IBM

Program Directory for

IBM Enterprise Developer Server for z/OS

Version 5 Release 0, Modification Level 0

Program Number 5655-I57

FMID H284500

for Use with
OS/390
z/OS

Document Date: August 2005

> **Note!**
>
> Before using this information and the product it supports, be sure to read the general information under "Notices" on page viii.

Contents

Figures

Notices

References in this document to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe on any of IBM's intellectual property rights may be used instead of the IBM product, program, or service. Evaluation and verification of operation in conjunction with other products, except those expressly designated by IBM, is the user's responsibility.

APAR numbers are provided in this document to assist in locating PTFs that may be required. Ongoing problem reporting may result in additional APARs being created. Therefore, the APAR lists in this document may not be complete. To obtain current service recommendations and to identify current product service requirements, always contact the IBM Customer Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

IBM may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to the

> IBM Director of Licensing
> IBM Corporation
> North Castle Drive
> Armonk, New York 10504-1785
> USA

For online versions of this book, we authorize you to:

- Copy, modify, and print the documentation contained on the media, for use within your enterprise, provided you reproduce the copyright notice, all warning statements, and other required statements on each copy or partial copy.

- Transfer the original unaltered copy of the documentation when you transfer the related IBM product (which may be either machines you own, or programs, if the program's license terms permit a transfer). You must, at the same time, destroy all other copies of the documentation.

You are responsible for payment of any taxes, including personal property taxes, resulting from this authorization.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Some jurisdictions do not allow the exclusion of implied warranties, so the above exclusion may not apply to you.

Your failure to comply with the terms above terminates this authorization. Upon termination, you must destroy your machine readable documentation.

Trademarks

The following terms are trademarks of the IBM Corporation in the United States or other countries or both:

CBPDO	MVS/SP
IBM®	MVS/XA
CICS	MVS/ESA
CICS/ESA	OpenEdition
CICS/MVS	OS/2
C/370	OS/390
DATABASE 2	ProductPac
DB2	RACF
DRDA	RETAIN
GDDM	SAA
IBM	SystemPac
IBMLink	System/370
IMS	System/390
IMS/ESA	S390
language Environment	EnterpriseDeveloper
MVS	

Domino is a trademark or registered trademark of Lotus Development Corporation.

Microsoft, Windows, Windows NT, and the Windows 95 logo are trademarks or registered trademarks of Microsoft Corporation.

Java is a trademark or registered trademark of Sun Microsystems, Inc..

1.0 Introduction

This program directory is intended for the system programmer responsible for program installation and maintenance. It contains information concerning the material and procedures associated with the installation of IBM Enterprise Developer Server for z/OS. This publication refers to IBM Enterprise Developer Server for z/OS as ED Server for z/OS. You should read all of this program directory before installing the program and then keep it for future reference.

The program directory contains the following sections:

- 2.0, "Program Materials" on page 3 identifies the basic and optional program materials and documentation for ED Server for z/OS.

- 3.0, "Program Support" on page 7 describes the IBM support available for ED Server for z/OS.

- 4.0, "Program and Service Level Information" on page 8 lists the APARs (program level) and PTFs (service level) incorporated into ED Server for z/OS.

- 5.0, "Installation Requirements and Considerations" on page 9 identifies the resources and considerations for installing and using ED Server for z/OS.

- 6.0, "Installation Instructions" on page 17 provides detailed installation instructions for ED Server for z/OS. It also describes the procedures for activating the functions of ED Server for z/OS, or refers to appropriate publications.

Before installing ED Server for z/OS, read 3.2, "Preventive Service Planning" on page 7. This section tells you how to find any updates to the information and procedures in this program directory.

Do not use this program directory if you are installing ED Server for z/OS with a SystemPac or ServerPac. When using these offerings, use the jobs and documentation supplied with the offering. This documentation may point you to specific sections of the program directory as required.

If you are installing ED Server for z/OS using the Custom-Built Product Delivery Offering (CBPDO, 5751-CS3), a softcopy program directory is provided on the CBPDO tape which is identical to the printed copy shipped with your order. Your CBPDO contains a softcopy preventive service planning (PSP) upgrade for this product. All service and HOLDDATA for ED Server for z/OS are included on the CBPDO tape.

1.1 ED Server for z/OS Description

The IBM WebSphere Studio family of products provides a set of program development tools that provide definition, test, generation, and runtime support for both web-based and traditional screen based programs. This includes COBOL, PL/I, Enterprise Generation Language, Java, and HTML technologies.

IBM WebSphere Studio Enterprise Developer V5.0 brings the power of Java 2 Platform Enterprise Edition (J2EE), Rapid Application Development(RAD), and robust team support to diverse enterprise application

development organizations. This significantly lowers the technological requirements of entry to modern application development and architecture. It embraces a component reuse, model-based development paradigm, to provide the rapid construction of well structured e-business systems delivered to WebSphere, as well as integrating traditional transactional environments (IBM CICS, IBM IMS).

IBM Enterprise Developer Server for z/OS provides multiple components to support the development and execution of programs when using IBM WebSphere Studio Enterprise Developer (WSED) for development. The list of components is as follows:

1. The runtime libraries required by COBOL programs generated using Enterprise Generation Language (EGL).

2. The runtime libraries required by Java programs generated using the Enterprise Generation Language(EGL) feature within WSED.

3. A 390 build server used for building native COBOL and PL/1 programs and COBOL programs generated using Enterprise Generation Language.

4. The sample JCL build scripts used by the build server to build COBOL programs generated using Enterprise Generation Language COBOL programs.

5. The modules necessary for WSED to interface with SCLM.

6. The modules necessary for the COBOL and PL/I tools (called IDE for z/OS) to receive error feedback when doing remote project builds.

IBM Enterprise Developer Server for z/OS (FMID: H284500) provides the modules and materials for the first component and IBM Enterprise Developer Server for z/OS - Options (Program number: 5724-B67, FMID: HEDS500) provides the remaining components. This program directory documents the installation and activation considerations for FMID H284500. For FMID HEDS500, see its associated program directory.

ED Server for z/OS also includes libraries that contain the procedures and utilities for preparing generated VisualAge Generator V4.5 programs for z/OS, and a run-time library that implements installation-specified error handling, transaction control, and other functions shared among the VisualAge Generator programs.

For more information about IBM WebSphere Studio Enterprise Developer V5.0 visit the following Website: www-3.ibm.com/software/ad/studioedm/.

1.2 ED Server for z/OS FMIDs

ED Server for z/OS consists of the following FMIDs:

H284500

2.0 Program Materials

An IBM program is identified by a program number and a feature number. The program number for ED Server for z/OS is 5655-I57.

Basic Machine-Readable Materials are materials that are supplied under the base license and feature code, and are required for the use of the product. Optional Machine-Readable Materials are orderable under separate feature codes, and are not required for the product to function.

The program announcement material describes the features supported by ED Server for z/OS. Ask your IBM representative for this information if you have not already received a copy.

2.1 Basic Machine-Readable Material

The distribution medium for this program is magnetic tape or downloadable files. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, "Installation Instructions" on page 17 for more information about how to install the program.

Figure 1 describes the physical tape. Figure 2 describes the file content.

Notes:

1. The data set attributes in these tables should be used in the JCL of jobs reading the data sets, but since the data sets are in IEBCOPY unloaded format, their actual attributes may be different.

2. If you are installing ED Server for z/OS using the Custom-Built Product Delivery Offering (CBPDO) (5751-CS3), some of the information in these figures may not be valid. Consult the CBPDO documentation for actual values.

3. If any RELFILEs are identified as PDSEs, ensure that SMPTLIB data sets are allocated as PDSEs.

Figure 1. Basic Material: Program Tape					
Medium	**Feature Number**	**Physical Volume**	**External Label**	**R/M ***	**VOLSER**
3480 Cart	5802	1	Ent Dev Server	N	284500
4mm Cart	6723	1	Ent Dev Server	N	284500
6250 Tape	5801	1	Ent Dev Server	N	284500

 * R/M = Restricted Materials of IBM

Figure 2. Program File Content				
Name	**ORG**	**REC FM**	**LREC L**	**BLK SIZE**
SMPMCS	SEQ	FB	80	6400
IBM.H284500.F1	PDSE	U	0	6144
IBM.H284500.F2	PDSE	FB	80	32720
IBM.H284500.F3	PDSE	U	0	6144
IBM.H284500.F4	PDSE	VB	255	32760
IBM.H284500.F5	PDSE	VB	151	32760

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for ED Server for z/OS.

2.3 Program Publications

The following sections identify the basic and optional publications for ED Server for z/OS.

2.3.1 Basic Program Publications

Figure 3 identifies the basic unlicensed program publications for ED Server for z/OS. One copy of each of these publications is included when you order the basic materials for ED Server for z/OS. For additional copies, contact your IBM representative.

Figure 3. Basic Material: Unlicensed Publications	
Publication Title	**Form Number**
IBM Enterprise Developer Server Version 5.0.0 Licensed Program Specifications	GC31-6319

In addition, the Enterprise Developer Server Guide for z/OS, Version 5.0.0 (SC31-6306) is available in softcopy format via download. This manual provides additional information about customizing and administering Enterprise Developer Server in the following environments:

- z/OS UNIX System Services (USS)
- z/OS
- CICS

The Enterprise Developer Server Guide for z/OS is intended for system administrators and system programmers responsible for installing, maintaining, and administering Enterprise Developer Server. It provides information to complete the following tasks:

- Manage system requirements
- Manage file utilization and conflicts

The Enterprise Developer Server Guide for z/OS is also intended for use by the programmers responsible for preparing and running Enterprise Developer programs. It provides information on the following items:

- Outputs of the generation process
- How to prepare generated programs for running
- Error codes
- How to use Enterprise Developer Server utilities
- How to diagnose and report problems

This publication is available in PDF format and accessible from the Product Web site at http://www-3.ibm.com/software/ad/studioedm/library/ or from the IBM Publications center at elink.ibmlink.ibm.com/public/applications/publications/cgibin/pbi.cgi

This publication is also available in BookManager format and accessible from the Product Web site at http://www-3.ibm.com/software/ad/studioedm/library/

2.3.2 Optional Program Publications

No optional publications are provided for ED Server for z/OS.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for ED Server for z/OS.

2.5 Publications Useful During Installation

The publications listed in Figure 4 may be useful during the installation of ED Server for z/OS. To order copies, contact your IBM representative or visit the IBM Publications Center on the world wide web at: elink.ibmlink.ibm.com/applications/public/applications/publications/ cgibin/pbi.cgi on the Internet.

Figure 4 (Page 1 of 2). Publications Useful During Installation	
Publication Title	**Form Number**
IBM SMP/E for z/OS and OS/390 User's Guide	SA22-7773
IBM SMP/E for z/OS and OS/390 Commands	SA22-7771
IBM SMP/E for z/OS and OS/390 Reference	SA22-7772

Figure 4 (Page 2 of 2). Publications Useful During Installation	
Publication Title	**Form Number**
IBM SMP/E for z/OS and OS/390 Messages, Codes, and Diagnosis	GA22-7770

3.0 Program Support

This section describes the IBM support available for ED Server for z/OS.

3.1 Program Services

Contact your IBM representative for specific information about available program services.

3.2 Preventive Service Planning

Before installing ED Server for z/OS, you should review the current Preventive Service Planning (PSP) information. If you obtained ED Server for z/OS as part of a CBPDO, there is HOLDDATA and PSP information included on the CBPDO.

If you obtained ED Server for z/OS on a product tape, or if the CBPDO is more than two weeks old when you install it, you should contact the IBM Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

For access to RETAIN, visit http://www.ibmlink.ibm.com/ on the Internet.

PSP Buckets are identified by UPGRADEs, which specify product levels, and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for ED Server for z/OS are:

Figure 5. PSP Upgrade and Subset ID		
UPGRADE	**SUBSET**	**Description**
EDS500	H284500	IBM Enterprise Developer Server for z/OS

3.3 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will provide the address to which any needed documentation can be sent.

Figure 6 identifies the component IDs (COMPID) for ED Server for z/OS.

Figure 6. Component IDs			
FMID	**COMPID**	**Component Name**	**RETAIN Release**
H284500	5655I5700	ED Server for z/OS	500

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of ED Server for z/OS. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs integrated.

4.1 Program Level Information

The following APAR fixes against previous releases of VisualAge Generator Server Version 1.2 have been incorporated into this release. They are listed by FMID.

- FMID H284500

PQ20424	PQ32789	PQ42754
PQ20683	PQ33414	PQ42941
PQ21249	PQ33998	PQ43492
PQ25311	PQ34122	PQ44155
PQ26899	PQ34751	PQ44780
PQ26900	PQ35726	PQ46527
PQ27532	PQ36097	PQ48463
PQ27856	PQ36297	PQ48941
PQ30768	PQ36337	PQ49372
PQ31180	PQ36343	PQ49468
PQ31181	PQ37440	PQ50565
PQ31288	PQ39197	PQ51671
PQ31289	PQ41045	PQ52615
PQ31515	PQ42744	PQ54737
PQ32605		

4.2 Service Level Information

No PTFs against this release of ED Server for z/OS have been incorporated into the product tape.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating ED Server for z/OS. The following terminology is used:

- *Driving system*: the system used to install the program.

- *Target system*: the system on which the program is installed.

In many cases, the same system can be used as both a driving system and a target system. However, you may want to set up a clone of your system to use as a target system by making a separate IPL-able copy of the running system. The clone should include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Some cases where two systems should be used include the following:

- When installing a new level of a product that is already installed, the new product will delete the old one. By installing onto a separate target system, you can test the new product while still keeping the old one in production.

- When installing a product that shares libraries or load modules with other products, the installation can disrupt the other products. Installing onto a test system or clone will allow you to assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system required to install ED Server for z/OS.

5.1.1 Machine Requirements

The driving system can run in any hardware environment that supports the required software.

5.1.2 Programming Requirements

Figure 7. Driving System Software Requirements	
Program Number	**Product Name and Minimum VRM/Service Level**
5655-G44	System Modification Program/Extended Version 3 Release 1 or higher
Any **one** of the following:	
5647-A01	OS/390 Version 2 Release 10
5694-A01	z/OS Version 1 Release 1 or higher

5.2 Target System Requirements

This section describes the environment of the target system required to install and use ED Server for z/OS.

ED Server for z/OS installs in the MVS (Z038) SREL.

5.2.1 Machine Requirements

The target system can run in any hardware environment that supports the required software.

5.2.2 Programming Requirements

5.2.2.1 Mandatory Requisites

A mandatory requisite is defined as a product that is required without exception; this product either **will not install** or **will not function** unless this requisite is met. This includes products that are specified as REQs or PREs.

Figure 8. Mandatory Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
5655-147	CICS Transaction Server V1.3 or higher
5648-A25	Enterprise COBOL for z/OS and OS/390 V2.1 or higher
Unicode	Support for Unicode for OS/390 or z/OS - this is available for web download for OS/390 V2.10 and z/OS V1.1. It is integrated into z/OS starting with V1.2.
Any **one** of the following:	
5647-A01	OS/390 Version 2 Release 10
5694-A01	z/OS Version 1 Release 1 or higher
Any **one** of the following:	
5665-HAL	TCP/IP Version 3.1 or higher
5665-311	IBM 3270/PC File Transfer Program/MVS R1 or higher

5.2.2.2 Functional Requisites

A functional requisite is defined as a product that is **not** required for the successful installation of this product or for the basic function of the product, but **is** needed at run time for a specific function of this product to work. This includes products that are specified as IF REQs.

Figure 9. Functional Requisites		
Program Number	**Product Name and Minimum VRM/Service Level**	**Function**
5655-F10	WebSphere MQ for z/OS V5.3 or higher	MQ message support
Any **one** of the following:		
5645-DB2	DB2 UDB for OS/390 V6.1 or higher	Database
5675-DB2	DB2 UDB for OS/390 V7.1 or higher	Database
Any **one** of the following:		
5655-158	IMS/ESA V6.1 or higher	Database, Data Communications
5655-B01	IMS/ESA V7.1 or higher	Database, Data Communications

5.2.2.3 Toleration/Coexistence Requisites

A toleration/coexistence requisite is defined as a product which must be present on a sharing system. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD at different time intervals.

ED Server for z/OS has no toleration/coexistence requisites.

5.2.2.4 Incompatibility (Negative) Requisites

A negative requisite identifies products which must *not* be installed on the same system as this product.

Figure 10. Negative Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
5688-150	CSP Runtime Service R1.0 (FMID = HCSP100).

5.2.3 DASD Storage Requirements

ED Server for z/OS libraries can reside on all supported DASD types.

Figure 11 lists the total space required for each type of library.

Figure 11 (Page 1 of 2). Total DASD Space Required by ED Server for z/OS	
Library Type	**Total Space Required**
Target	330 Tracks
Distribution	344 Tracks

Figure 11 (Page 2 of 2). Total DASD Space Required by ED Server for z/OS	
Library Type	**Total Space Required**
HFS	80 Tracks

Notes:

1. IBM recommends use of system determined block sizes for efficient DASD utilization for all non-RECFM U data sets. For RECFM U data sets, IBM recommends a block size of 32760, which is the most efficient from a performance and DASD utilization perspective.

2. Abbreviations used for the data set type are:

   U   Unique data set, allocated by this product and used only by this product. To determine the correct storage needed for this data set, this table provides all required information; no other tables (or program directories) need to be referenced for the data set size.

   S   Shared data set, allocated by this product and used by this product and others. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

   E   Existing shared data set, used by this product and others. This data set is NOT allocated by this product. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). This existing data set must have enough free space to accommodate the storage size given in this table.

   If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old one and reclaim the space used by the old release and any service that had been installed. You can determine whether or not these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

   For more information on the names and sizes of the required data sets, please refer to 6.1.5, "Allocate SMP/E Target and Distribution Libraries" on page 19.

3. Abbreviations used for the HFS Path type are:

   N   New path, created by this product.
   X   Path created by this product, but may already exist from a previous release.
   P   Previously existing path, created by another product.

4. All target and distribution libraries listed have the following attributes:

   - The default name of the data set may be changed
   - The default block size of the data set may be changed
   - The data set may be merged with another data set that has equivalent characteristics
   - Some data sets must be a PDS, all other are allocated as PDSE

5. All target libraries listed have the following attributes:

- The data set may be SMS managed
- It is not required for the data set to be SMS managed
- It is not required for the data set to reside on the IPL volume
- The values in the "Member Type" column are not necessarily the actual SMP/E element types identified in the SMPMCS.

6. All target libraries listed which contain load modules have the following attributes:

- Refer to 6.2.1.2.7, "Link Pack Area (LPA) Considerations" on page 46 for LPA considerations.
- It is not required for the data set to be in the LPA
- The data set may be in the LNKLST
- It is not required for the data set to be APF authorized

The following figures describe the target and distribution libraries and HFS paths required to install ED Server for z/OS. The storage requirements of ED Server for z/OS must be added to the storage required by other programs having data in the same library or path.

