



Program Directory for CICS Transaction Server for z/OS

V3.2.0

Program Number 5655-M15
FMID HCI6500

for Use with
z/OS

Document Date: June 2007

GI13-0515-00

Note!

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 55.

A form for reader's comments appears at the back of this publication. When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

© **Copyright International Business Machines Corporation 1974, 2007. All rights reserved.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

1.0 Introduction	1
1.1 CICS Transaction Server Description	2
1.2 CICS Transaction Server FMIDs	3
2.0 Program Materials	5
2.1 Basic Machine-Readable Material	5
2.2 Optional Machine-Readable Material	10
2.3 Program Publications	10
2.3.1 Basic Program Publications	11
2.4 Program Source Materials	13
2.5 Publications Useful During Installation	13
3.0 Program Support	15
3.1 Program Services	15
3.2 Preventive Service Planning	15
3.3 Statement of Support Procedures	16
4.0 Program and Service Level Information	17
4.1 Program Level Information	17
4.2 Service Level Information	17
5.0 Installation Requirements and Considerations	19
5.1 Driving System Requirements	19
5.1.1 Machine Requirements	19
5.1.2 Programming Requirements	19
5.2 Target System Requirements	20
5.2.1 Machine Requirements	20
5.2.2 Programming Requirements	20
5.2.2.1 Installation Requisites	20
5.2.2.2 Operational Requisites	21
5.2.2.3 Operational Considerations	23
5.2.2.4 Toleration/Coexistence Requisites	23
5.2.2.5 Incompatibility (Negative) Requisites	23
5.2.3 DASD Storage Requirements	23
5.3 FMIDs Deleted	33
5.4 Special Considerations	33
6.0 Installation Instructions	35
6.1 Installing CICS Transaction Server	35
6.1.1 SMP/E Considerations for Installing CICS Transaction Server	35
6.1.2 SMP/E Options Subentry Values	35
6.1.3 SMP/E CALLLIBS Processing	36

6.1.4	Sample Jobs	36
6.2	Copy RELFILE(2) from the Distribution Tape	37
6.2.1.1	Result of copying RELFILE(2)	38
6.3	Check that you are ready to run the Installation Jobs	41
6.4	Run the installation Jobs	41
6.4.1.1	The DFHIFHS0 Job	42
6.4.1.2	The DFHIFHS1 Job	43
6.4.1.3	The DFHISMKD Job	43
6.4.1.4	The DFHALLOC Job	43
6.4.1.5	The DFHSMPSU Job	43
6.4.1.6	The DFHDDDEF Job	44
6.4.1.7	The DFHRECV Job	44
6.4.1.8	The DFHAPPLY Job	44
6.4.1.9	The DFHACCPT Job	46
6.4.2	Run REPORT CROSSZONE	48
6.4.3	Check the Output from the Installation Jobs	48
6.5	What next?	50
6.5.1	Copy the CICS Transaction Server Procedures into a Procedure Library	50
6.6	Activating CICS Transaction Server	53
7.0	Notices	55
7.1	Trademarks	56
Reader's Comments		59

Figures

1.	Basic Material: Program Tape	5
2.	Program File Content	6
3.	Optional Material	10
4.	Optional Material File Content	10
5.	Basic Material: Unlicensed Publications	11
6.	Publications Useful During Installation	13
7.	PSP Upgrade and Subset ID	15
8.	Component IDs	16
9.	Driving System Software Requirements	20
10.	Mandatory Installation Requisites	20
11.	Mandatory Operational Requisites	21
12.	Conditional Operational Requisites	21
13.	Total DASD Space Required by CICS Transaction Server	24
14.	Storage Requirements for CICS Transaction Server Target Libraries	25
15.	CICS Transaction Server HFS Paths	27

16.	Storage Requirements for CICS Transaction Server Distribution Libraries	29
17.	SMP/E Options Subentry Values	35
18.	Sample Installation Jobs	36
19.	Sample job for copying RELFILE(2) from tape	38
20.	Skeleton jobs in RELFILE(2) copied to the TDFHINST library	38
21.	CICS Transaction Server-supplied procedures	50

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 CICS Transaction Server for z/OS. This publication refers to CICS Transaction Server for z/OS as CICS Transaction Server.

The Program Directory contains the following sections:

- 2.0, "Program Materials" on page 5 identifies the basic and optional program materials and documentation for CICS Transaction Server.
- 3.0, "Program Support" on page 15 describes the IBM support available for CICS Transaction Server.
- 4.0, "Program and Service Level Information" on page 17 lists the APARs (program level) and PTFs (service level) incorporated into CICS Transaction Server.
- 5.0, "Installation Requirements and Considerations" on page 19 identifies the resources and considerations required for installing and using CICS Transaction Server.
- 6.0, "Installation Instructions" on page 35 provides detailed installation instructions for CICS Transaction Server. It also describes the procedures for activating the functions of CICS Transaction Server, or refers to appropriate publications.

Before installing CICS Transaction Server, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that were supplied with this program in softcopy form as well as this Program Directory and then keep them for future reference. Section 3.2, "Preventive Service Planning" on page 15 tells you how to find any updates to the information and procedures in this Program Directory.

CICS Transaction Server is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The Program Directory is provided in softcopy form on the CBPDO tape which is identical to the hardcopy form provided with your order. Your CBPDO contains a softcopy preventive service planning (PSP) upgrade for this product. All service and HOLDDATA for CICS Transaction Server are included on the CBPDO tape.

Do not use this Program Directory if you are installing CICS Transaction Server 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.

1.1 CICS Transaction Server Description

CICS is a modern transactional application server designed to execute demanding mixed-language application workloads, and to enable those applications easily to be integrated with enterprise solutions. CICS Transaction Server for z/OS (CICS TS) V3.2 provides open standards-based connectivity, enabling CICS applications to be integrated within a service-oriented architecture (SOA), while preserving the long established CICS qualities of security, reliability, data integrity and optimal application responsiveness.

