it for multiple z/OS systems. The ability to update this data set should be restricted to support personnel.

         The attributes of this DASD sequential data set are RECFM=FB and LRECL=800. An allocation of 2 tracks primary and 1 secondary should suffice. It must be cataloged on all systems from which it is to be referenced.

      ii. Create a member in the system PARMLIB concatenation called **HCLLICFN**. Create this member in any suitable library in the concatenation. If you are going to share the license repository across multiple systems, and these systems share a common PARMLIB library, you may wish to add the member to that library.

The member is to contain a single record which has the data set name of the system's **HCLZCERT** HCL Software Z license repository data set. Start the data set name in column 1. The name must be completely specified within the first 71 columns of the record. Leave the rest of the columns blank.

iii. Load the data in the **TEMPCERT** data set into **HCLZCERT** data set. Since the **HCLZCERT** data set has no previous data to preserve you can simply copy the records across using IEBGENER, IDCAMS REPRO, ISPF Move/Copy Utility, or your preferred equivalent copy utility program.

iv. When the license certificates are stored in the permanent **HCLZCERT** data set you can delete the **TEMPCERT** data set. Take a backup of the **HCLZCERT** data set using DFDSS or other means for data recovery purposes.

b. If you have already set up a **HCLZCERT** data set and the associated PARMLIB pointer to it, all you must do to activate the new licenses is to load the new certificates into the permanent **HCLZCERT** data set.

   Be careful not to overwrite any previous certificates which may still be active. Be sure to have a backup of the HCLZCERT data set before updating it.

   The simplest procedure is to append the new records after any pre-existing records. Specifying DISP=MOD in JCL when using IEBGENER and setting the Sequential Disposition to Mod when using the ISPF Move/Copy Utility are two easy ways to achieve this.

   After the update, back up your HCLZCERT data set again and then delete the TEMPCERT data set.

After the new certificate information has been loaded into the **HCLZCERT** data set, the newly licensed HCL Software Z product software should be able to verify entitlement successfully.

5.2.2 Bypassing the requirement for system PARMLIB access

License checking is performed each time a user runs the product.

In its default mode of operation, the license checker obtains the license repository data set name from the HCLLICFN PARMLIB member. Consequently, there is a requirement for all users to have read access to the data sets in the system PARMLIB concatenation. As at

many installations, this requirement may not be acceptable, a method of bypassing the requirement has been provided.

Supplied program HCLLICSA loads the contents of the HCLLICFN PARMLIB member into extended CSA storage and creates a Name/Token pair. The license checker always looks for the HCLLICFN data in the extended CSA storage first, so if HCLLICSA is run beforehand, users don't require access to the data sets in the system PARMLIB concatenation.

This then is how you eliminate the requirement for users to have read access to the data sets in the system PARMLIB concatenation: Include in your automated system initialization process, a job or started task which executes program HCLLICSA.

See HCLLICSA.readme.txt in the download package for instructions on how to obtain the license utility programs.

Here is sample JCL which runs the HCLLICSA program:

```
//STEP1 EXEC PGM=HCLLICSA
//STEPLIB DD DISP=SHR,DSN=library.ofHCL.software
```

The STEPLIB data set must be APF authorized and contain the HCLLICSA program.

The user ID that the job runs under must be able to read all the data sets in the system PARMLIB concatenation unless an HCLLICFN DD statement is supplied. See HCLLICSA.readme.txt for details.

A job step based on this JCL should be run soon after a system IPL. It would not need to be run again until the next IPL unless the license repository data set name is changed.

To delete the Name/Token pair and free the extended CSA storage, supply a program parameter as shown:

```
//STEP1 EXEC PGM=HCLLICSA,PARM=PURGENAME
//STEPLIB DD DISP=SHR,DSN=library.ofHCL.software
```

If the extended CSA storage has been corrupted and cannot be freed, or it is decided for integrity reasons that the storage should not be freed, but the requirement to delete the Name/Token pair still exists, then use this program parameter:

```
//STEP1 EXEC PGM=HCLLICSA,PARM=DELETEPTR
//STEPLIB DD DISP=SHR,DSN=library.ofHCL.software
```

In the cases where the PURGENAME or DELETEPTR parameters are used, the program does not access the system PARMLIB concatenation. Any other program parameter value is treated as if no parameter is present, and the extended CSA storage will be refreshed with the PARMLIB data accordingly.

5.3 Define PARMLIB members (Optional)

Z Data Tools (each component separately and independently) can optionally be set-up to use SAF-rule controlled auditing, based on the values set in certain members in SYS1.PARMLIB (or any other library in the system parmlib concatenation. The determination of whether to use SAF-rule controlled auditing is a customization task, and is described in the *Z Data Tools Customization Guide*. A specific SAF rule (or rules) need to be defined to activate SAF-rule controlled auditing and PARMLIB processing.

If these specific SAF rules are not defined, Z Data Tools components will not attempt to access SYS1.PARMLIB.

If you do not intend to use SAF-rule controlled auditing for any Z Data Tools component, you can skip the rest of this section.

When SAF-rule controlled auditing and PARMLIB processing is required for a Z Data Tools component, a specific member needs to be added to SYS1.PARMLIB (or any other library in the system parmlib concatenation). Default parmlib members are provided in hlq.SHFMSAM1.

If you intend to use SAF-rule controlled auditing for Z Data Tools base, copy member HFM0PARM to the appropriate system parmlib library.

If you are installing Z Data Tools/IMS and intend to use SAF-rule controlled auditing for Z Data Tools/IMS, copy member HFM1PARM to the appropriate system parmlib library.

If you are installing Z Data Tools/Db2 and intend to use SAF-rule controlled auditing for Z Data Tools/Db2, copy member HFM2PARM to the appropriate system parmlib library.

If you are installing Z Data Tools/CICS and intend to use SAF-rule controlled auditing for Z Data Tools/CICS, copy member HFM3PARM to the appropriate system parmlib library.

The *Z Data Tools Customization Guide* contains more information on customizing these members, and methods to include them in the system parmlib concatenation.

Note: Z Data Tools will not start when SAF-rule controlled auditing is active and the required parmlib member does not exist in the system parmlib concatenation.

5.4 Verify the Installation of Z Data Tools

To verify the successful installation of Z Data Tools base function, edit and submit the sample batch job HFMVERIF. Consult the instructions in the sample job for more information. This job will produce a listing showing the product level of Z Data Tools, and sample data file outputs. The job uses the DSP function and produces output in both hex and tabular form. There are three steps: using a sample COBOL template and copybook, using a sample HLASM copybook and using a PL/I INCLUDE book. HFMVERIF is distributed in hlq.SHFMSAM1.

To verify the successful installation and customization of Z Data Tools/Db2, Z Data Tools/IMS, and Z Data Tools/CICS, refer to the relevant section in the *Z Data Tools Customization Guide*.

5.5 Product Customization

The publication *HCL Z Data Tools V17R1 Customization Guide* contains the necessary information to customize ZDT.

6. Notices

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