Note: The data in these tables should be used when determining which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

Figure 12. Storage Requirements for ED Server for z/OS Target Libraries								
Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SELACLST	CLIST	ANY	U	PDS	FB	80	9	5
SELACOPY	DATA	ANY	U	PDS	FB	80	5	8
SELADBRM	DATA	ANY	U	PDS	FB	80	2	5
SELAESF	DATA	ANY	U	PDSE	FB	80	4	N/A
SELAJCL	DATA	ANY	U	PDS	FB	80	7	6
SELAMFS	DATA	ANY	U	PDS	FB	80	7	6
SELALMD	LMOD	ANY	U	PDSE	U	0	186	N/A
SELAMOD1	LMOD	ANY	U	PDSE	U	0	1	N/A
SELAMOD2	LMOD	ANY	U	PDSE	U	0	2	N/A
SELAPNL	PANEL	ANY	U	PDS	FB	80	5	6
SELASAMP	SAMPLE	ANY	U	PDS	FB	80	60	10

Figure 13. ED Server for z/OS HFS Paths		
DDNAME	**TYPE**	**Path Name**
SELAHFS3	N	/usr/lpp/EnterpriseDeveloper/server/IBM
SELAHFS4	N	/usr/lpp/EnterpriseDeveloper/server/linux/IBM/
SELAHFS5	N	/usr/lpp/EnterpriseDeveloper/server/samples/IBM/

Figure 14. Storage Requirements for ED Server for z/OS Distribution Libraries						
Library DDNAME	**TYPE**	**ORG**	**RECFM**	**LRECL**	**No. of 3390 Trks**	**No. of DIR Blks**
AELACLST	U	PDSE	FB	80	9	N/A
AELACOPY	U	PDSE	FB	80	7	N/A
AELADBRM	U	PDSE	FB	80	1	N/A
AELAESF	U	PDSE	FB	80	29	N/A
AELAHFS	U	PDSE	VB	151	85	N/A
AELAJCL	U	PDSE	FB	80	8	N/A
AELAMFS	U	PDSE	FB	80	46	N/A
AELAMOD	U	PDSE	U	0	151	N/A
AELAMOD1	U	PDSE	U	0	1	N/A
AELAMOD2	U	PDSE	U	0	2	N/A
AELAPNL	U	PDSE	FB	80	5	N/A
AELASAMP	U	PDSE	FB	80	92	N/A

The following figures list data sets that are not used by SMP/E, but are required for ED Server for z/OS to execute.

Figure 15 (Page 1 of 2). Storage Requirements for ED Server for z/OS Non-SMP/E Data Sets						
Data Set Name	**TYPE**	**ORG**	**RECFM**	**LRECL**	**No. of 3390 Trks**	**No. of DIR Blks**
ELA.V5R0M0.ELACLST	U	PDS	FB	80	30	4

Figure 15 (Page 2 of 2). Storage Requirements for ED Server for z/OS Non-SMP/E Data Sets						
Data Set Name	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
ELA.V5R0M0.ELAJCL	U	PDS	FB	80	150	20
ELA.V5R0M0.ELASAMP	U	PDS	FB	80	88	14
ELA.V5R0M0.ELAWORK	U	PS	FBS	8192	75	12

Figure 16. Storage Requirements for ED Server for z/OS Non-SMP/E VSAM Data Sets			
Data Set Name	Avg. Record Size	Max. Record Size	Records
ELA.V5R0M0.ELACFIL	40	40	(50)
ELA.V5R0M0.DSNDBC.ELADBCTL. ELAWRKTS.I0001.A01	(Linear)		(50 50)
ELA.V5R0M0.DSNDBC.ELADBCTL. TEMPKEY.I0001.A01	(Linear)		(50 50)

5.3 FMIDs Deleted

Installing ED Server for z/OS may result in the deletion of other FMIDs. To see what FMIDs will be deleted, examine the ++VER statement in the product's SMPMCS.

If you do not wish to delete these FMIDs at this time, you must install ED Server for z/OS into separate SMP/E target and distribution zones.

Note: These FMIDs will not automatically be deleted from the Global Zone. Consult the SMP/E manuals for instructions on how to do this.

5.4 Special Considerations

ED Server for z/OS is designed to provide an alternate runtime environment for programs generated with VisualAge Generator Developer.

ED Server for z/OS is a complete replacement for VisualAge Generator Server Version 1.2, 1.1 and CSP370 Runtime Services. If you want to install ED Server for z/OS for concurrent use with one of these products, for example during a period of conversion, then you will need to install ED Server for z/OS in a zone that does not contain any of these products.

ED Server for z/OS reuses many part names from these predecessor products. For a list of datasets that can be removed when these predecessor products are removed refer to 6.1.11, "Cleaning Up Obsolete Data Sets, Paths, and DDDEFs" on page 22.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of ED Server for z/OS.

Please note the following:

- If you want to install ED Server for z/OS 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 jobs have been provided to help perform some or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries required for SMP/E execution have been defined in the appropriate zones.

- The SMP/E dialogs may be used instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing ED Server for z/OS

6.1.1 SMP/E Considerations for Installing ED Server for z/OS

This release of ED Server for z/OS is installed using the SMP/E RECEIVE, APPLY, and ACCEPT commands. The SMP/E dialogs may be used to accomplish the SMP/E installation steps.

6.1.2 SMP/E Options Subentry Values

The recommended values for some SMP/E CSI subentries are shown in Figure 17. Use of values lower than these may result in failures in the installation process. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. Refer to the SMP/E manuals for instructions on updating the global zone.

SUB-ENTRY	Value	Comment
DSSPACE	(600, 200, 100)	Space allocation for SMPTLIB data sets
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

Figure 17. SMP/E Options Subentry Values

6.1.3 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install ED Server for z/OS:

Figure 18. Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
ELAACCEP	ACCEPT	Sample ACCEPT job	IBM.H284500.F2
ELAALLOC	ALLOCATE	Sample job to allocate product libraries	IBM.H284500.F2
ELAAPPLY	APPLY	Sample APPLY job	IBM.H284500.F2
ELADDDEF	DDDEF	Sample job to define DDDEFs	IBM.H284500.F2
ELAISMKD	MKDIR	Sample job to allocate HFS paths	IBM.H284500.F2
ELARECEV	RECEIVE	Sample RECEIVE job	IBM.H284500.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the SMPTLIBs to a work data set for editing and submission. After the product has been received the jobs will be in IBM.H284500.F2.

OR

You may copy the jobs from the tape or product files by submitting the job below. Use either the //TAPEIN or the //FILEIN DD statement, depending on your distribution medium, and comment out or delete the other statement. Add a job card and change the lowercase parameters to uppercase values to meet your site's requirements before submitting.

```
//STEP1    EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//TAPEIN   DD DSN=IBM.H284500.F2,UNIT=tunit,VOL=SER=284500,
//         LABEL=(3,SL),DISP=(OLD,KEEP)
//FILEIN   DD DSN=IBM.H284500.F2,UNIT=SYSALLDA,DISP=SHR,
//         VOL=SER=filevol
//OUT      DD DSNAME=jcl-library-name,
//         DISP=(NEW,CATLG,DELETE),
//         VOL=SER=dasdvol,UNIT=SYSALLDA,
//         SPACE=(TRK,(118,20,20))
//SYSUT3   DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN    DD *
    COPY INDD=xxxxIN,OUTDD=OUT TYPE=MAC
    SELECT MEMBER=ELAACCEP
    SELECT MEMBER=ELAALLOC
    SELECT MEMBER=ELAAPPLY
    SELECT MEMBER=ELADDDEF
    SELECT MEMBER=ELAISMKD
    SELECT MEMBER=ELARECEV
/*
```

where **tunit** is the unit value matching the product tape, **filevol** is the volume serial of the DASD device where the downloaded files reside, **jcl-library-name** is the name of the output data set where the sample jobs will be stored, **dasdvol** is the volume serial of the DASD device where the output data set will reside and **xxxxIN** on the SYSIN DD to either TAPEIN or FILEIN depending on your input DD statement.

6.1.4 Perform SMP/E RECEIVE

Edit and submit sample job ELARECEV to perform the SMP/E RECEIVE for ED Server for z/OS. Consult the instructions in the sample job for more information.

NOTE: If you obtained ED Server for z/OS as part of a CBPDO, you can use the RCVPDO job found in the CBPDO RIMLIB data set to RECEIVE the ED Server for z/OS FMID as well as any service, HOLDDATA, or preventive service planning (PSP) information included on the CBPDO tape. For more information, refer to the documentation included with the CBPDO.

Expected Return Codes and Messages: RC=0

6.1.5 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job ELAALLOC to allocate the SMP/E target and distribution libraries for ED Server for z/OS. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=0

6.1.6 Allocate SMP/E Target Paths

Edit and submit sample job ELAISMKD to allocate the HFS paths for ED Server for z/OS. Consult the instructions in the sample job for more information.

If you plan to create a new HFS for this product, you should consider updating the BPXPRMxx PARMLIB member to mount the new HFS at IPL time. This may be helpful if an IPL occurs before the installation is complete.

Expected Return Codes and Messages: RC=0

6.1.7 SMP/E CALLLIBS Processing

ED Server for z/OS uses the CALLLIBS function provided in SMP/E to resolve external references during installation.

1. **All** of the following CALLLIB DDDEFs must be defined to SMP/E for installation of ED Server for z/OS.

    - The Mandatory Requisite product libraries must exist to install ED Server for z/OS

    - The Functional Requisite product library DDDEFs must be defined, however if the product is not installed on the target system allocate an empty PDS and define the DDDEF to point to the empty dataset. These are needed to satisfy dataset concatenations in the linkedit JCL used by SMP/E during installation.

2. **REQUIRED** Mandatory Requisite product library DDDEFs:

    - SCEELKED - Language Environment

- SDFHEXCI - CICS Transaction Server
- SDFHLOAD - CICS Transaction Server

3. **REQUIRED** Functional Requisite product library DDDEFs:

- RESLIB   - IMS
- SDSNLOAD - DB2
- SCSQLOAD - MQSeries

The DDDEFs above are used only to resolve the link-edit for ED Server for z/OS using CALLLIBS. These data sets are not updated during the installation of ED Server for z/OS.

To add any of the optional products after the installation of ED Server for z/OS change the DDDEF to point to the product dataset, run SMP/E report calllibs to create JCL to relink ED Server for z/OS. Submit the generated JCL to relink ED Server for z/OS using the new DDDEF.

6.1.8 Create DDDEF Entries

Edit and submit sample job ELADDDEF to create DDDEF entries for the SMP/E target and distribution libraries for ED Server for z/OS. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: RC=4

6.1.9 Perform SMP/E APPLY

Edit and submit sample job ELAAPPLY to perform an SMP/E APPLY CHECK for ED Server for z/OS. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the APPLY CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Once you have taken any actions indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

Note: The GROUPEXTEND operand indicates that SMP/E apply all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

Expected Return Codes and Messages from APPLY CHECK: RC=0

Expected Return Codes and Messages from apply: RC=4

The following messages are acceptable with a RC=4:

```
IEW2454W 9203 SYMBOL ........ UNRESOLVED.  NO AUTOCALL (NCAL)
   SPECIFIED.
IEW2646W 4B07 ESD RMODE(24) CONFLICTS WITH USER-SPECIFIED
   RMODE(ANY)
IEW2651W 511C ESD AMODE 24 CONFLICTS WITH USER-SPECIFIED AMODE 31
IEW2480W A711 EXTERNAL SYMBOL ........ OF TYPE LD WAS ALREADY
   DEFINED AS A SYMBOL OF TYPE LD IN SECTION .........
IEW2482W A712 THE ORIGINAL DEFINITION WAS IN A MODULE IDENTIFIED
   DDNAME SMP......  THE DUPLICATE DEFINITION IS IN
   SECTION ........  IN A MODULE IDENTIFIED BY DDNAME SMP......
GIM23903W   LINK-EDIT PROCESSING FOR SYSMOD ....... WAS SUCCESSFUL
   FOR MODULE ........ IN LMOD ....... IN THE ....... LIBRARY.
   THE RETURN CODE WAS 04.
```

6.1.10 Perform SMP/E ACCEPT

Edit and submit sample job ELAACCEP to perform an SMP/E ACCEPT CHECK for ED Server for z/OS. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the ACCEPT CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Before using SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. This will cause entries produced from JCLIN to be saved in the distribution zone whenever a SYSMOD containing inline JCLIN is ACCEPTed. For more information on the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E manuals.

Once you have taken any actions indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

Note: The GROUPEXTEND operand indicates that SMP/E accept all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

Expected Return Codes and Messages from ACCEPT CHECK: RC=0

Expected Return Codes and Messages from ACCEPT: RC=0

If PTFs containing replacement modules are being ACCEPTed, SMP/E ACCEPT processing will linkedit/bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder may issue messages documenting unresolved external references, resulting in a return code of 4 from the ACCEPT step. These messages can be ignored, because the distribution libraries are not executable and the unresolved external references will not affect the executable system libraries.

6.1.11 Cleaning Up Obsolete Data Sets, Paths, and DDDEFs

The following data sets, allocated and used by previous releases of this product, are no longer used in this release. You may choose to delete these obsolete data sets after you delete the previous release from your system.

- hlq.CRS210.AELACLST
- hlq.CRS210.AELACOPY
- hlq.CRS210.AELADBRM
- hlq.CRS210.AELAESF
- hlq.CRS210.AELAJCL
- hlq.CRS210.AELAMFS
- hlq.CRS210.AELAMOD
- hlq.CRS210.AELAPNL
- hlq.CRS210.AELASAMP
- hlq.CRS210.ELACLST
- hlq.CRS210.ELAJCL
- hlq.CRS210.ELASAMP
- hlq.CRS210.SELACLST
- hlq.CRS210.SELACOPY
- hlq.CRS210.SELADBRM
- hlq.CRS210.SELAESF
- hlq.CRS210.SELAJCL
- hlq.CRS210.SELALMD
- hlq.CRS210.SELAMFS
- hlq.CRS210.SELAPNL
- hlq.CRS210.SELASAMP
- hlq.CRS210.VB.SELACLST
- hlq.V1R1M0.AELACLST
- hlq.V1R1M0.AELACOPY
- hlq.V1R1M0.AELADBRM
- hlq.V1R1M0.AELAESF
- hlq.V1R1M0.AELAJCL
- hlq.V1R1M0.AELAMFS

- hlq.V1R1M0.AELAMOD
- hlq.V1R1M0.AELAPNL
- hlq.V1R1M0.AELASAMP
- hlq.V1R1M0.AELAUTIN
- hlq.V1R1M0.CSOERRC
- hlq.V1R1M0.CSOERRC.BASE
- hlq.V1R1M0.CSOERRC.BASE.DATA
- hlq.V1R1M0.CSOERRC.DATA
- hlq.V1R1M0.CSOINI
- hlq.V1R1M0.CSOINI.BASE
- hlq.V1R1M0.CSOINI.BASE.DATA
- hlq.V1R1M0.CSOINI.DATA
- hlq.V1R1M0.ELACLST
- hlq.V1R1M0.ELAJCL
- hlq.V1R1M0.ELASAMP
- hlq.V1R1M0.SELACLST
- hlq.V1R1M0.SELACOPY
- hlq.V1R1M0.SELADBRM
- hlq.V1R1M0.SELAESF
- hlq.V1R1M0.SELAJCL
- hlq.V1R1M0.SELALMD
- hlq.V1R1M0.SELALMD.CHS
- hlq.V1R1M0.SELALMD.DES
- hlq.V1R1M0.SELALMD.DEU
- hlq.V1R1M0.SELALMD.ENP
- hlq.V1R1M0.SELALMD.ESP
- hlq.V1R1M0.SELALMD.JPN
- hlq.V1R1M0.SELALMD.KOR
- hlq.V1R1M0.SELALMD.PTB
- hlq.V1R1M0.SELAMFS
- hlq.V1R1M0.SELAPNL
- hlq.V1R1M0.SELASAMP

- hlq.V1R1M0.SELAUTIN
- hlq.V1R1M0.VB.SELACLST
- hlq.V1R2M0.AELACLST
- hlq.V1R2M0.AELACOPY
- hlq.V1R2M0.AELACLST
- hlq.V1R2M0.AELACOPY
- hlq.V1R2M0.AELADBRM
- hlq.V1R2M0.AELAESF
- hlq.V1R2M0.AELAHFS
- hlq.V1R2M0.AELAJCL
- hlq.V1R2M0.AELAMFS
- hlq.V1R2M0.AELAMOD
- hlq.V1R2M0.AELAMOD1
- hlq.V1R2M0.AELAMOD2
- hlq.V1R2M0.AELAPNL
- hlq.V1R2M0.AELASAMP
- hlq.1R2M0.ELACLST
- hlq.1R2M0.ELAJCL
- hlq.V1R2M0.ELASAMP
- hlq.V1R2M0.SELACLST
- hlq.V1R2M0.SELACOPY
- hlq.V1R2M0.SELADBRM
- hlq.V1R2M0.SELAESF
- hlq.V1R2M0.SELAJCL
- hlq.V1R2M0.SELALMD
- hlq.V1R2M0.SELAMFS
- hlq.V1R2M0.SELAMOD1
- hlq.V1R2M0.SELAMOD2
- hlq.V1R2M0.SELAPNL
- hlq.V1R2M0.SELASAMP
- hlq.V1R2M0.VB.SELACLST

The following HFS paths, created and used by previous releases of this product, are no longer used in this release. You may choose to delete these obsolete HFS paths after you delete the previous release from your system.

- /usr/lpp/vgwgs31/IBM/
- /usr/lpp/vgwgs/vgwgs/IBM/
- /usr/lpp/vgwgs/vgwgs31/IBM/
- /usr/lpp/vgwgs/vgwgs40/IBM/

The following DDDEF entries, created and used by previous releases of this product, are no longer used in this release. You may choose to delete these obsolete DDDEF entries after you delete the previous release from your system.

- SELAHFS
- SELAHFS1
- SELAHFS2

6.2 Activating ED Server for z/OS

Although the product has been installed on your MVS system, some customization is required before additional verification procedures can be run and before ED Server for z/OS can be used.

Customization of ED Server for z/OS means tailoring the product for use in site-specific environments. This might include adding support for another product or changing values that are currently in effect.

This chapter contains the information you need to customize your installation of ED Server for z/OS.

- Figure 19 on page 27 lists all the possible customization tasks in the MVS host environment.
- The rest of the chapter consists of detailed descriptions of the customization procedures, including the panel dialog that results from running the interactive customization program in the ELACCUST CLIST.

In addition to the procedures described in this chapter, the table in Appendix A outlines the steps you follow to customize ED Server for z/OS after it has been installed—to add a new language feature or upgrade a related product, for example, or to do some further tailoring of ED Server for z/OS defaults.

In addition to the procedures described in this chapter, Appendix A contains a table that outlines the steps to follow if you need to customize ED Server for z/OS after it is installed.

6.2.1.1 Customization Tasks

The table in Figure 19 is divided up by environment. The tasks described under the **ALL** environment should be completed first. Other environments can be customized as desired. Tasks listed for environments in which the product will not be used can be ignored.

Figure 19. Customization Tasks for the Host Environment

Step #	Environment	Task Description	Job(s)
1	**ALL**	6.2.1.2.1, "Create Variable Blocked CLIST Data Set (Optional)" on page 28	ELACCNVT
2		6.2.1.2.2, "Installation Customization" on page 28	ELACCUST
3		6.2.1.2.3, "Change Default Installation Options" on page 43	ELACPIOP
4		6.2.1.2.4, "Change Language-dependent Options" on page 43	ELANJ*LLL*
5		6.2.1.2.5, "Modify LE Options and Exits" on page 44	None
6		6.2.1.2.6, "Links Required for LE Exits" on page 45 • LE exits used • LE exits used with CICS	 • ELACJCEM • ELACJCEC
7		6.2.1.2.7, "Link Pack Area (LPA) Considerations" on page 46	None
8		6.2.1.2.8, "Prepare ANSI SQL Program" on page 46	None
9		6.2.1.2.9, "Modify and Copy Compile and Link Procedures" on page 47	ELACJCPY
10		6.2.1.2.10, "Customize COBOL Generation Data Set Allocation CLIST" on page 49	None
11		6.2.1.2.11, "Run the Customization Verification Program (CVP)" on page 50	ELACJVP1
12	MVS/TSO	6.2.1.3.1, "Update MVS/TSO Concatenation Lists" on page 51	None
13		6.2.1.3.2, "Run the CVP for MVS/TSO" on page 51	• ELACVP2C
14	IMS/VS	6.2.1.4.1, "Install a Work Database" on page 52	• ELACJWKD • ELACJWK2 • ELACJPT2
15		6.2.1.4.2, "Install ED Server for z/OS PSBs" on page 58	ELACJPSB
16		6.2.1.4.3, "Modify IMS System Definition" on page 59	None
17		6.2.1.4.4, "Modify IMS Control and Message Region JCL" on page 60	ELACJDAT
18		6.2.1.4.5, "Assemble and Link the ED Server for z/OS Maps" on page 62	• ELACI*LLL* • ELACJCVM • ELACJRSM
19		6.2.1.4.6, "Run the IMS Online Change Utility" on page 63	OLCUTL
20		6.2.1.4.7, "Link and Run the Customization Verification Program for IMS" on page 64 • with DL/I work database • with DB2 work database	 • Transaction ELACVP3 • ELACJVP4 – Transaction ELACVP4
21	CICS	6.2.1.5.1, "Add CICS Diagnostic Controller Utility Support" on page 66	ELACJDCF
22		6.2.1.5.2, "Modify CICS Tables and Definitions" on page 70	None
23		6.2.1.5.3, "Modify CICS Region JCL" on page 74	None
24		6.2.1.5.4, "Run the CVP for CICS" on page 74	Transaction ELAC

6.2.1.2 ALL ENVIRONMENTS

All tasks described in this section are necessary for customization of ED Server for z/OS regardless of the program target environment(s) used with ED Server for z/OS. If you have changed the high-level qualifier from the default (ELA.V5R0M0), then use your value throughout the customization steps.

6.2.1.2.1 Create Variable Blocked CLIST Data Set (Optional): Modify member **ELACCNVT** in ELA.V5R0M0.SELAJCL per the comments in the JCL, then submit it to create a variable blocked CLIST data set. This data set is necessary if the data sets concatenated to your SYSPROC list are variable blocked.

6.2.1.2.2 Installation Customization: Member **ELACCUST** in data set ELA.V5R0M0.SELACLST contains a CLIST that will customize CLISTs, jobs, and samples. This CLIST will allocate data sets ELACLST, ELAJCL, and ELASAMP, edit selected members of the SELACLST, SELAJCL, and SELASAMP system libraries, and store these customized members in these new libraries.

Notes:

1. The CLISTs, jobs, and procedures in the ELACLST, ELAJCL, and ELASAMP libraries are replaced when you run the ELACCUST CLIST. If you have made extensive manual modifications to these members during system installation, you might want to manually tailor the jobs, procedures, and templates with the new values instead of running ELACCUST. If you decide to use ELACCUST, make back-up copies of these libraries, run ELACCUST, compare the newly generated libraries to the back-up copies, and manually enter any changes that might be required.

2. You can use job **ELACJCST** in ELA.V5R0M0.SELAJCL to pre-allocate the ELACLST, ELAJCL, AND ELASAMP data sets.

To run ELACCUST, enter the following TSO command from the ISPF environment:

```
EXEC 'ELA.V5R0M0.SELACLST(ELACCUST)' 'ELAHLQ(ELA.V5R0M0)'
```

Notes:

1. If you created a variable blocked CLIST data set in 6.2.1.2.1, "Create Variable Blocked CLIST Data Set (Optional)," then you would issue the following command instead:

   ```
   EXEC 'ELA.V5R0M0.VB.SELACLST(ELACCUST)' 'ELAHLQ(ELA.V5R0M0)'
   ```

2. The ELAHLQ parameter specifies the high-level qualifier for the ED Server for z/OS data sets. The default is ELA.V5R0M0.

Once a customized set of values has been saved, the values can be re-accessed by adding the keyword ELAPARM to the invocation of the ELACCUST CLIST. For example:

```
EXEC 'ELA.V5R0M0.SELACLST(ELACCUST)' 'ELAHLQ(ELA.V5R0M0)
      ELAPARM(xxxx)'
```

where **ELAPARM** specifies the identifier for the set of customized values, and **xxxx** are the four characters entered on the Modified Values Description panel on the first invocation of ELACCUST. See page 42.

Running this CLIST will display the panels that are mapped in Figure 20 and detailed starting with Figure 21 on page 32.

```
  ........                                                                    
 ╷ED       ╷                                                                 
  Server                                                                     
  Customization                                                              
 └........ ┘                                                                 
      │  ▲                                                                    
      │  │         ........                      ........                     
      │  │        ╷ED       ╷                   ╷ED       ╷   ■1  Prefix of    
      │ ┆·········▶ Server  ◀·┬·▶  1 ╷ Variables╷        Volume serial for customized
      │ ┆          System      └·    ╷          ╷        Name of custom      
      │  │          Variables ╵     └........ ■1┘        Name of ED work data set
      │  │         └........ ┘                            Default language code
      │  │                                                CICS, IMS, DB2      
      │  │     ....                                       
      │  └───▶ ╷A ╷                  ........             ■2  Volume serial for user
      │       │  ╵              2  ╷ Application ╷            Name for user data set
      │        \  /           ·°·▶  Preparation  ╷            Generation target system
      │         \./                 User Data Set ╷           Record format of MVS/TSO
      │       ╵                      Variables ■2 ╷          
      │                            └........ ┘    
      │                                                     ■3  IMS RESLIB data set name
      │                           ........                      ELAWORK database prefix
      │                    3  ╷ IMS      ╷                     ELAWORK database volume serial
      │                  ·°·▶   Variables ╷                    ELAWORK database volume
      │                          ╷         ╷        
      │                         └........ ■3┘        
      │                                                     ■4  CICS LOADLIB
      │                           ........                      CICS/ESA DBCS support required
      │                    4  ╷ CICS     ╷        
      │                  ·°·▶   Variables ╷        
      │                          ╷         ╷        
      │                         └........ ■4┘        
      │                                                     ■5  DB2 subsystem name
      │                           ........                      DB2 SDSNLOAD data set name
      │                    5  ╷ DB2      ╷                     DB2 SDSNEXIT data set name
      │                  ·°·▶   Variables ╷                    DB2 RUNLIB.LOAD data set name
      │                          ╷         ╷                   DSNTIAD plan name
      │                         └........ ■5┘                   ELAWORK STOGROUP VCAT
      │                                                         ELAWORK STOGROUP volume serial
      │                           ........            
      │                    6  ╷ COBOL & LE╷           ■6  COBOL compiler data set name
      │                  ·°·▶   Variables ╷               LE link edit data set name
      │                          ╷         ╷               LE run-time data set name
      │                         └........ ■6┘               LE CICS run-time data set name
      │                                            
      │                           ........            
      │                    7  ╷ JCL      ╷           ■7  JCL procedure library
      │                  ·°·▶   Variables ╷               Default JOB statement
      ▼                          ╷         ╷        
  ........                      └........ ■7┘        
 ╷Modified ╷                                        
  Values                                            
  Description    • Identifier for modified values   
 └........ ┘                                         
```

Figure 20 (Part 1 of 2). Overview of Customization Dialogs for ELACCUST

```
    ...
 ┌  ˚  ˚  ˚ ┐
 │    A    │                              ┌─┐
 └ \     / ┘                              │1│  Default language code
    \   /                                 └─┘  Bypass date edit on EOF
     \ /                                        IMS/ESA installed
      │                                          ED trace buffer size
      │      .................                   CICS temporary storage control
      │      :               :
      │····► │ ED            │
      │      │ Run-time      │
      │      │ Default       │
      │      │ Options       │
      │      │          ┌─┐  │
      │      :          │1│  :
      │      :..........└─┘..:
      │
      │      .................              ┌─┐
      │      :               :   .........  │2│  Gregorian date
      │      │ ED            │   :       :  └─┘  Julian date format
      └────► │ Language      │···► │ ED            Conversion table name
             │ Options       │   │ Language      Response character string
             │               │   │ Options       Decimal point character
             │               │   │               Numeric separator character
             :               :   │          ┌─┐  Currency symbol
             :...............:   :          │2│  SQL host variable and column indicator
                                 :..........└─┘..:
```
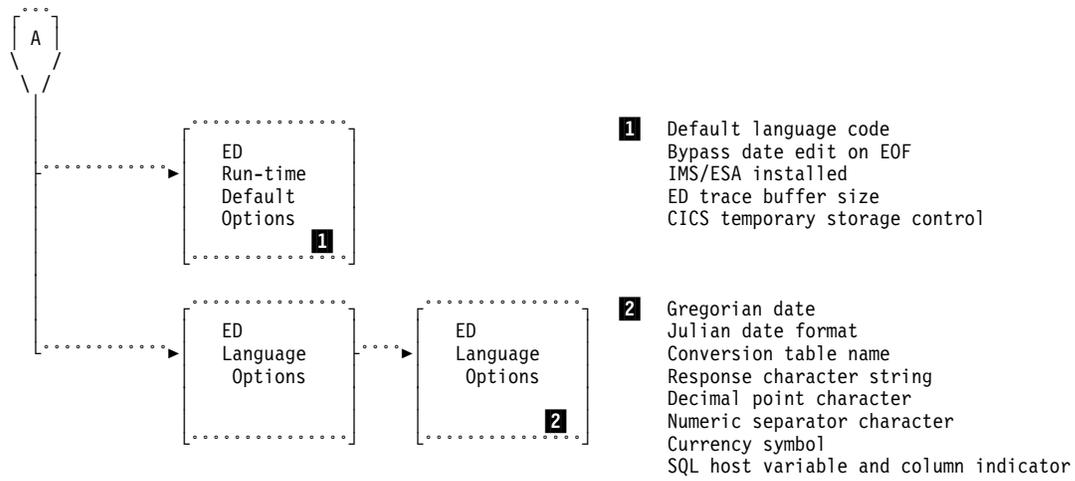
Figure 20 (Part 2 of 2). Overview of Customization Dialogs for ELACCUST

```
                    Enterprise Developer Server Customization
  Option ===>

     Select the desired service and press ENTER

     1  - Specify Enterprise Developer Server system variables

     2  - Specify Enterprise Developer Server run-time default
          options

     3  - Specify Enterprise Developer Server language dependent
          options


                     LICENSED MATERIAL - PROGRAM PROPERTY OF IBM

          5655-I57 (C) COPYRIGHT IBM CORP. 1994, 2002. ALL RIGHTS
          RESERVE US Government Users Restricted Rights - Use,
          duplication or disclosure restricted by GSA ADP Schedule
          Contract with IBM Corp.



  PRESS: END or PF3 to EXIT  HELP or PF1 for more information
```

Figure 21. ED Server for z/OS Installation Customization Panel (ELACCUST)

From this panel, select a service and press enter. Selecting option 1 will display the panel in Figure 22 on page 33. This service allows you to specify information which will be used to customize installation JCL, CLISTs, samples, etc. Selecting option 2 will display the panel in Figure 30 on page 38. This service will customize job **ELACPIOP** in ELA.V5R0M0.ELAJCL, which is used to produce the default run-time option module. Selecting option 3 will display the panel in Figure 32 on page 40. This service will customize job **ELANJ*LLL***—where **LLL** is a language code—in ELA.V5R0M0.ELAJCL, which is used to produce the language-dependent options module. See Figure 37 on page 44 for a list of three-character codes. This service should be repeated for each language installed.

When you exit from any service, a message will be displayed asking if the customization process should proceed. If you press EXIT again, no customization or changes will be processed. If you press ENTER, the ELACCUST CLIST will use the TSO editor and ISPF edit macros to produce customized members. The help for each panel will provide information for each option or input field.

```
                Enterprise Developer Server System Variables
   Option ===>

      Select the desired service and press ENTER

      1  - Specify Enterprise Developer variables

      2  - Specify program preparation user data set variables

      3  - Specify IMS variables

      4  - Specify CICS variables

      5  - Specify DB2 variables

      6  - Specify COBOL variables

      7  - Specify installation JCL variables




    PRESS: END or PF3 to EXIT  HELP or PF1 for more information
```

Figure 22. ED Server for z/OS System Variables Panel (ELACCUST)

On the following panels, pressing ENTER saves any changes and END cancels any changes before returning to the Customization or ED Server for z/OS System Variables panel.

```
              Enterprise Developer Server Variables
   ===>

 Enter data below:

   Prefix of Enterprise Developer customized data sets. ELA.V5R0M0

   Prefix of Enterprise Developer VSAM data sets....... ELA.V5R0M0

   Volume serial for Enterprise Developer data sets.... ELAVOL

   Unit name of Enterprise Developer data set volume... SYSDA

   Unit name of Enterprise Developer work data sets.... VIO

   Default language code..................... ENU

   Which of the following are installed?
     CICS.................................... YES     Yes or No
     IMS..................................... YES     Yes or No
     DB2..................................... YES     Yes or No

 PRESS: ENTER to save  END or PF3 to EXIT  HELP or PF1 for more information
```

Figure 23. ED Server for z/OS Variables Panel (ELACCUST)

```
         Specify Application Preparation User Data Set Variables
   ===>

  Enter data below:

     Volume serial for user data sets............. USRVOL
     Unit name for user data set volume........... SYSDA

Which of the following target systems will you be generating for?
     MVS CICS................................... NO      Yes or No
     MVS/TSO.................................... NO      Yes or No
     IMS/VS..................................... NO      Yes or No
     IMSBMP..................................... NO      Yes or No
     MVS Batch.................................. NO      Yes or No


  RECFM of TSO CLIST library.................. FB      VB or FB

 PRESS: ENTER to save  END or PF3 to EXIT  HELP or PF1 for more information
```

Figure 24. Specify Application Preparation User Data Set Panel (ELACCUST)

```
                              IMS Variables
===>

Enter data below:

   IMS RESLIB data set name........... SYS1.RESLIB

   ELAWORK database prefix............ DBSHLQ

   ELAWORK database volume serial..... DBSVOL

   ELAWORK database volume unit name.. DBSUNIT




 PRESS: ENTER to save  END or PF3 to EXIT  HELP or PF1 for more information
```

Figure 25. IMS Variables Panel (ELACCUST)

```
                              CICS Variables
===>

Enter data below:

 CICS LOADLIB data set name.................. DFH.SDFHLOAD

 CICS/ESA DBCS support required.............. NO     Yes or No




 PRESS: ENTER to save  END or PF3 to EXIT  HELP or PF1 for more information
```

Figure 26. CICS Variables Panel (ELACCUST)

```
                        DB2 Variables
  ===>

  Enter data below:

     DB2 subsystem name....................... DSN

     DB2 DSNLOAD data set name................ DSN.SDSNLOAD

     DB2 DSNEXIT data set name................ DSN.SDSNEXIT

     DB2 RUNLIB.LOAD data set name............ DSN.RUNLIB.LOAD

     DSNTIAD plan name........................ DSNTIA??

     ELAWORK STOGROUP VCAT.................... ELADB2

     ELAWORK STOGROUP volume serial number.... DB2VOL



  PRESS: ENTER to save  END or PF3 to EXIT   HELP or PF1 for more information
```

Figure 27. DB2 Variables Panel (ELACCUST)

```
                     IBM COBOL and LE Variables
  ===>

  Enter data below:

     COBOL compiler data set name..... IGY.SIGYCOMP

     LE link edit data set name....... CEE.SCEELKED

     LE run-time data set name........ CEE.SCEERUN

     LE CICS run-time data set name... CEE.SCEECICS



  PRESS: ENTER to save  END or PF3 to cancel  HELP or PF1 for more information
```

Figure 28. COBOL and LE Variables Panel (ELACCUST)

```
                          JCL Variables
===>

Enter data below:

   JCL procedure library.................... USER.PROCLIB

Enter JOB statement:

   //JOBNAME JOB (ACCOUNT),NAME,
   // CLASS=A,MSGCLASS=A,MSGLEVEL=(1,1),REGION=4M
   //*
   //*
   //*
   //*
   //*




 PRESS: ENTER to save  END or PF3 to cancel  HELP or PF1 for more information
```

Figure 29. JCL Variables Panel (ELACCUST)

6.2.1.2.2.1 Run-Time Default Options: The panel in Figure 30 is used for customizing the run-time default options. The table in Figure 31 explains the IBM-supplied default options.

```
                    Enterprise Developer Run-Time Default Options
  ===>

  Enter data below:

    Default language code.......................... ENU

    Bypass date edit on EOF........................ NO    Yes or No

    Fold special character fields.................. NO    Yes or No

    IMS/ESA installed.............................. NO    Yes or No

    Segmented CICS Critical Error Screens.......... NO    Yes or No

    CICS Critical Error Screens Transaction ID..... ELAE

    Enterprise Developer trace buffer size......... 64

    CICS temporary storage control interval size... 32



  PRESS: ENTER to save   END or PF3 to cancel   HELP or PF1 for more information
```

Figure 30. Run-time Default Options Panel (ELACCUST)

Figure 31. Run-time Default Options

OPTION	Value(s)	Default	Description
Default language code	*LLL*	ENU	Specifies the language code representing the language currently being customized. See Figure 37 on page 44 for a list of three-character codes.
Bypass date edit on EOF	N,Y	N	If N, specifies that a valid date must be entered before allowing a user to exit map. If Y, specifies that the user can bypass the edit checking of a date field by using the Erase EOF key on that field.
Fold special character fields	N,Y	Y	If Y, the special character fields will be folded from lower case to upper case and stripped of leading blanks. The special character fields are EZEAPP, EZEDEST, EZEDESTP, EZELOC and EZECONVT. If N, the special character fields will not be folded from lower case to upper case, but will be stripped of leading blanks.
IMS/ESA installed	N,Y	N	Specifies whether IMS/ESA is installed. For CICS users, if you are using local DL/I, IMS/ESA should be 'N' even if you have IMS/ESA installed.
Segmented CICS Critical Error Screens	N,Y	N	Specify Y if the Critical Error Screens are to run segmented (pseudo-conversational transaction).
CICS Critical Error Screens Transaction ID	Trans. Name	ELAE	Specifies the transaction ID to start if yes is specified to the previous question (Segmented CICS Critical Error Screens).
ED Server for z/OS trace buffer size	size in K	64	Specifies the buffer size in K for the ED Server for z/OS trace facility
CICS temporary storage control interval size	size in K	32	Specifies, in 1K increments, the CICS control interval size for the VSAM data sets allocated for CICS auxiliary temporary storage queues. The larger the size, the better the performance for pseudo-conversational programs.

6.2.1.2.2.2 Language-dependent Options: The panels in Figure 32 are used for customizing the language-dependent options. Initially, the first panel shows only the Language Code field; when a valid language code is entered, the default options for that language are displayed.

```
                  Enterprise Developer Server Language Options
  ===>

Enter language code and press ENTER

    Language code...............................



  PRESS: ENTER to save   END or PF3 to cancel   HELP or PF1 for more information
```

```
                  Enterprise Developer Server Language Options
   ===>

  Enter data below:

      Language code.............................. ENU

      Long Gregorian date format................... MM/DD/YYYY
      Short Gregorian date format.................. MM/DD/YY
      Long Julian date format...................... YYYY-DDD
      Short Julian date format..................... YY-DDD
      Conversion table name........................ ELACNENU
      Positive response character string........... YES
      Negative response character string........... NO
      Decimal point character...................... .
      Numeric separator character.................. ,
      Currency symbol.............................. $
      SQL host variable indicator.................. :
      SQL host column indicator.................... !



  PRESS: ENTER to save   END or PF3 to cancel   HELP or PF1 for more information
```

Figure 32. Language-dependent Options Customization Panels (ELACCUST)

The following table lists the language-dependent options for language code ENU (U.S. English) that are used by the panels in Figure 32. See Figure 37 on page 44 for a mapping of one- and three-character codes to their languages. Also refer to the *Planning* manual for defaults for other languages.

Figure 33. Language-dependent Options

OPTION	Value(s)	Default	Description
Language code	*LLL*	ENU	Specifies the language code representing the language currently being customized. (This is used in generation of the CSECT name.)
Long Gregorian date format	mask	MM/DD/YYYY	Specifies the default long Gregorian date edit mask. The long Gregorian date edit mask consists of 'DD', 'MM', and 'YYYY', in any order, separated by any valid separator character. Any non-numeric single-byte character, except 'D', 'M', and 'Y', is valid as a separator character.
Short Gregorian date format	mask	MM/DD/YY	Specifies the default short Gregorian date edit mask. The short Gregorian date edit mask consists of 'DD', 'MM', and 'YY', in any order, separated by any valid separator character. Any non-numeric single-byte character, except 'D', 'M', and 'Y', is valid as a separator character.
Long Julian date format	mask	YYYY-DDD	Specifies the default long Julian date. The long Julian date edit mask consists of 'DDD' and 'YYYY', in any order, separated by any valid separator character. Any non-numeric single-byte character, except 'D', 'M', and 'Y', is valid as a separator character.
Short Julian date format	mask	YY-DDD	Specifies the default short Julian date. The short Julian date edit mask consists of 'DDD' and 'YY', in any order, separated by any valid separator character. Any non-numeric single-byte character, except 'D', 'M', and 'Y', is valid as a separator character.
Conversion table name	xxxxxxxx	ELACN*LLL*	Specifies the default 1- to 8-character conversion table name, where *LLL* is what was specified for the language code on Figure 32 on page 40.
Positive response character string	yyy	YES	Specifies the 1- to 3-character string used by ED Server for z/OS to denote a positive response.
Negative response character string	nnn	NO	Specifies the 1- to 3-character string used by ED Server for z/OS to denote a negative response.
Decimal point character	x	.	Specifies the character used by ED Server for z/OS to denote a decimal point. The character specified must be a '.' or a ',' and must be distinct from the characters assigned for numeric separator and currency symbol.
Numeric separator character	x	,	Specifies the character used by ED Server for z/OS to denote a numeric separator. The character specified must be a ',' or a '.' and must be distinct from the characters assigned for decimal point and currency symbol.
Currency symbol	x	$	Specifies the character used by ED Server for z/OS to denote a currency symbol. The character specified must be distinct from the characters assigned for decimal point and numeric separator. The character specified must also be a valid COBOL currency symbol.
SQL host variable indicator	x	:	Specifies the character used by ED Server for z/OS as the SQL host variable indicator. The character assigned must be distinct from the character assigned for the SQL host column indicator.
SQL host column indicator	x	!	Specifies the character used by ED Server for z/OS as the SQL host column indicator. The character assigned must be distinct from the character assigned for the SQL host variable indicator.

6.2.1.2.2.3 Default Code Page Conversion Tables: A default code page conversion table is provided for each language. The conversion table name specified on the Language Dependent Options panel for the language being used at run-time is used if the program requests a default conversion table for cooperative processing support. The language conversion tables support the following code pages:

Figure 34. Default Code Page Conversion for SBCS Languages

Language	Conversion Table	ASCII Code Page	EBCDIC Code Page
English	ELACNENU	1252	037
Upper Case English	ELACNENP	1252	037
French	ELACNFRA	1252	297
German	ELACNDEU	1252	500
Italian	ELACNITA	1252	280
Swiss German	ELACNDES	1252	500
Spanish	ELACNESP	1252	284
Brazilian Portuguese	ELACNPTB	1252	037

Figure 35. Default Code Page Conversion for DBCS Languages

Language	Conversion Table	ASCII SBCS Code Page	ASCII DBCS Code Page	EBCDIC SBCS Code Page	EBCDIC DBCS Code Page
Simplified Chinese	ELACNCHS	1115	1380	836	837
Traditional Chinese	ELACNCHT	1144	947	037	835
Japanese	ELACNJPN	897	301	290	300
Japanese (Latin)	ELACNJPL	897	301	1027	300
Korean	ELACNKOR	1088	951	833	834

Note: Two Japanese tables are provided. ELACNJPN is the default table associated with the JPN language code. You can change the default table to ELACNJPL. ELACNJPN and ELACNJPL are shipped with the Japanese language for ED Server for z/OS.

6.2.1.2.2.4 Saving Modified Values: Upon exit from the Customization options panel in Figure 21 on page 32, you will be asked if the values should be saved. If you respond positively, then the panel in Figure 36 on page 43 is displayed and the information you enter is used to save the values that represent your customization of this ED Server for z/OS installation.

The Identifier for modified values field lets you specify a four-character identifier for the customization values you want to save. You should specify this value so you can change ED Server for z/OS customization values later.

```
                  Modified Values Description
 ===>

 Enter data below:

    Identifier for modified values........ CUST

    Enter a description of this set of modified values:


    _____
    _____
    _____
    _____




 PRESS: ENTER to save  END or PF3 to cancel  HELP or PF1 for more information
```

Figure 36. Saving Customized Values (ELACCUST)

6.2.1.2.3 Change Default Installation Options: ED Server for z/OS provides default installation options.
Job **ELACPIOP** in ELA.V5R0M0.ELAJCL will produce the installation options module. If you changed any
values on the Enterprise Developer Run-time Default Options panel (Figure 30 on page 38) you need to
run this job. If you accepted the default values on that panel, you can skip this step.

Submit job **ELACPIOP** to assemble and link-edit the installation options load module.

6.2.1.2.4 Change Language-dependent Options: ED Server for z/OS provides language-dependent
options that can be customized for each language being installed. Job **ELANJ*LLL*** in
ELA.V5R0M0.ELAJCL will produce the language-dependent options module. See Figure 37 on page 44
for a mapping of one- and three-character codes to their languages.

Submit job **ELANJ*LLL*** to assemble and link-edit the language-dependent option load module.

Figure 37 shows the one- and three-character codes for all the ED Server for z/OS languages.

Figure 37. Language Code Conversion Table

Language	1-Character Code	3-Character Code
English	E	ENU
Swiss German	W	DES
German	G	DEU
Spanish	S	ESP
Japanese	J	JPN
Korean	K	KOR
Brazilian (Portuguese)	P	PTB
Uppercase English	U	ENP
Chinese (Simplified)	C	CHS
Chinese (Traditional)	T	CHT
French	F	FRA
Italian	I	ITA

Note: You can run the ELACCUST CLIST to customize ELANJ***LLL***; see 6.2.1.2.2, "Installation Customization" on page 28 for details.

6.2.1.2.5 Modify LE Options and Exits

6.2.1.2.5.1 LE Abnormal Termination Option: Generated ED Server for z/OS programs for all environments rely on the LE Abnormal Enclave termination behavior to force an abend. This is done by setting ABTERMENC=(ABEND). You have the following options:

1. Assemble the global default module, CEEDOPT for non-CICS and CEECOPT for CICS environments, specifying ABTERMENC=(ABEND).
   This technique affects all COBOL modules running in each environment.

2. Assemble a program defaults module, CEEUOPT, specifying ABTERMENC=(ABEND). and link CEEUOPT with each generated program.
   This technique allows you to link the CEEUOPT module with generated programs without affecting non-ED Server for z/OS programs.

   If you use this technique for Enterprise Generation Language (EGL) generated COBOL programs, you will need to create an EGL link edit part which includes CEEUOPT. This part can then be used during the generation and build process of EGL. For more information on link edit parts and their use during generation see the WebSphere Studio Enterprise Developer help contents.

   If you use this technique for VisualAge Generator generated programs, you need to modify the VisualAge Generator preparation templates to include CEEUOPT in each link-edit step for the affected environment.

The above will normally be all that is needed, but you can refer to the installation and customization manual for your version of LE for more information on how to handle abend processing.

6.2.1.2.5.2 Working Storage Initialization Option: If ED Server for z/OS is being used to execute and prepare VisualAge Generator generated programs, this step may apply to you.

Generated VisualAge Generator COBOL programs for **non-CICS** environments rely on the LE working storage being initialized to binary zeroes to determine whether ED Server for z/OS has been initialized.

You have the following options:

 1. Assemble the global default module, CEEDOPT, specifying STORAGE=00 for the first subparameter (heap-allocation-value) of the STORAGE parameter.
    This technique affects all COBOL modules running in each non-CICS environment.

 2. Assemble a program defaults module, CEEUOPT, specifying STORAGE=(00), for the first subparameter (heap-allocation-value) of the STORAGE parameter, and link CEEUOPT with each generated program.
    This technique allows you to link the CEEUOPT module with generated programs without affecting non-ED Server for z/OS programs.

    If you use this technique, modify the VisualAge Generator preparation templates to include CEEUOPT in each link-edit step for non-CICS environments. Refer to the *VisualAge Generator Generation Guide* manual for details about tailoring the preparation templates.

Refer to the installation and customization manual for your version of LE for more information on how to initialize working storage.

*6.2.1.2.6 **Links Required for LE Exits:*** If you are using the system default version of CEECXITA and CEECOPT for CICS environments or CEEBXITA and CEEDOPT for non-CICS environments, you can skip to the next step.

If you using CICS environments, edit and run **ELACJCEC** in ELA.V5R0M0.ELAJCL according to the instructions in the job.

If you are using non-CICS environments, edit and run **ELACJCEM** in ELA.V5R0M0.ELAJCL according to the instructions in the job.

6.2.1.2.7 Link Pack Area (LPA) Considerations: The following load modules are not eligible for the LPA:

ELANCENU	ELARK24A	ELARK24B	ELARK240
ELARMAIN	ELARPRTR	ELARSDCB	ELARSINC
ELARSINT	ELASTB07	ELAZCHRT	ELAZSTI
ELA2SSQL	ELA2SSQX	ELA2SSQY	

Note: Any modules placed into the LPA should not be in any library in any STEPLIB, JOBLIB, or ISPLLIB concatenation list.

Migration consideration:

Many of the ED Server for z/OS load modules have the same names as VisualAge Generator Server Version 1.2, 1.1 and CSP370 Runtime Services load modules. If you are using VisualAge Generator Server Version 1.2, 1.1 or CSP370 Runtime Services and intend to run in parallel during the migration to ED Server for z/OS, you will have to move any VisualAge Generator Server Version 1.2, 1.1 and CSP370 Runtime Services load modules back into their product load library before you replace them in the LPA with the new ED Server for z/OS load modules of the same names.

6.2.1.2.8 Prepare ANSI SQL Program: This step can be skipped if you are not using ED Server for z/OS for the execution or preparation of VisualAge Generator generated COBOL programs.

If a non-IBM ANSI SQL data-base manager is to be used with this product instead of DB2, take the following steps:

1. Prepare COBOL source module ELARPANS in library ELA.V5R0M0.SELASAMP for execution as directed in the module prologue.

2. Customize the preparation procedures that invoke SQL preprocessing/bind to use the non-IBM data-base manager instead of DB2. The procedures were customized and placed in data set ELA.V5R0M0.ELASAMP during step 1 of the customization. The preparation procedures that might require customization are: ELAPCLB, ELACLB, ELAPC, ELAPTC, ELALB and ELAPTCLB. The preparation and execution JCL templates and execution CLISTs templates might need to be tailored when installing ED Server for z/OS.

3. Specify ANSISQL(YES) as a COBOL option for generation of all SQL programs.

6.2.1.2.9 *Modify and Copy Compile and Link Procedures:* **This step can be skipped if you are not using ED Server for z/OS for the execution or preparation of VisualAge Generator generated COBOL programs.**

Note: The compile and link JCL scripts needed to prepare generated Enterprise Generation Language (EGL) COBOL programs are shipped with WebSphere Studio Enterprise Developer for z/OS (Program No: 5724-B67, FMID: HEDS500) along with the build server. See its program directory for more information.

Figure 38 shows the catalogued JCL procedures shipped with ED Server for z/OS. These procedures are placed in ELA.V5R0M0.ELASAMP during step 2 of the customization process. All the procedures are used to prepare generated ED Server for z/OS programs. The templates shipped with ED Server for z/OS are the skeletons that the generation function uses to build the preparation JCL for generated programs. These templates invoke the preparation procedures shipped with ED Server for z/OS. Changes you make to the templates when you install ED Server for z/OS might require corresponding changes to the preparation procedures. Therefore, it is easier to do the tailoring for both the procedures and the templates at the same time.

Figure 38. ED Server for z/OS JCL Procedures

Procedure	Purpose
ELACL	COBOL compile and link
ELAPCLB	DB2 preprocessor, COBOL compile, link, and DB2 BIND
ELACLB	COBOL compile, link, and DB2 BIND. Used for programs that do not have any SQL statements, but that have specified a DB2 work database
ELAC	COBOL compile only
ELAPC	DB2 preprocessor and COBOL compile
ELAPTC	DB2 preprocessor, CICS translate and COBOL compile
ELAL	Link only
ELALB	Link and DB2 BIND
ELAPTCLB	DB2 preprocessor, CICS translator, COBOL compile, link, and DB2 bind
ELATC	CICS translator and COBOL compile
ELATCL	CICS translator, COBOL compile and link
ELARLINK	Link edit only for the re-link JCL

Submit member **ELACJCPY** in ELA.V5R0M0.ELAJCL to copy the ED Server for z/OS procedures into your procedure library.

Figure 39 on page 48 is an example of job ELACJCPY.

```
//****************************************************************
//*
//*  DOC: ELACJCPY - COPY ENTERPRISE DEVELOPER SERVER PROCEDURES
//*                    TO A PROCEDURE LIBRARY
//*
//*  LICENSED MATERIALS - PROPERTY OF IBM
//*  5655-I57 (C) COPYRIGHT IBM CORP. 1994, 2002
//*  SEE COPYRIGHT INSTRUCTIONS
//*
//*  STATUS = VERSION 5, RELEASE 0, LEVEL 0
//*
//*  TAILORING:
//*
//*      1.  TAILORING IS DONE BY CUSTOMIZATION CLIST (ELACCUST)
//*
//****************************************************************
//*
//ELACJCPY EXEC  PGM=IEBCOPY
//INDD     DD DISP=SHR,DSN=ELA.V5R0M0.ELASAMP
//OUTDD1   DD DISP=SHR,DSN=USER.PROCLIB
//SYSPRINT DD SYSOUT=*
//SYSIN    DD *
 COPY INDD=((INDD,R)),OUTDD=OUTDD1
 SELECT MEMBER=(ELACL,ELAPCLB,ELACLB,ELAC,ELAPC,ELAL,ELARLINK,
               ELALB,ELAPTCLB,ELATC,ELAPTC,ELATCL,ELAB)
```

Figure 39. Sample ELACJCPY Job

Migration consideration:

- The preparation procedures shipped with ED Server for z/OS have the same names as the preparation procedures for VisualAge Generator Server Version 1.2, 1.1 and CSP370 Runtime Services. If you plan to continue generating programs using VisualAge Generator Server Version 1.2, 1.1 or CSP370 Runtime Services at the same time that you are generating programs using ED Server for z/OS, you will need to include either a JES2 JOBPARM, a JES3 //*MAIN statement, or a JCLLIB statement after the preparation JOB statement to point to the correct procedure library. Alternatively, you can rename the preparation procedures for one product and change the preparation templates for that product to point to the new names. The following preparation procedures are affected by this:

  – ELACL
  – ELAPCLB
  – ELACLB
  – ELAC
  – ELAPC
  – ELAL
  – ELALB

6.2.1.2.10 Customize COBOL Generation Data Set Allocation CLIST: **This step can be skipped if you are not using ED Server for z/OS for the execution or preparation of VisualAge Generator generated COBOL programs.**

CLIST ELACUSER in data set ELA.V5R0M0.ELACLST was customized to allocate the user data sets required for COBOL generation. This CLIST can be further customized so that only the data sets required for a specific environment(s) will be allocated. In order to use this CLIST, data set ELA.V5R0M0.ELACLST **must** be placed before data set ELA.V5R0M0.SELACLST in the SYSPROC concatenation list. Follow the instructions in its comments and make sure that every COBOL generation user has the required data sets allocated. The customized CLIST should be run to allocate data sets necessary for EVERY environment in which the product will be used. These will be used when running the customization verification programs in each environment. Choice of environments include: IMSVS, MVSCICS, MVSBATCH, IMSBMP, TSO, OS2CICS. If the product is being installed for both the MVSBATCH and MVSCICS environments, for example, you should execute the CLIST and include keywords MVSCICS(Y) and MVSBATCH(Y). This will allocate all necessary user data sets for each of the two environments.

The following are keyword parameters within CLIST ELACUSER that may either be customized within the CLIST or may be overridden when executing the CLIST:

```
KEYWORD    VARIABLE    CHOICES
--------   --------    -------
IMSVS      Y         = allocate user data sets for this environment
MVSCICS    Y         = allocate user data sets for this environment
MVSBATCH   Y         = allocate user data sets for this environment
IMSBMP     Y         = allocate user data sets for this environment
TSO        Y         = allocate user data sets for this environment
OS2CICS    Y         = allocate user data sets for this environment

VOL        vvvvvv    = valid volume

UNIT       uuuuu     = valid unit name

HLQ        hhhhhhhh  = high-level qualifier for user data sets,
                         default = userID

CLST       FB        = allocate a fixed blocked clist library
           VB        = allocate a variable blocked clist library

DB2        Y         = DB2 databases will be used with this product

CBLK       cccccc    = valid CLIST data set blocksize

LBLK       llllll    = valid load library data set blocksize
```

Execute the customized CLIST to allocate the necessary user data sets for yourself by entering the following command:

```
EX 'ELA.V5R0M0.ELACLST(ELACUSER)' 'env(Y) VOL(vvvvvv) CLST(FB/VB)
DB2(Y/N) UNIT(uuuuu) HLQ(hhhhhhhh) CBLK(cccccc) LBLK(llllll)'
```

Note: that 'env' is replaced by any of the environment KEYWORDS, such as IMSVS or MVSCICS.

If it is not necessary to override keywords you may execute the CLIST by entering the following command:

```
EX 'ELA.V5R0M0.ELACLST(ELACUSER)'
```

6.2.1.2.11 Run the Customization Verification Program (CVP): If you are using a system default module to clear working storage, it must be made available in the link pack area, the link list, or in the STEPLIB of each batch job executing ED Server for z/OS.

The batch customization verification program, ELACVP1, is a ED Server for z/OS program that was generated as a COBOL program and shipped as an object module. It allows you to verify that ED Server for z/OS has been properly installed. To run this verification, submit member **ELACJVP1** in data set ELA.V5R0M0.ELAJCL. This job contains a step to run the program. The output from EZEPRINT should appear similar to the panel shown in Figure 40. The date appears in the upper-left corner and the time in the upper-right corner. The date is in the format MM/DD/YY.

```
 (Date)                                           (TIME)


                    Enterprise Developer Server



```

Figure 40. Customization Verification Panel

6.2.1.3 MVS/TSO ENVIRONMENT

This section can be skipped if you are not using ED Server for z/OS for the execution or preparation of VisualAge Generator generated COBOL programs.

The tasks described in this section are necessary for customization of ED Server for z/OS only if the MVS/TSO environment is a target environment for this product. If ED Server for z/OS generated programs will not be run in the MVS/TSO environment, this section can be skipped.

6.2.1.3.1 *Update MVS/TSO Concatenation Lists:* Data set ELA.V5R0M0.SELALMD must be added to the STEPLIB concatenation list of your TSO logon procedure or its contents must be moved to a data set in the LNKLST concatenation list. In addition, the LE run-time data sets must be made available. If you are using a system default module to clear working storage, it must also be made available.

If the load libraries in your STEPLIB concatenation list are authorized data sets, then ELA.V5R0M0.SELALMD must also be made an authorized data set. (ED Server for z/OS has no special requirements for running authorized.)

6.2.1.3.2 *Run the CVP for MVS/TSO:* CLIST **ELACVP2C** in ELA.V5R0M0.ELACLST runs program ELACVP2, which is the customization verification program for MVS/TSO. ELACVP2 is a ED Server for z/OS program that was generated as a COBOL program and shipped as an object module. It allows you to verify that ED Server for z/OS is properly installed. To run the program:

- Log on to TSO using the logon procedure customized in the previous step and enter:

```
EXEC 'ELA.V5R0M0.ELACLST(ELACVP2C)'
```

  The resulting map should look similar to the panel shown in Figure 41.

```
              Enterprise Developer Server




  PRESS PF1
```
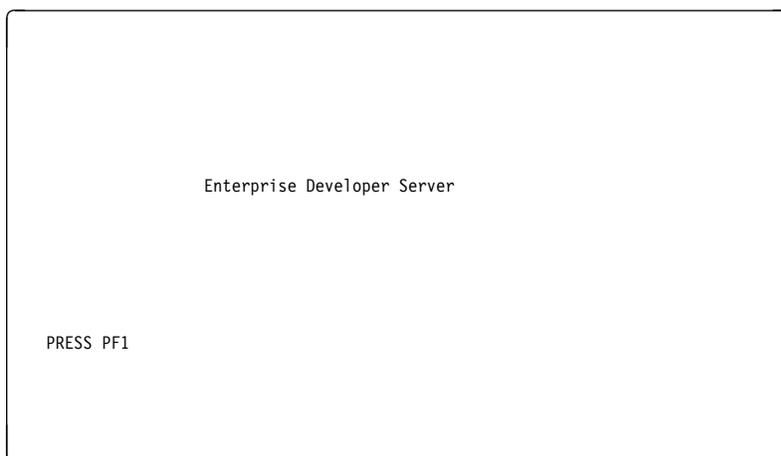
Figure 41. Customization Verification Panel

- Press the PF1 key.

  The map should look similar to the panel shown in Figure 42, displaying a message indicating the successful installation of the product. The date appears in the upper-left corner, the time in the upper-right corner. The date is in the format MM/DD/YY.

```
(Date)                                            (TIME)




                   Enterprise Developer Server

                INSTALLATION HAS BEEN VERIFIED
```
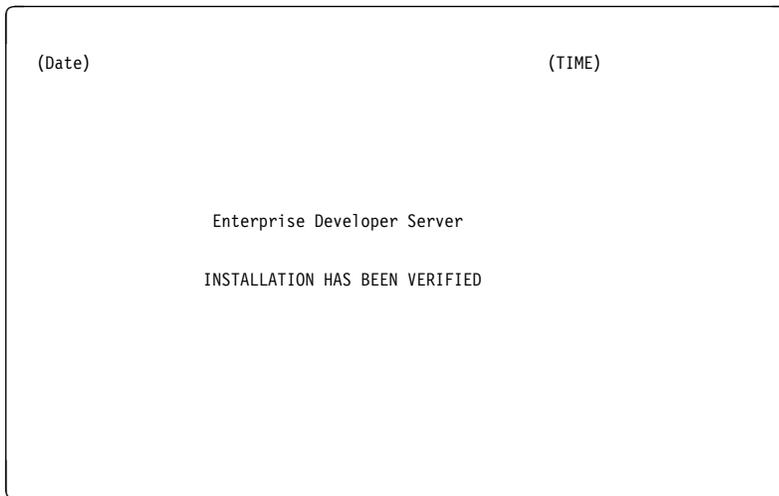
Figure 42. Customization Verification Panel

- Press the PF3 key to exit the customization verification program.

6.2.1.4 IMS/VS ENVIRONMENT

This section can be skipped if you are not using ED Server for z/OS for the execution or preparation of VisualAge Generator generated COBOL programs.

The tasks described in this section are necessary for customization of ED Server for z/OS only if IMS/VS is a target environment for this product. If ED Server for z/OS generated programs will not be run in the IMS/VS environment, this section can be skipped.

6.2.1.4.1 Install a Work Database: Migration consideration:

- If you previously installed a work database for IBM SAA Cross System Product/370 Runtime Services or VGen Host Services 1.1, you can skip this step.

6.2.1.4.1.1 DL/I Work Database: If you plan to use a DL/I implementation for the work database, you might need to tailor the data-base description (DBD) before you run the job that creates and initializes the DL/I work database. Figure 43 shows the DBD for the work database. The source for the DBD is supplied as ELAWORK in ELA.V5R0M0.ELASAMP.

```
****************************************************************
**      DBD FOR ENTERPRISE DEVELOPER SERVER ELAWORK DATABASE
****************************************************************
        DBD    NAME=ELAWORK,                                    X
               ACCESS=(HDAM,OSAM),                              X
               RMNAME=(DFSHDC40,3,wblks)
        DATASET DD1=ELAWORK,DEVICE=3380,SIZE=8192
        SEGM   NAME=ELAWCNTL,                                   X
               BYTES=(160),                                     X
               PARENT=0
        FIELD NAME=(WORKKEY,SEQ,U),                             X
               BYTES=8,                                         X
               START=1,                                         X
               TYPE=C
        SEGM   NAME=WORKLV01,                                   X
               PARENT=ELAWCNTL,                                 X
               BYTES=(4060,4),                                  X
               RULES=(,LAST)
        SEGM   NAME=WORKLV02,                                   X
               PARENT=WORKLV01,                                 X
               BYTES=(4060,4),                                  X
               RULES=(,LAST)
 ⋮
        SEGM   NAME=WORKLV14,                                   X
               PARENT=WORKLV13,                                 X
               BYTES=(4060,4),                                  X
               RULES=(,LAST)
        SEGM   NAME=MSGLV01,                                    X
               PARENT=ELAWCNTL,                                 X
               BYTES=(4060,4),                                  X
               RULES=(,LAST)
        SEGM   NAME=MSGLV02,                                    X
               PARENT=MSGLV01,                                  X
               BYTES=(4060,4),                                  X
               RULES=(,LAST)
 ⋮
        SEGM   NAME=MSGLV14,                                    X
               PARENT=MSGLV13,                                  X
               BYTES=(4060,4),                                  X
               RULES=(,LAST)
        PRINT NOGEN
        DBDGEN
        FINISH
        END
```

Figure 43. DL/I Work Database DBD

You can modify the DBD name, number of root anchor points, block size, number of blocks, randomizing routine, and device type. However, the segment names, segment size, and FIELD information must not be changed. The DL/I work database key is the terminal ID (LTERM name).

The **wblks** parameter defines the number of blocks to be used in the randomizing algorithm for the database. You can estimate this number by using the following formula:

```
wblks = (#_of_terminals * 114000) / 8192
```

Where *#_of_terminals* is the number of users of ED Server for z/OS programs.

The default value for **wblks** is 100. The SIZE value is set to 8192; you can increase this value. This is desirable if the programs tend to be large and complex with many storage areas.

Figure 44 shows the PSB that initializes the work database by loading a single root segment into it. Figure 45 shows the PSB that is used to remove obsolete records from the work database. The two PSBs are supplied as members ELAWKLD and ELAWKPB1, respectively, in ELA.V5R0M0.ELASAMP. If you change the NAME parameter in the DBD, you must also change the DBDNAME field in both PSBs.

```
******************************************************************
**    LOAD PSB FOR ENTERPRISE DEVELOPER SERVER ELAWORK DATABASE
******************************************************************
        PCB    TYPE=DB,DBDNAME=ELAWORK,PROCOPT=LS,POS=S,KEYLEN=8
        SENSEG NAME=ELAWCNTL,PARENT=0
        PRINT  NOGEN
        PSBGEN PSBNAME=ELAWKLD,LANG=COBOL,CMPAT=NO
        END
```

Figure 44. PSB to Load DL/I Work Database

```
******************************************************************
**    DRAIN PSB FOR ENTERPRISE DEVELOPER SERVER ELAWORK DATABASE
******************************************************************
        PCB    TYPE=TP,MODIFY=YES
        PCB    TYPE=TP,MODIFY=YES,EXPRESS=YES
        PCB    TYPE=DB,DBDNAME=ELAWORK,PROCOPT=AP,KEYLEN=8
        SENSEG NAME=ELAWCNTL,PARENT=0
        PRINT  NOGEN
        PSBGEN PSBNAME=ELAWKPB1,LANG=COBOL,CMPAT=YES
        END
```

Figure 45. PSB to Delete Root Segment and Clean Up DL/I Work Database

Submit member **ELACJWKD** in ELA.V5R0M0.ELAJCL to generate the database description (DBD), generate the PSBs and ACBs, allocate the space for the database data, and initialize the database with the DL/I test program, DFSDDLT0. A return code of 4 is normal for the CRTACBS step (the ACB generation step).

It is recommended that you make the DL/I work database a non-recoverable database. This reduces the amount of logging for this database. You can make the DL/I work database non-recoverable by doing the following:

- Register the DL/I work database with database recovery control (DBRC).

- Define the database to DBRC as a non-recoverable resource by using the NONRECOV option on the INIT.DB command.

- Use DBRC when the program is run.

Refer to the IMS/ESA manuals for additional information.

6.2.1.4.1.2 DB2 Work Database: The DB2 work database uses a 32K-byte page size; therefore, if you are using a DB2 work database, you might need to increase the allocation of the 32K-byte buffers. To increase the allocation of buffers, you need to modify and assemble the DB2 parameter module (default is DSNZPARM). Refer to the DB2 manuals for your system for additional information.

If you plan to use a DB2 implementation for the work database, review the database definition before you run the job that initializes the DB2 work database. Figure 46 on page 56 shows the DB2 definition for the work database. The source for the work database description (DDL) is supplied as member ELAWORK2 in ELA.V5R0M0.ELASAMP.

The table name and field names cannot be changed.

```
   CREATE DATABASE ELADBCTL ;

CREATE TABLESPACE ELAWRKTS
   IN ELADBCTL
   USING VCAT ELADB2
   BUFFERPOOL BP32K
   LOCKSIZE PAGE
   CLOSE NO;

CREATE TABLE ELA.ELAWORK
  (ELA_TERMID         CHAR(8)   NOT NULL,
   ELA_SEQUENCE       CHAR(3)   NOT NULL,
   ELA_DATE           CHAR(6),
   ELA_TIME           CHAR(6),
   ELA_APPL_NAME      CHAR(8),
   ELA_VSN_PGM        CHAR(16),
   ELA_TGT_TRAN       CHAR(8),
   ELA_SRC_TRAN       CHAR(8),
   ELA_WS_BYTES       INTEGER,
   ELA_MS_BYTES       INTEGER,
   ELA_CONTROL_INFO   CHAR(80),
   ELA_WS_DATA        LONG VARCHAR,
   ELA_MS_DATA        LONG VARCHAR)
   IN ELADBCTL.ELAWRKTS;

CREATE UNIQUE INDEX TEMPKEY ON ELA.ELAWORK
  (ELA_TERMID   ASC,
   ELA_SEQUENCE ASC)
   USING VCAT ELADB2
   CLUSTER
   SUBPAGES 16
   CLOSE NO;

GRANT DELETE,INSERT,SELECT,UPDATE ON ELA.ELAWORK TO PUBLIC;
```

Figure 46. DB2 Work Database DDL

The JCL to create the DB2 table for the work database is in member **ELACJWK2** in ELA.V5R0M0.ELAJCL.

Ensure that you have DB2 system administrator authority and then submit ELACJWK2 to create the DB2 table for the work database. The first time you run this job, the return code is 08 on the WRKDROP step because there is no database to drop.

6.2.1.4.1.3 Perform a DB2 Bind: Submit member ELACJPT2 in ELA.V5R0M0.ELAJCL to perform a DB2 bind for the plan used by the IMS/VS trace facility using a DB2 work database. Figure 47 is an example of job ELACJPT2.

Each developer or system administrator should create a SYNONYM in order to access the ELAWORK DB2 table. The CREATE SYNONYM has the following format:

```
CREATE SYNONYM ELAWORK FOR ELA.ELAWORK
```

Each developer should create the SYNONYM before binding any program plans that access the work
database.

```
//****************************************************************
//*
//*  DOC: ELACJPT2 - BIND THE ENTERPRISE DEVELOPER SERVER IMS/VS
//*                   TRACE PROGRAM USING A DB2 DATABASE.
//*
//*  LICENSED MATERIALS - PROPERTY OF IBM
//*  5655-I57 (C) COPYRIGHT IBM CORP. 1994, 2002
//*  SEE COPYRIGHT INSTRUCTIONS
//*
//*  STATUS = VERSION 5, RELEASE 0, LEVEL 0
//*
//*  TAILORING:
//*
//*      1.  TAILORING IS DONE BY CUSTOMIZATION CLIST (ELACCUST)
//*
//****************************************************************
//*
//CPT2B PROC ELA='ELA.V5R0M0',
//       DSNLOAD='DSN.DSNLOAD',
//       RGN=4096K,
//       SOUT='*'
//B       EXEC PGM=IKJEFT01,DYNAMNBR=20,COND=(5,LT),REGION=&RGN
//STEPLIB  DD DISP=SHR,DSN=&DSNLOAD
//DBRMLIB  DD DISP=SHR,DSN=&ELA..SELADBRM
//SYSTSPRT DD SYSOUT=&SOUT,DCB=BLKSIZE=13300
//SYSPRINT DD SYSOUT=&SOUT,DCB=BLKSIZE=13300
//SYSUDUMP DD SYSOUT=&SOUT,DCB=BLKSIZE=13300
//SYSOUT   DD SYSOUT=&SOUT,DCB=BLKSIZE=13300
//REPORT   DD SYSOUT=&SOUT,DCB=BLKSIZE=13300
// PEND
//DBRMPT2  EXEC CPT2B
//SYSTSIN  DD *
DSN SYSTEM(DSN)
BIND PLAN(ELAIPT2) -
     MEMBER(ELADBRM3) -
     ACT(REP) -
     RETAIN -
     ISOLATION(CS)
/*
```

Figure 47. Sample ELACJPT2 Job

6.2.1.4.2 Install ED Server for z/OS PSBs

- If you previously defined the PSBs for VGen Host Services 1.1, you can skip this step.

The ED Server for z/OS utility that prints the error diagnostic information requires a program specification block (PSB). Because it runs as a BMP, it also requires an application control block (ACB) generation. The four online customization verification programs and the ED Server for z/OS Trace Facility have PSBs that require PSB and ACB generations.

Figure 48 shows the five PSBs that are needed for the IMS environment.

Figure 48. PSB Generation

PSB Source	PSB Name	Purpose
ELAMPUTL	ELAMPUTL	Error diagnostic utility
ELACVP3P	ELACVP3	Online customization verification (DL/I implementation of the work database)
ELACVP4P	ELACVP4	Online customization verification (DB2 implementation of the work database)
ELAIPTZG	ELAIPTZ	Online trace facility - DL/I work database
ELAIPT2G	ELAIPT2	Online trace facility - DB2 work database

Migration consideration:

- If you currently use a DL/I message database, you should continue to use the ELAPCB macro from IBM SAA Cross System Product/370 Runtime Services 1.1 because it includes the PCB for the DL/I message database. Existing programs generated with IBM SAA Cross System Product/370 Runtime Services 1.1 can continue to use the message database. Programs generated with ED Server for z/OS must use message tables.

6.2.1.4.2.1 For DL/I Work Database: If you plan to use DL/I for the work database, modify your PSB-generation procedure by copying member **ELAPCB** from ELA.V5R0M0.SELASAMP into a library within your SYSLIB concatenation. This makes the ELAPCB macro available. The ELAPCB macro is used to provide the PCB definitions needed for the work database.

6.2.1.4.2.2 For All Work Databases: If you did not install a DL/I work database, then delete step ELA3PSB and statement BUILD PSB=ELACVP3 from member **ELACJPSB** in ELA.V5R0M0.ELAJCL.

If you did not install a DB2 work database, then delete step ELA4PSB and statement BUILD PSB=ELACVP4 from member **ELACJPSB** in ELA.V5R0M0.ELAJCL.

Submit member **ELACJPSB** to generate the PSBs and ACBs. Figure 49 is an example of job ELACJPSB.

```
//****************************************************************
//*
//* DOC: ELACJPSB - GENERATE PSBS AND ACBS FOR THE
//*                 ENTERPRISE DEVELOPER SERVER ERROR
//*                 DIAGNOSTIC PRINT UTILITY AND THE CVPS
//*
//*  LICENSED MATERIALS - PROPERTY OF IBM
//*  5655-I57 (C) COPYRIGHT IBM CORP. 1994, 2002
//*  SEE COPYRIGHT INSTRUCTIONS
//*
//*  STATUS = VERSION 5, RELEASE 0, LEVEL 0
//*
//*  TAILORING:
//*
//*      1.  TAILORING IS DONE BY CUSTOMIZATION CLIST (ELACCUST)
//*
//****************************************************************
//*
//PRNTPSB  EXEC PSBGEN,MBR=ELAMPUTL
//C.SYSIN  DD DISP=SHR,DSN=ELA.V5R0M0.SELASAMP(ELAMPUTL)
//*
//ELA3PSB  EXEC PSBGEN,MBR=ELACVP3
//C.SYSLIB DD
//         DD DISP=SHR,DSN=ELA.V5R0M0.SELASAMP
//C.SYSIN  DD DISP=SHR,DSN=ELA.V5R0M0.SELASAMP(ELACVP3P)
//*
//ELA4PSB  EXEC PSBGEN,MBR=ELACVP4
//C.SYSIN  DD DISP=SHR,DSN=ELA.V5R0M0.SELASAMP(ELACVP4P)
//*
//ELAIPTZ  EXEC PSBGEN,MBR=ELAIPTZ
//C.SYSIN  DD DISP=SHR,DSN=ELA.V5R0M0.SELASAMP(ELAIPTZG)
//*
//ELAIPT2  EXEC PSBGEN,MBR=ELAIPT2
//C.SYSIN  DD DISP=SHR,DSN=ELA.V5R0M0.SELASAMP(ELAIPT2G)
//*
//CRTACBS  EXEC ACBGEN
//SYSIN    DD *
             BUILD PSB=ELAMPUTL
             BUILD PSB=ELACVP3
             BUILD PSB=ELACVP4
             BUILD PSB=ELAIPTZ
             BUILD PSB=ELAIPT2
```

Figure 49. Sample ELACJPSB job

6.2.1.4.3 Modify IMS System Definition

• If you previously added the IMS definitions for VGen Host Services 1.1, you can skip this step.

Member ELASTG1 in ELA.V5R0M0.ELASAMP contains the system definition entries you need to include in your stage 1 IMS definition. Refer to the IMS manuals for your system for additional information. If you

are installing several destinations for diagnostic messages (ERRDESTs), you can include additional TRANSACT macros after the APPLCTN macro for ELAMPUTL.

Run an IMS stage 1 generation. Use the MODBLKS option on the SYSTEM parameter in the IMSCTRL macro when you do the stage 1 generation.

Migration considerations:

- If you previously installed IBM SAA Cross System Product/370 Runtime Services 1.1, the following were added to your IMS system definition for that release. If you have programs that use a message database, you will need to keep the first two entries until you have converted to message tables.

    Note: Existing programs generated with IBM SAA Cross System Product/370 Runtime Services 1.1 can continue to use the message database. Programs being generated with ED Server for z/OS must use message tables.

- You no longer need:

    1. DATABASE DBD=ELAMSG

    2. APPLCTN PGMTYPE=BATCH, PSB=ELAMSUDL

    3. APPLCTN PGMTYPE=TP, PSB=ELACVP1, (4) TRANSACT

    4. TRANSACT CODE=ELACVP1

    5. TRANSACT CODE=ELACVP2

6.2.1.4.4 Modify IMS Control and Message Region JCL

6.2.1.4.4.1 IMS Control Region JCL: If you previously installed IBM SAA Cross System Product/370 Runtime Services 1.1 or VGen Host Services 1.1, you can skip this step.

Modify the IMS control region JCL to include the work database if it is implemented using DL/I.

Figure 50 shows the sample DD statement to add.

```
//ELAWORK    DD DISP=SHR,DSN=ELA.V5R0M0.ELAWORK
```

Figure 50. IMS Control Region JCL Statement(s)

Alternatively, you can use member **ELACJDAT** in ELA.V5R0M0.ELAJCL to add the database to the IMS dynamic allocation table.

If you have a large IMS online system, you might not need to override the values for the PSB work area pool, the FORMAT pool, the MFS test area, or the communications input/output area in the JCL that is used to start the IMS control region. However, you should review the following parameters:

- The PSBW parameter should be at least 90.
- The FBP parameter should be at least 125.
- The MFS parameter should be at least 100.

- The TPDP parameter should be at least 5 greater than the MFS parameter.

The specific values might vary for your installation. Monitor the values as you start to use ED Server for z/OS to determine the proper values for your installation. Refer to the IMS manuals for your release of IMS for additional information.

6.2.1.4.4.2 IMS Message Region JCL: Modify the STEPLIB concatenation for each IMS message region or fast-path region to include the ED Server for z/OS load library. Figure 51 shows the additional DD statement.

```
//        DD DISP=SHR,DSN=ELA.V5R0M0.SELALMD
```

Figure 51. IMS Load Library JCL

Ensure that the LE run-time library is either in the STEPLIB concatenation for your message region or in the link list. In addition, if you are using a system default module to clear working storage, it must also be made available.

Migration consideration:

If you previously installed IBM SAA Cross System Product/370 Runtime Services or VGen Host Services 1.1, you can change the DSN to reflect the ED Server for z/OS name and skip the rest of this step.

Before making the following modifications for the ELASNAP and ELAPRINT DD statements, refer to ED Server for z/OS error reporting information in the *VisualGen: Running Applications on MVS* manual for information about when these data sets are used and the information that is contained in each data set. The error information written to ELAPRINT is identical to that written to the IMS message queue specified by the ERRDEST generation option. Therefore, you might decide to omit the ELAPRINT DD statement and use only ERRDEST. However, the ELASNAP DD statement is recommended so that you can obtain as much information as possible when an error occurs.

To obtain a SNAP dump when a ED Server for z/OS error occurs, include the following DD statement:

```
//ELASNAP DD SYSOUT=*
```

If you use a data set for the SNAP dump, allocate the data set with RECFM=VBA, LRECL=125, and BLKSIZE=882. If you do not use these attributes when you allocate the data set, ED Server for z/OS changes the data set attributes to these values. You need to use DISP=MOD on the ELASNAP DD statement if you use a data set.

To obtain a listing or a data set that contains error information, include the following DD statement:

```
//ELAPRINT DD SYSOUT=*
```

If you use a data set for the error information, allocate the data set with RECFM=FA, LRECL=133, BLKSIZE=133. If you do not use these attributes when you allocate the data set, ED Server for z/OS changes the data set attributes to these values. You need to use DISP=MOD on the ELAPRINT DD statement if you use a data set.

6.2.1.4.5 Assemble and Link the ED Server for z/OS Maps: The MFS source shipped with ED Server for z/OS might need to be tailored before being assembled and linked. The MFS source members are in library ELA.V5R0M0.SELAMFS. If you need to tailor the MFS source, you should copy the MFS source to another library before making changes. Prior to submitting the jobs included in this step, ensure that the SOR parameters on the MID and MOD, and the FEAT parameter on the DEV statements, match your IMS system generation. Check existing MFS source for other application systems as an aid in determining the SOR and FEAT parameters that match your IMS system.

MFS source is shipped for the trace facility, for the CVPs for IMS, and for the critical error maps. If you need to make changes to the MFS source, you should copy it to another library and then change the JCL that assembles the MFS to point to the library.

6.2.1.4.5.1 Tailor the Trace Facility Maps: The MFS source for the trace facility must be tailored, assembled and linked for each language installed. Repeat the following steps for each language, including English, that you are installing:

Note: See Figure 37 on page 44 for a mapping of one- and three-character codes to their languages.

1. Tailor the MFS source in **ELAYT*L*XM** in ELA.V5R0M0.SELAMFS, where *L* is a one-character language code.

2. Submit member **ELACI*LLL*, (where *LLL* is a three-character language code) in ELA.V5R0M0.ELAJCL to assemble and link the MFS source.

6.2.1.4.5.2 Tailor the Customization Verification Maps: The MFS source for either IMS/VS CVP that will be run must be tailored, assembled and linked. This is done by the following steps:

1. Tailor the MFS source in ELAYT3XM in ELA.V5R0M0.SELAMFS if you are using a DL/I work database with IMS, or ELAYT4XM in ELA.V5R0M0.SELAMFS if you are using a DB2 work database with IMS.

2. Submit member **ELACJCVM** in ELA.V5R0M0.ELAJCL to assemble and link the customization verification maps. Because the CVP maps will only be used for checking customization, job ELACJCVM uses the MFSTEST procedure to assemble them.

6.2.1.4.5.3 Tailor the Critical Error Maps: The critical error maps are used to display error messages if a problem occurs when an end user runs a program. You can tailor these maps for your installation (for example, to provide a help desk phone number).

Perform the following steps for each language, including English, that you are installing.

1. Tailor the MFS source in **ELA*LLL*XM** in ELA.V5R0M0.SELAMFS, where *LLL* is the three-character language code.

2. Change the language parameter in ELACJRSM to specify the code for the language you are installing.

3. Submit member **ELACJRSM** in ELA.V5R0M0.ELAJCL to assemble and link the MFS source.

6.2.1.4.6 Run the IMS Online Change Utility: Take the following steps to make the IMSGEN, ACBs and critical error maps available to IMS:

1. Run IMS utility OLCUTL to copy the new ED Server for z/OS definitions from the staging libraries into the inactive IMS control region libraries.

2. Enter the following IMS commands:

   ```
   /MODIFY PREPARE FMTLIB ACBLIB MODBLKS
   /MODIFY COMMIT
   ```

You should now verify the ED Server for z/OS trace facility maps by doing the following:

- After installing the trace facility maps, you should use the IMS /FORMAT command for at least one of the maps in the map group for each type of terminal that program developers or end users will be using. This helps to verify that the MFS source was tailored properly. The format of the command is:

  /FORMAT ELAYT*L*O ELAZ01

  Where **L** is the language code.

  Figure 52 shows an example of ELAZ01.

```
ELAZ01                    Enterprise Developer Server
                            Trace Transaction Selection



 Specify the transactions you want to trace; then press Enter.

 To select specific programs and services for tracing,
 place the cursor on a transaction name and press PF4.


              Transaction codes or initial program names



              _____    _____    _____    _____
              _____    _____    _____    _____
              _____    _____    _____    _____
              _____    _____    _____    _____



    ENTER PF1=HELP PF3=EXIT PF4=FILTER PF9=REFRESH

```

Figure 52. Trace Transaction Selection Panel

- If you installed the critical error maps, you should use the IMS /FORMAT command for at least one of the maps in the map group for each type of terminal that application developers or end users will be using. This helps to verify that the MFS source was tailored properly. The format of the command is:

/FORMAT ELA*LLL*O ELAM02

Where **LLL** is the language code.

Figure 53 shows an example of ELAM02 before the text is modified.

```
                 Unexpected Program Failure

An unexpected input/output or program error occurred in the
program you were running.  Please make a note of the program
name, date, time, and initial error messages and report them to
your system administrator.


Program name ...
Date ...........
Time ...........

Error Messages:



```
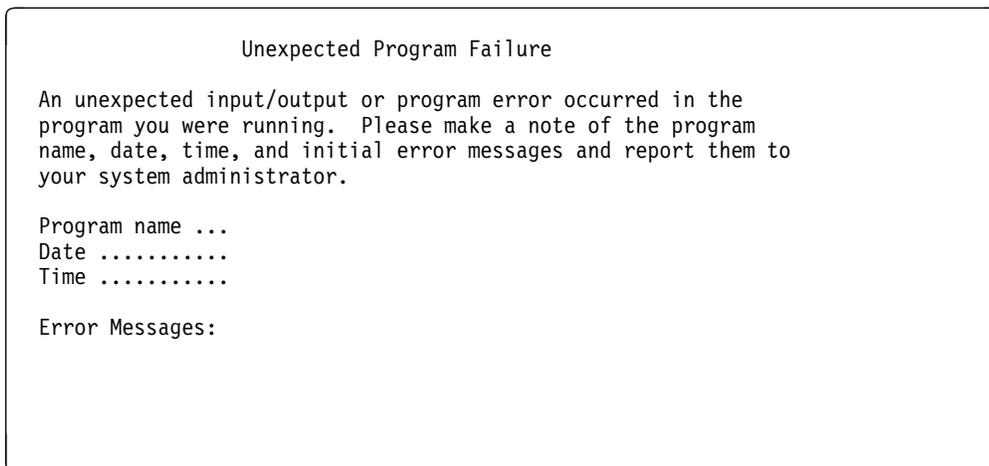
Figure 53. Panel ELAM02

6.2.1.4.7 Link and Run the Customization Verification Program for IMS: The customization verification programs for IMS/VS, **ELACVP3** and **ELACVP4**, are ED Server for z/OS programs that were generated as COBOL programs and shipped as object modules. They allow you to verify that ED Server for z/OS is properly installed.

6.2.1.4.7.1 Verify IMS/VS with a DL/I Work Database: If your IMS/VS target environment was installed with a DL/I work database, perform the following steps to verify that your system has been installed properly:

- Sign on to the customized IMS region using your normal sign-on procedure and enter the following commands:
    - /TEST MFS
    - ELACVP3

    Type one blank after the transaction name, ELACVP3, before pressing the Enter key.

    The resulting map should look similar to that in Figure 41 on page 51.
- Press the PF1 key.

The map should look similar to the panel shown in Figure 42 on page 52, with a message indicating the successful installation of the product. The date appears in the upper-left corner and the time in the upper-right corner. The date is in the format MM/DD/YY.

- Press the PF3 key to exit the customization verification program.

- Enter /END

- Enter /RCL

6.2.1.4.7.2 Verify IMS/VS with a DB2 Work Database: If your IMS/VS target environment was installed with a DB2 work database, perform the following steps to verify that your system has been installed properly.

- You must do a BIND for ELACVP4. Submit member **ELACJVP4** in ELA.V5R0M0.ELAJCL to bind the application.

- /TEST MFS

- ELACVP4

  Type one blank after the transaction name, ELACVP4, before pressing the Enter key.

  The map should appear similar to that in Figure 41 on page 51.

- Press the PF1 key.

  The map should look similar to the panel shown in Figure 42 on page 52, with a message indicating the successful installation of the product. The date appears in the upper-left corner and the time in the upper-right corner. The date is in the format MM/DD/YY.

- Press the PF3 key to exit the customization verification program.

- Enter /END

- Enter /RCL

6.2.1.5 CICS ENVIRONMENT

- If you previously installed VGen Host Services 1.1 or later and completed the CICS setup, you can skip to 6.2.1.5.2, "Modify CICS Tables and Definitions" on page 70.

The tasks described in this section are necessary for customization of ED Server for z/OS only if the CICS environment is a target environment for this product. If ED Server for z/OS generated programs will not be run in the CICS environment, this section can be skipped.

6.2.1.5.1 Add CICS Diagnostic Controller Utility Support: ED Server for z/OS includes CICS menus that allow you to specify diagnostic options for CICS transactions. These options are maintained in a VSAM diagnostic controller file. You need a unique controller file for each active CICS region. To define and initialize controller file ELA.V5R0M0.ELACFIL, submit job **ELACJDCF** in ELA.V5R0M0.ELAJCL. Following the definition and initialization of the file, the options should only be changed by entering CICS diagnostic controller transaction **ELAC**, which displays the diagnostic controller menu Change/View Diagnostic Options for a Transaction.

The file is initialized with the following values:

- Transaction ID = blanks
- Transaction ABENDS = 3 (Task dump)
- Runtime Error dump option = 3 (Task dump)
- Error Destination Queue Name = ELAD
- Journal number = spaces
- Journal Record Identification = EZ
- Disable on Run Unit Failure = N

The diagnostic controller utility lets you direct error messages to a transient data queue, a journal, or both. The default transient data file queue name is ELAD. The transient data files used by the diagnostic controller utility can be INTRAPARTITION, EXTRAPARTITION, INDIRECT or REMOTE. ELADCT2 in ELA.V5R0M0.ELASAMP contains a DCT entry for an intrapartition transient data queue using the default destination identification of ELAD. Include the entry for ELAD in your DCT CICS table if you want to use an intrapartition transient data queue. An extrapartition transient data queue can also be used. This type of queue might be useful for viewing the data set outside of the CICS region.

6.2.1.5.1.1 Intrapartition Transient Data Queue: Figure 54 is an example of the intrapartition transient data queue using the default queue name of ELAD from the ELADCT2.

```
   DFHDCT TYPE=INTRA,      1                              X
          DESTID=ELAD,     2                              X
          DESTFAC=FILE,    3                              X
          DESTRCV=NO,      4                              X
          REUSE=NO         5


   1  Intrapartition destination
   2  Destination identification
   3  Transient destination queue type file
   4  Not recoverable
   5  Non-reusable intrapartition control intervals without a transient data purge request
      (Note: this option is obsolete with CICS 3.2.1 and is ignored.)
```

Figure 54. CICS Intrapartition Data Queue Example

6.2.1.5.1.2 Extrapartition Transient Data Queue: If an extrapartition transient data file will be used, add the appropriate JCL to the CICS execution JCL to assign the file name. The JCL used in the extrapartition destination data queue sample requires the following JCL:

```
 //ELAXPRNT DD SYSOUT=*,DCB=(RECFM=VBA,LRECL=654,BLKSIZE=658)
```

Figure 55 on page 68 is an example of an extrapartition transient data queue using the default queue name of ELAD. If you decide to use an extrapartition transient data queue, you must remove the intrapartition transient data queue definition from your DCT. You cannot have an extrapartition transient data queue and an intrapartition data queue with the same name. This can be included when generating a destination control table:

```
DFHDCT TYPE=SDSCI,          1                        X
       DSCNAME=ELAXPRNT,    2                        X
       RECFORM=VARBLKA,     3                        X
       RECSIZE=654,         4                        X
       BLKSIZE=658,         5                        X
       TYPEFLE=OUTPUT       6


DFHDCT TYPE=EXTRA,          7                        X
       DESTID=ELAD,         8                        X
       DSCNAME=ELAXPRNT,    9                        X
       OPEN=INITIAL         10
```

1 Entry contains data set control information
2 Data set control name
3 Record format of the data set
4 Record length of the data set
5 Block size of the data set
6 Output data set
7 Extrapartition destination
8 Destination identification
9 Data set control name
10 Open data set at system initialization

Figure 55. CICS Extrapartition Data Queue Example

6.2.1.5.1.3 Journals: The Diagnostic Controller Utility can write to journal(s) indicated by the diagnostic controller file. Journal identifications of 01 through 99 are acceptable for use by the utility. Spaces indicate that there should be no journaling for the transaction. If new journal control table entries are defined for use by the diagnostic controller utility, the journals should be allocated and initialized.

For information about defining and initializing journals, refer to the CICS operations manual for your release of CICS.

Figure 56 on page 69 is an example of an entry for a journal, using a journal identification of 02. This can be included when generating a journal control table if journaling is desired:

```
        DFHJCT TYPE=ENTRY,                                        X
               JFILEID=02,      1                                X
               BUFSIZE=4096,    2                                X
               JOUROPT=INPUT,   3                                X
               JTYPE=DISK1      4

 1  Journal identification
 2  Buffer size for journal I/O operations
 3  Journal option to accept input operations
 4  Journal type of disk
```

Figure 56. CICS Journal Entry Example

For information about defining DCT and JCT entries, refer to the CICS resource definition manual for your release of CICS.

Figure 57 is an example of job ELACJDCF.

```
//***************************************************************
//*
//*  DOC:   ELACJDCF - DEFINE AND INITIALIZE THE CICS DIAGNOSTIC
//*                    CONTROLLER FILE FOR ENTERPRISE DEVELOPER
//*                    SERVER
//*
//*  LICENSED MATERIALS - PROPERTY OF IBM
//*  5655-I57 (C) COPYRIGHT IBM CORP. 1994, 2002
//*  SEE COPYRIGHT INSTRUCTIONS
//*
//*  STATUS = VERSION 5, RELEASE 0, LEVEL 0
//*
//*  TAILORING:
//*
//*         1. FOR JES3, SPLIT THE JOB AFTER STEP 'DEFINE'
//*
//***************************************************************
//*
//DEFINE    EXEC PGM=IDCAMS
//SYSPRINT  DD SYSOUT=*
//SYSIN     DD *
   DELETE ELA.V5R0M0.ELACFIL PURGE CLUSTER
   IF LASTCC = 8 -
      THEN SET MAXCC = 0          /*CLUSTER NOT FOUND IS OK.*/
```

Figure 57 (Part 1 of 2). Sample ELACJDCF Job

```
     DEFINE CLUSTER (NAME(ELA.V5R0M0.ELACFIL)          -
                     VOLUME(ELAVOL)                      -
                     RECORDS(50 1)                       -
                     KEYS(04 0)                          -
                     RECORDSIZE(40 40)                   -
                     IMBED                               -
                     REPLICATE                           -
                     SPEED                               -
                     REUSE                               -
                     INDEXED )                           -
            DATA (NAME(ELA.V5R0M0.ELACFIL.DATA)     -
                     CONTROLINTERVALSIZE(4096))     -
            INDEX (NAME(ELA.V5R0M0.ELACFIL.INDEX))
//****************************************************************
//*
//*          FOR JES3, SPLIT THE JOB HERE
//*
//****************************************************************
//INITIAL   EXEC PGM=IEBGENER
//SYSPRINT  DD SYSOUT=*
//SYSUT1    DD *

//SYSUT2    DD DISP=(MOD,PASS),DSN=&&TEMP1,UNIT=SYSDA,
//          DCB=(RECFM=FB,LRECL=40,BLKSIZE=40),SPACE=(TRK,(1,1))
//SYSIN     DD *
    GENERATE MAXFLDS=1,MAXLITS=19
      RECORD FIELD=(19,'    33ELAD    00EZN',,1)
//STEP03    EXEC PGM=IDCAMS
//SYSPRINT  DD SYSOUT=*
//IN1       DD DSN=&&TEMP1,DISP=(MOD,DELETE)
//OUT1      DD DISP=OLD,DSN=ELA.V5R0M0.ELACFIL
//SYSIN DD *
    REPRO                                               -
                     INFILE(IN1)                         -
                     OUTFILE(OUT1) REUSE
```

Figure 57 (Part 2 of 2). Sample ELACJDCF Job

6.2.1.5.2 Modify CICS Tables and Definitions: Include the ED Server for z/OS table entries from members ELADCT1 and ELADCT2 in ELA.V5R0M0.ELASAMP into your present CICS tables.

Run the CICS system definition utility program (DFHCSDUP) and load into your CSD the definitions in members ELAGRP and ELAG*LLL* (where *LLL* is a three-character language code). See Figure 37 on page 44 for a mapping of one- and three-character codes to their languages. Then add group ELAGRP to the list of groups loaded during CICS initialization. The FCT and DEFINE FILE entries provided with ED Server for z/OS use CICS dynamic allocation for the VSAM data set. The files can be defined via macros or RDO using members ELAFCT or ELAGRP in ELA.V5R0M0.ELASAMP respectively.

Migration considerations:

If you previously installed CSP/AE and plan to run CSP/AE and ED Server for z/OS in the same CICS region, you need to make modifications to your CICS tables and JCL.

- Remove from your CSP/AE DCT source the definitions for the extrapartition queue with DESTID=ETLP, the indirect queues with DESTID=EZEP, and DESTID=EZET, and the SDSCI entry with DSCNAME=ASAPR.

- Change the TRANSID parameters for any DCT INTRA queues with TRANSID=XSPP to TRANSID=EZEP and TRANSID=XSPZ to TRANSID=EZEZ. The ED Server for z/OS transactions EZEP and EZEZ are compatible with the CSP/AE XSPP and XSPZ transactions and they should be used instead.

- Remove from your CICS start-up JCL the ASAPR DD statement.

Be sure the appropriate CICS tables have been updated to add support for LE.

Figure 58 (Page 1 of 3). CICS Table Entries for ED Server for z/OS.

Member	Entry Types	Name/ID	Description
ELADCT1	DCT	EZEPRINT	DSCNAME for printer output
ELADCT2	DCT	ETLP	Extra-partition DESTID for printer output
	DCT	EZEP	Indirect DESTID for printer output
	DCT	EZET	Indirect DESTID for trace output
	DCT	ELAD	Diagnostic controller output
ELAFCT	FCT	ELACFIL	Diagnostic controller VSAM file
ELAGRP	PCT	ELAN	New copy transaction
		ELAC	Diagnostic controller transaction
		ELAU	Diagnostic print transaction
		ELAM	Utility menu transaction
		EZEP	Terminal print for non-DBCS printers
		EZEZ	Terminal print for DBCS printers
		ELAZ	Trace facility
	PPT	CSOCLOCK	Math function
		CSOTICKS	Math function
		ELABNEW	Batch new copy program
		ELACLU2	Common Services LU2 catcher program
		ELALU2FM	Common Services LU2 catcher map
		EZESBLKT	String function
		EZESCCWS	String function
		EZESCMPR	String function

Figure 58 (Page 2 of 3). CICS Table Entries for ED Server for z/OS.

Member	Entry Types	Name/ID	Description
		EZESCNCT	String function
		EZESCOPY	String function
		EZESFIND	String function
		EZESNULT	String function
		EZESSET	String function
		EZESTLEN	String function
		EZESTOKN	String function
		EZEFLSET	Math function
		EZEFLADD	Math function
		EZEFLSUB	Math function
		EZEFLMUL	Math function
		EZEFLDIV	Math function
		EZEFLMOD	Math function
		EZEPRCSN	Math function
		EZENCMPR	Math function
		EZEMIN	Math function
		EZEMAX	Math function
		EZEROUND	Math function
		EZESIN	Math function
		EZECOS	Math function
		EZETAN	Math function
		EZEASIN	Math function
		EZEACOS	Math function
		EZEATAN	Math function
		EZEATAN2	Math function
		EZESINH	Math function
		EZECOSH	Math function
		EZETANH	Math function
		EZEEXP	Math function
		EZELOG	Math function
		EZELOG10	Math function

Figure 58 (Page 3 of 3). CICS Table Entries for ED Server for z/OS.

Member	Entry Types	Name/ID	Description
		EZEPOW	Math function
		EZESQRT	Math function
		EZECEIL	Math function
		EZEFLOOR	Math function
		EZEABS	Math function
		EZELDEXP	Math function
		EZEFREXP	Math function
		EZEMODF	Math function
		EZEBYTES	Math function
ELAG*LLL*		ELACN*LLL*	Language-dependent conversion tables (one for each language installed, where *LLL* is the language code)
		ELANC*LLL*	Language-dependent constants tables (one for each language installed, where *LLL* is the language code)
		ELARI*LLL*	Language-dependent installation options module (one for each language installed, where *LLL* is the language code)
		ELA*LLL*FM	Critical error maps - map group format module (one for each language installed, where *LLL* is the language code)
		ELAC*LLL*	Error messages (one for each language installed, where *LLL* is the language code)
		ELACU*L*	Utility maps (one for each language installed, where *L* is the language code)
		ELACU*L*FM	Utility maps - map group format module (one for each language installed, where *L* is the language code)
		ELACT*L*	Trace facility maps (one for each language installed, where *L* is the language code)
		ELAYYN*L*	Yes/No table for utilities and trace (one for each language installed, where *L* is the language code)
		ELAYT*L*FM	Map group format module for trace (one for each language installed, where *L* is the language code)

Note:

1. The transaction codes described above can be changed if they cause conflicts within your CICS system.

2. The FCT entries are set up to use the dynamic allocation facility. This avoids having to modify the CICS system JCL.

3. See Figure 37 on page 44 for a mapping of one- and three-character codes to their languages.

Terminals must have their alternate screen size either specified correctly or omitted so the default of the primary screen size will be used. An alternate screen size specification of (0,0) is not valid.

Any terminal used in an application that is the target of an XFER must have a terminal status of TRANSCEIVE specified.

Any terminal defined as UCTRAN=YES and used for running pseudo–conversational processing might give different results from a terminal that is defined as UCTRAN=NO.

Make INQUIRESET available.

The SIT requires SPOOL=YES if your programs access the JES spool.

6.2.1.5.3 Modify CICS Region JCL: Include ELA.V5R0M0.SELALMD in the DFHRPL concatenation of the CICS region JCL. The LE run-time libraries also need to be included in the DFHRPL concatenation of the CICS region JCL and, if their contents are not available from either the link pack area of the link list, the LE run-time libraries should be authorized and included in the STEPLIB concatenation of the CICS region JCL.

Add the JCL in member ELACICS of ELA.V5R0M0.ELASAMP to your CICS start-up JCL for the DCT entries.

Recycle CICS to activate the table and JCL changes.

6.2.1.5.4 Run the CVP for CICS: The ED Server for z/OS Diagnostic Controller utility was written as a ED Server for z/OS program, generated as a COBOL program, and shipped as an object module. By running the utility, you can verify that ED Server for z/OS was properly installed. To run the utility, do the following:

- Log on to the modified CICS region.

- Run transaction ELAC by entering: ELAC

- The IBM copyright notice as shown in Figure 59 should appear.

```
        ED Server Version 5 Release 0


            LICENSED MATERIALS - PROPERTY OF IBM

5655-I57 (C) COPYRIGHT IBM Corp 1994, 2002.  ALL RIGHTS RESERVED
US Government Users Restricted Rights - Use, duplication or
disclosure restricted by GSA ADP Schedule Contract with IBM Corp.




  Press ENTER to continue


```
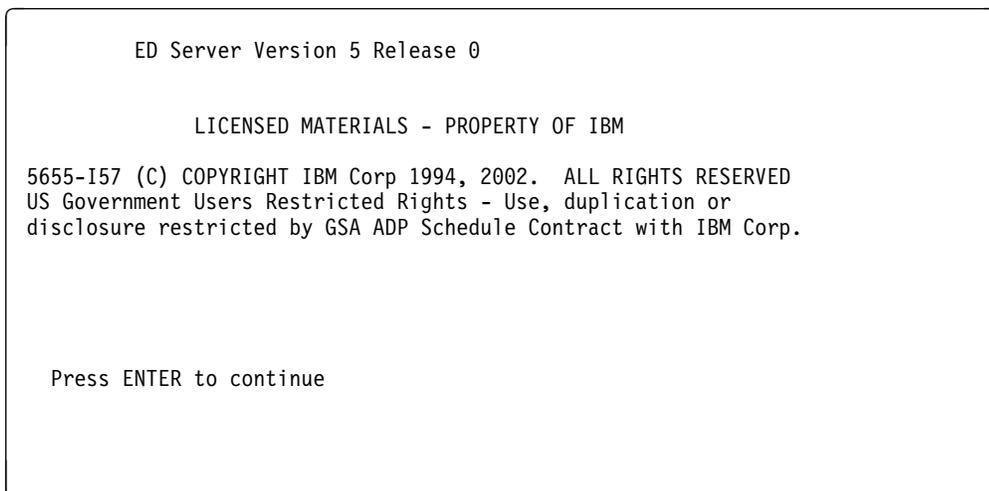
Figure 59. IBM Copyright Panel

- Press enter

- The Diagnostic Controller Menu as shown in Figure 60 should appear.

```
ELAC01                    ED Server
                          Diagnostic Control Options


Select one of the following actions; then press Enter.

Action..............  1
  1. Change or View the Diagnostic Control Options for a
     Transaction
  2. Change or View the Default Diagnostic Control Options




ENTER  F1=HELP  F3=EXIT
```

Figure 60. Diagnostic Controller Menu Panel

- Press PF3 to exit
- Clear the screen and enter CESF LOGOFF to log off CICS.

6.2.1.6 ED Server for z/OS Messages

This section can be skipped if you are not using ED Server for z/OS for the execution or preparation of VisualAge Generator generated COBOL programs.

If you want to use your own text for ED Server for z/OS messages, and you have VisualAge Generator installed, you can customize the run-time messages issued by ED Server for z/OS by using the VisualAge Generator editor and generation facilities to create a new message table.

Take the following steps:

1. To make the message information available in a program, using VisualAge Generator import the external source format file containing the messages you want to customize. The external source format file is in member ELAC*LLL* (where *LLL* is the language code; see Figure 37 on page 44) member of ELA.V5R0M0.SELAESF.

2. Edit the messages using the table editor in VisualAge Generator. You can change the TYPE of the MSGTEXT field, but the BYTES for the MSGTEXT field must be 140. For the MSGNUMBER field, TYPE must be NUM and BYTES must be 4.

   The inserts are indicated by "%nntll," where **nn** is the insert number, **t** is the insert type, and **ll** is the insert length. You can change the order in which the inserts appear in the message, but must not change the number of inserts or their type or length.

Refer to the online help facility provided with VisualAge Generator for information about modifying tables.

3. Generate the message table using VisualAge Generator. You should generate the table as shared. If enough storage is available, you might want to generate the table as resident. Refer to the *VisualAge Generator Generation Guide* manual for information about table generation.

   Note: You only need to generate the table for one target environment: the same table program can be used for all target environments.

4. Compile and link edit the table into your load library.

   Make sure your load library precedes ELA.V5R0M0.SELALMD in the concatenation sequence for the environments that have tailored messages.

5. For the IMS environment, recycle the message region to access the customized version of the messages.

6. For the CICS environment, use the ED Server for z/OS new copy utility ELAN to cause a fresh copy of the messages to be used the next time a load request is issued for the table. Refer to the IBM Enterprise Developer Server Guide for more information on the ED Server for z/OS utilities.

6.2.1.7 Java Gateway Support for OS/390

6.2.1.7.1 Environment Variables: Once the IBM Enterprise Developer Server for z/OS has been installed, users need to set the following environment variables in their .profile datasets in order to access the installed code. If you have changed the install directory name to something other than /usr/lpp/EnterpriseDeveloper/server, then change any references to directory /usr/lpp/EnterpriseDeveloper/server to the directory used for installation.

PATH   Must be set to include the directory containing Java Development Kit 1.3.x or Java Runtime Environment 1.3 classes.

LIBPATH Must include /usr/lpp/EnterpriseDeveloper/server. Ensure that the permission bits for files CSO45API, csoexci.dll, and libcso45java.so are set to make these files executable.

DPATH   Must include /usr/lpp/EnterpriseDeveloper/server.

CLASSPATH Must include /usr/lpp/EnterpriseDeveloper/server/HPT45.jar, or you must explode /usr/lpp/EnterpriseDeveloper/server/HPT45.jar relative to a base directory that is placed in CLASSPATH. To explode /usr/lpp/EnterpriseDeveloper/server/HPT45.jar into subdirectories of /usr/base, for example, change to directory /usr/base and enter the Java command:

```
jar xvf /usr/lpp/EnterpriseDeveloper/server/HPT45.jar
```

Executing this command adds subdirectory com/ibm/vgi/cso to /usr/base and class files are placed in directory /usr/base/ com/ibm/vgi/cso. Directory /usr/base should then be added to the CLASSPATH environment variable.

STEPLIB If the CICS External CICS Interface (EXCI) load modules (shipped with CICS qualifier SDFHEXCI) are not included in the system library, the STEPLIB environment variable can be specified to include the SDFHEXCI dataset.

CSOLINKTBL If server programs to be started from Java classes are generated with runtime binding specified in their linkage table, either the linkage table must be in a file specified in the DPATH environment variable, or the CSOLINKTBL environment variable must specify where the runtime linkage table resides.

6.2.1.7.2 HTML Page Server: To access applets referenced by html pages, you need to configure an html page server for security and for translating an http address to the directory containing the associated html file. IBM HTTP Server (included as a base element in your operating system) is a product that provides such services for OS/390 Version 2 Release 10 or z/OS Version 1 Release 1 or later. You need to add Pass directives to convert http addresses to directories. The directives required for security vary depending on the level of security required.

Additional information for setting up the CICS EXCI is provided in the *VisualAge Generator Client/Server Communications Guide* (SH23-6602).

Appendix A. Post-installation Customization Procedures

The table in this appendix outlines the steps you follow to customize ED Server for z/OS after it has been installed—to add a new language feature or upgrade a related product, for example, or to do some further tailoring of ED Server for z/OS defaults.

Note that the "Explanation" column includes references to specific panels in the interactive customization dialog invoked by ELACCUST.[1] A roadmap to these panels is in Figure 20 on page 30. Pictures of the individual panels are included in the detailed descriptions of the procedures in 6.2.1.1, "Customization Tasks."

---

[1] The CLISTs, jobs, and procedures in the ELACLST, ELAJCL, and ELASAMP libraries are replaced when you run the ELACCUST CLIST. If you have made extensive manual modifications to these members during system installation, you might want to manually tailor the jobs, procedures, and templates with the new values instead of running ELACCUST. If you decide to use ELACCUST, make back-up copies of these libraries, run ELACCUST, compare the newly generated libraries to the back-up copies, and manually enter any changes that might be required.

Figure 61 (Page 1 of 8). ED Server for z/OS Post-installation Customization Procedures

Procedure	*Explanation*
ED Server for z/OS Default Installation Options You can change one or more of the following installation options: • Default language code • Bypass date edit on EOF • Fold special character fields • IMS/ESA installed • Segmented CICS Critical Error Screens • Enterprise Developer Server trace buffer size • CICS temporary storage control interval size.	To customize installed default values.
1. See 6.2.1.2.2, "Installation Customization" on page 28.[1]	To use the customization panels to change the option. Make the changes on the ED Server for z/OS Run-time Default Options panel. If you are changing the default language code, also specify the new default on the ED Server for z/OS Variables panel.
2. See 6.2.1.2.3, "Change Default Installation Options" on page 43.	To create a new version of the installation options module.
3. If you put the module ELARPIOP into the LPA, move the new version into the LPA.	To make the new module available.
4. If the environment is IMS, stop and start the message region.	To make the new module available.
5. If the environment is CICS, use the CICS NEWCOPY command for module ELARPIOP.	To make the new module available.
6. See 6.2.1.2.11, "Run the Customization Verification Program (CVP)" on page 50.	To verify that the changes were made correctly.

Figure 61 (Page 2 of 8). ED Server for z/OS Post-installation Customization Procedures

Procedure	*Explanation*
ED Server for z/OS Default Language-dependent Options You can change one or more of the following language-dependent options: • Gregorian or Julian date formats • Conversion table name • Character strings for positive and negative responses • Decimal point character • Numeric separator character • Currency symbol • SQL host variable indicator • SQL host column indicator.	To customize the language-dependent options.
1. See 6.2.1.2.2, "Installation Customization" on page 28.[1]	To use the customization panels to change the option. Make the changes on the ED Server for z/OS Language Dependent Options panel.
2. See 6.2.1.2.4, "Change Language-dependent Options" on page 43.	To create a new version of the language-dependent options module.
3. If you put the module ELARI*LLL* (where *LLL* is the language code) into the LPA, move the new version of the module into the LPA.	To make the new module available.
4. If the environment is IMS, stop and start the message region.	To make the new module available.
5. If the environment is CICS, use the CICS NEWCOPY command for module ELARI*LLL* (where *LLL* is the language code).	To make the new module available.
6. See 6.2.1.2.11, "Run the Customization Verification Program (CVP)" on page 50.	To verify that the changes were made correctly.

Figure 61 (Page 3 of 8). ED Server for z/OS Post-installation Customization Procedures

Procedure	*Explanation*
CICS Support	To add support for CICS.
1. See 6.2.1.2.2, "Installation Customization" on page 28.[1]	To add CICS as a target environment. Use the ED Server for z/OS Variables panel to indicate that CICS is installed. Use the Specify Application Preparation User Data Set Variables panel. Also use the CICS Variables panel to specify CICS library names.
2. See 6.2.1.2.5, "Modify LE Options and Exits" on page 44.	To set up the LE abnormal termination behavior.
3. See 6.2.1.2.9, "Modify and Copy Compile and Link Procedures" on page 47.	To modify procedures that include the CICS translation and to copy them to your procedure library.
4. See 6.2.1.5.1, "Add CICS Diagnostic Controller Utility Support" on page 66.	To provide control over error handling on a transaction basis.
5. See 6.2.1.5.2, "Modify CICS Tables and Definitions" on page 70.	To provide the CICS table definitions required by ED Server for z/OS.
6. See 6.2.1.5.3, "Modify CICS Region JCL" on page 74.	To make the ED Server for z/OS libraries, as well as the LE libraries, available to CICS.
7. See 6.2.1.5.4, "Run the CVP for CICS" on page 74.	To verify that the changes were made correctly.
DB2 Support	To add support for DB2.
1. See 6.2.1.2.2, "Installation Customization" on page 28.[1]	To specify information about the DB2 subsystem and libraries. Use the DB2 Variables panel. Also use the ED Server for z/OS Language Dependent Options panel to change the default values for the SQL host variable indicator or the SQL host column indicator.
2. See 6.2.1.2.5, "Modify LE Options and Exits" on page 44.	To set up the LE abnormal termination behavior.
3. See 6.2.1.2.9, "Modify and Copy Compile and Link Procedures" on page 47.	To modify the procedures that have steps related to DB2 and to copy them to your procedure library.

Figure 61 (Page 4 of 8). ED Server for z/OS Post-installation Customization Procedures

Procedure	Explanation
MVS Batch Support (VisualAge Generator only)	To add support for the MVS Batch target environment.
1. See 6.2.1.2.2, "Installation Customization" on page 28.[1]	To add MVS Batch as a target environment. Use the Specify Application Preparation User Data Set Variables panel.
2. See 6.2.1.2.5, "Modify LE Options and Exits" on page 44.	To establish a modified LE run-time options module to initialize working storage. Also to set up the LE abnormal termination behavior.
3. See 6.2.1.2.11, "Run the Customization Verification Program (CVP)" on page 50	To verify that the changes were made correctly.
MVS/TSO Support (VisualAge Generator only)	To add support for MVS/TSO.
1. See 6.2.1.2.2, "Installation Customization" on page 28.[1]	To add MVS/TSO as a target environment. Use the Specify Application Preparation User Data Set Variables panel.
2. See 6.2.1.2.5, "Modify LE Options and Exits" on page 44.	To establish a modified LE run-time options module to initialize working storage. Also to set up the LE abnormal termination behavior.
3. See 6.2.1.3.1, "Update MVS/TSO Concatenation Lists" on page 51.	To make the ED Server for z/OS modules available to application users.
4. See 6.2.1.3.2, "Run the CVP for MVS/TSO" on page 51	To verify that the changes were made correctly.

Figure 61 (Page 5 of 8). ED Server for z/OS Post-installation Customization Procedures

Procedure	*Explanation*
IMS Support (VisualAge Generator only)	To add support for IMS.
1. See 6.2.1.2.2, "Installation Customization" on page 28.[1]	To add the IMS environment as a target environment. Use the ED Server for z/OS Variables panel to indicate that IMS is installed. Use the Specify Application Preparation User Data Set Variables panel. Also use the IMS Variables panel to specify IMS library name.
2. If you are installing IMS/ESA:	
a. See 6.2.1.2.2, "Installation Customization" on page 28.	To change the installation options module. Use the ED Server for z/OS Run-time Default Options panel.
b. See 6.2.1.2.3, "Change Default Installation Options" on page 43.	To create a new version of the installation options module.
3. See 6.2.1.2.5, "Modify LE Options and Exits" on page 44.	To establish a modified LE run-time options module to initialize working storage. Also to set up the LE abnormal termination behavior.
4. See 6.2.1.2.9, "Modify and Copy Compile and Link Procedures" on page 47.	To modify procedures that include the IMS RESLIB and to copy them to your procedure library.
5. See 6.2.1.4.1, "Install a Work Database" on page 52.	To define a work database where information can be stored during a CONVERSE or XFER with map.
6. See 6.2.1.4.2, "Install ED Server for z/OS PSBs" on page 58.	To define the PSBs and ACBs used by ED Server for z/OS.
7. See 6.2.1.4.3, "Modify IMS System Definition" on page 59.	To define to IMS the PSBs, transactions, and databases used by ED Server for z/OS.
8. See 6.2.1.4.4, "Modify IMS Control and Message Region JCL" on page 60.	To make the ED Server for z/OS libraries, as well as the LE libraries, available to IMS. If you are using a DL/I work database, this also makes it available to IMS.
9. See 6.2.1.4.5, "Assemble and Link the ED Server for z/OS Maps" on page 62.	To generate the MFS control blocks for ED Server for z/OS error, trace facility, and CVP maps.
10. See 6.2.1.4.6, "Run the IMS Online Change Utility" on page 63.	To put the new IMS system definition, ACBs, and MFS control blocks into effect.
11. See 6.2.1.4.7, "Link and Run the Customization Verification Program for IMS" on page 64.	To verify that the changes were made correctly.

Procedure	*Explanation*
Terminal or Printer Devices (IMS environments only)	To add or change a device definition in your IMS system definition.
1. See 6.2.1.4.5, "Assemble and Link the ED Server for z/OS Maps" on page 62.	To generate the MFS control blocks that ED Server for z/OS uses to display errors and for the trace facility. This step is required for the trace-facility maps.
2. Use the IMS command /MODIFY PREPARE FMTLIB followed by /MODIFY COMMIT .	To put the new maps into effect.
DL/I Database Support (VisualAge Generator Only)	To add support for DL/I databases without adding IMS environment support.
1. See 6.2.1.2.2, "Installation Customization" on page 28.[1]	To specify that IMS is installed. Use the ED Server for z/OS System Variables panel. Also use the Specify Application Preparation User Data Set panel if you need to add IMS BMP as a target environment and are installing IMS/ESA DM. Use the IMS Variables panel to specify the IMS libraries and batch procedures.
2. If you are installing IMS/ESA with DL/I database access:	
a. See 6.2.1.2.2, "Installation Customization" on page 28.	To change the installation options module. Use the ED Server for z/OS Run-time Default Options panel.
b. See 6.2.1.2.3, "Change Default Installation Options" on page 43.	To create the new version of the installation options module.
3. See 6.2.1.2.5, "Modify LE Options and Exits" on page 44.	To set up the LE abnormal termination behavior.
4. See 6.2.1.2.9, "Modify and Copy Compile and Link Procedures" on page 47.	To modify procedures that include the IMS RESLIB and to copy them to your procedure library.
5. See 6.2.1.2.11, "Run the Customization Verification Program (CVP)" on page 50.	To verify that the changes were made correctly.

Figure 61 (Page 7 of 8). ED Server for z/OS Post-installation Customization Procedures

Procedure	*Explanation*
DL/I Work Database (VisualAge Generator Only)	To add a DL/I work database to the IMS environment.
1. See 6.2.1.4.1, "Install a Work Database" on page 52.	To define a work database where information can be stored during a CONVERSE or XFER with map.
2. See 6.2.1.4.2, "Install ED Server for z/OS PSBs" on page 58.	To define the PSBs and ACBs used by ED Server for z/OS.
3. See 6.2.1.4.3, "Modify IMS System Definition" on page 59.	To define to IMS the PSBs, transactions, and databases used by ED Server for z/OS.
4. See 6.2.1.4.4, "Modify IMS Control and Message Region JCL" on page 60.	To make the DL/I work database available to IMS.
5. See 6.2.1.4.5, "Assemble and Link the ED Server for z/OS Maps" on page 62.	To tailor the MFS control blocks for the CVP that uses a DL/I work database (MFS source ELAYT3XM).
6. See 6.2.1.4.6, "Run the IMS Online Change Utility" on page 63, specifying MODBLKS, ACBLIB, and FMTLIB.	To put the new IMS system definition, ACBs, and MFS control blocks into effect.
7. See 6.2.1.4.7, "Link and Run the Customization Verification Program for IMS" on page 64.	To verify that the changes were made correctly.
DB2 Work database (VisualAge Generator Only)	To add a DB2 work database to the IMS environment.
1. See 6.2.1.4.1, "Install a Work Database" on page 52.	To define a work database where information can be stored during a CONVERSE or XFER with map.
2. See 6.2.1.4.1.3, "Perform a DB2 Bind" on page 56.	To bind the plan for the trace utility program.
3. See 6.2.1.4.2, "Install ED Server for z/OS PSBs" on page 58.	To define the PSBs and ACBs used by ED Server for z/OS.
4. See 6.2.1.4.3, "Modify IMS System Definition" on page 59.	To define to IMS the PSBs, transactions, and databases used by ED Server for z/OS.
5. See 6.2.1.4.5, "Assemble and Link the ED Server for z/OS Maps" on page 62.	To tailor the MFS control blocks for the CVP that uses a DB2 work database (MFS source ELAYT4XM).
6. See 6.2.1.4.6, "Run the IMS Online Change Utility" on page 63, specifying MODBLKS, ACBLIB, and FMTLIB.	To put the new IMS system definition, ACBs, and MFS control blocks into effect.
7. See 6.2.1.4.7, "Link and Run the Customization Verification Program for IMS" on page 64.	To verify that the changes were made correctly.

Procedure	*Explanation*
ANSI SQL database Support (VisualAge Generator Only)	To add support for an ANSI SQL database.
See 6.2.1.2.8, "Prepare ANSI SQL Program" on page 46.	To prepare the ED Server for z/OS ANSI SQL commit and rollback program for use with the ANSI database manager, and to tailor preparation procedures for use with the ANSI database manager.
ED Server for z/OS Messages (VisualAge Generator Only)	To customize the messages issued by ED Server for z/OS.
1. See 6.2.1.6, " ED Server for z/OS Messages" on page 75	To use your own text for ED Server for z/OS messages, if you have ED Server for z/OS installed.
COBOL and LE Customization	To customize COBOL and LE
1. See 6.2.1.2.2, "Installation Customization" on page 28.[1]	To select the COBOL and LE libraries. Use the COBOL and LE Variables panel.
2. Ensure that the MVS TSO, IMS, and CICS environments are set up to use LE run-time libraries. Refer to the LE customization manual.	To make LE run-time routines available to COBOL programs generated for these environments.
3. See 6.2.1.2.5, "Modify LE Options and Exits" on page 44.	To establish an LE defaults module to initialize working storage and to set the default LE behavior for abnormal termination.
4. See 6.2.1.2.8, "Prepare ANSI SQL Program" on page 46.	To prepare the ANSI SQL program using COBOL and LE.
5. See 6.2.1.2.9, "Modify and Copy Compile and Link Procedures" on page 47.	To modify procedures that use the COBOL and LE libraries and to copy them to your procedure library.
6. **Important:** if you are linking CEEUOPT and/or the CEEBXITA user exit with each program, see 6.2.1.2.5, "Modify LE Options and Exits" on page 44.	To put the LE options and exits into effect for existing programs. For examples of LE exit modules to include, use ELACJCEM for the non-CICS environment or ELACJCEC for CICS.

Appendix B. ED Server for z/OS Data Set Descriptions

B.1.1 Product Data Sets

Figure 62 lists the target data sets for ED Server for z/OS and their contents. The descriptions of the distribution data sets (ELA.V5R0M0.AELAxxxx) are the same. Figure 63 and Figure 64 list the contents of the customization data sets.

Figure 62. Product Data Set Descriptions

Data Set Name	Description
ELA.V5R0M0.SELACLST	Installation/customization CLISTs
ELA.V5R0M0.SELACOPY	COBOL copybook source
ELA.V5R0M0.SELADBRM	Database request modules for DB2
ELA.V5R0M0.SELAESF	ESF source for ED Server for z/OS error messages and critical error maps
ELA.V5R0M0.SELAJCL	Installation and customization jobs
ELA.V5R0M0.SELALMD	Load modules
ELA.V5R0M0.SELAMOD1	Load modules used during installation
ELA.V5R0M0.SELAMOD2	Load modules used during installation
ELA.V5R0M0.SELAMFS	MFS source library
ELA.V5R0M0.SELAPNL	Installation/customization ISPF panels and messages
ELA.V5R0M0.SELASAMP	Sample jobs and procedures, DBD source, PSB source, SQL source, CICS table definition entries, IMS stage-1 system definition entries, PCB macros, default options macros.

B.1.2 Non-VSAM Customization Data Sets

Figure 63. Non-VSAM Customization Data Sets

Data Set Name	Description
ELA.V5R0M0.ELACLST	Customized CLISTs
ELA.V5R0M0.ELAJCL	Customized jobs
ELA.V5R0M0.ELASAMP	Customized sample jobs, procedures, DBD source, PSB source, SQL source, CICS table definition entries, IMS stage-1 system definition entries.
ELA.V5R0M0.ELAWORK	DL/I work database

B.1.3 VSAM Customization Data Sets

Figure 64. VSAM Customization Data Sets

Data Set Name	Description
ELA.V5R0M0.ELACFIL	Diagnostic controller file
ELA.V5R0M0.DSNDBC.ELADBCTL. ELAWRKTS.10001.A001	DB2 work database
ELA.V5R0M0.DSNDBC.ELADBCTL. TEMPKEY.10001.A001	DB2 work database

Reader's Comments

Program Directory for IBM Enterprise Developer Server for z/OS August 2005

You may use this form to comment about this document, its organization, or subject matter with the understanding that IBM may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you.

For each of the topics below please indicate your satisfaction level by circling your choice from the rating scale. If a statement does not apply, please circle N.

```
┌─ RATING SCALE ─────────────────────────────────────────────────────────
│   very                              very        not
│ satisfied  <====================>  dissatisfied  applicable
│    1       2       3       4         5             N
│
```

	Satisfaction					
Ease of product installation	1	2	3	4	5	N
Contents of program directory	1	2	3	4	5	N
Installation Verification Programs	1	2	3	4	5	N
Time to install the product	1	2	3	4	5	N
Readability and organization of program directory tasks	1	2	3	4	5	N
Necessity of all installation tasks	1	2	3	4	5	N
Accuracy of the definition of the installation tasks	1	2	3	4	5	N
Technical level of the installation tasks	1	2	3	4	5	N
Ease of getting the system into production after installation	1	2	3	4	5	N

How did you order this product?

___   CBPDO
___   CustomPac
___   ServerPac
___   Independent
___   Other

Is this the first time your organization has installed this product?

___   Yes
___   No

Were the people who did the installation experienced with the installation of z/OS products?

___   Yes

__ No

If yes, how many years? __

If you have any comments to make about your ratings above, or any other aspect of the product installation, please list them below:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Please provide the following contact information:

_____
Name and Job Title

_____
Organization

_____

_____
Address

_____
Telephone

Thank you for your participation.

Please send the completed form to (or give to your IBM representative who will forward it to the IBM Enterprise Developer Server for z/OS Development group):

Janice Rogers
IBM Corporation
Building 503/E319
4205 S. Miami Blvd.
Durham, North Carolina 27703

FAX Number: (919) 254-0206

E-Mail: janicer@us.ibm.com

IBM

Printed in U.S.A.