The major new functions in CICS TS V3.2 fall into three main areas :

Application Connectivity:

New Web services capabilities include support for recent standards, interoperability profiles, and the ability to send large amounts of binary data efficiently. The ability to interconnect CICS regions over TCP/IP for Distributed Program Link (DPL) allows exploitation of System z IP networking, and provides an alternative to Systems Network Architecture (SNA). All CICS TCP/IP workloads benefit from simple, robust systems and workload management facilities.

Application Reuse:

Enhancements to the efficiency of deploying Web services into CICS, include handling a wider range of programming language and XML data types and attributes, and improvements to performance and diagnostics. Applications will now automatically utilize 64-bit storage for data held in containers, providing for improved scalability and performance. The CICS integrated translator is now supported by the z/OS XL C/C++ compiler, delivering more comprehensive development and debug capabilities.

Service Management:

Online management of program libraries makes it easier to maintain continuous system availability, while bringing new or changed applications into production. Support for Enterprise Workload Manager (EWLM) makes possible end-to-end workload monitoring in heterogeneous environments. Potential for performance enhancements is offered by making threadsafe the core API's for accessing local and RLS VSAM files, journals, Websphere MQ, and system autoinstalled Global User Exits. There is improved management of Java workloads. The CICSplex SM Web User Interface has new help and map capabilities and usability enhancements.

Larger amounts of data can now be stored in shared data tables (>2GB) and VSAM entry sequenced data set (ESDS) files (>4GB). Improvements to monitoring and statistics facilities include more precise timing data and compression of monitoring records. The default internal trace table size has been increased for better problem diagnosis. The limit on the number of CICS regions supported in a sysplex is increased by enabling a CICS region to join a named XCF group.

1.2 CICS Transaction Server FMIDs

CICS Transaction Server consists of the following FMIDs:

HCI6500
JCI6501
JCI6502
JCI6503
JCI650D
JCI650M
JCI650R
JCI650W
HBDD110
H0B5110
H0B7110
H0Z2110

2.0 Program Materials

An IBM program is identified by a program number. The program number for CICS Transaction Server is 5655-M15.

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

The program announcement material describes the features supported by CICS Transaction Server. 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 a 3480 cartridge. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, "Installation Instructions" on page 35 for more information about how to install the program.

Information about the physical tape for the Basic Machine-Readable Materials for CICS Transaction Server can be found in the *CBPDO Memo To Users Extension*.

Figure 1 describes the physical tape and 3480 cartridge. Figure 2 on page 6 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 CICS Transaction Server 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 (Page 1 of 2). Basic Material: Program Tape

Medium	Feature Number	Physical Volume	External Label	VOLSER	
3480 cart	5802	1	CICS Base (NLV)	Y	C16500
		2	IIOPI/Java support		C1650D
		3	CICS System Manager and others		C1650M

Figure 1 (Page 2 of 2). Basic Material: Program Tape

Medium	Feature Number	Physical Volume	External Label	VOLSER	
3480 cart	5812	1	CICS Base (NLV)	Y	C16500
		2	IIOp/Java support		C1650D
		3	CICS System Manager and others		C1650M
3480 cart	5822	1	CICS Base (NLV)	Y	C16500
		2	IIOp/Java support		C1650D
		3	CICS System Manager and others		C1650M

* R/M = Restricted Materials of IBM

Figure 2 (Page 1 of 5). Program File Content

Name	ORG	REC FM	LEN	BLK SIZE
SMPMCS (Tape 1 - CI6500)	SEQ	FB	80	27920
IBM.HCI6500.F1 (JCLIN)	PDS	FB	80	8800
IBM.HCI6500.F2 (ADFHINST)	PDS	FB	80	8800
IBM.HCI6500.F3 (ADFHMOD)	PDS	U	0	6144
IBM.HCI6500.F4 (ADFHAPD1)	PDS	FB	38	27968
IBM.HCI6500.F5 (ADFHAPD2)	PDS	FB	227	27921
IBM.HCI6500.F6 (ADFHCLIB)	PDS	FB	80	8800
IBM.HCI6500.F7 (ADFHENV)	PDS	V	30000	30004
IBM.HCI6500.F8 (ADFHLANG)	PDS	FB	80	8800
IBM.HCI6500.F9 (ADFHMAC)	PDS	FB	80	8800
IBM.HCI6500.F10 (ADFHMLIB)	PDS	FB	80	8800
IBM.HCI6500.F11 (ADFHMSGS)	PDS	V	30646	30650
IBM.HCI6500.F12 (ADFHMSRC)	PDS	FB	80	8800
IBM.HCI6500.F13 (ADFHPPARM)	PDS	FB	80	8800
IBM.HCI6500.F14 (ADFHPLIB)	PDS	FB	80	8800
IBM.HCI6500.F15 (ADFHPROC)	PDS	FB	80	8800
IBM.HCI6500.F16 (ADFHSAAMP)	PDS	FB	80	8800

Figure 2 (Page 2 of 5). Program File Content

Name	O R G	R E C F M	L R E C L	BLK SIZE
IBM.JCI6501.F1 (JCLIN)	PDS	FB	80	8800
IBM.JCI6501.F2 (ADFHMOD)	PDS	U	0	6144
IBM.JCI6501.F3 (ADFHCOB)	PDS	FB	80	8800
IBM.JCI6501.F4 (ADFHSAMP)	PDS	FB	80	8800
IBM.JCI6502.F1 (JCLIN)	PDS	FB	80	8800
IBM.JCI6502.F2 (ADFHMOD)	PDS	U	0	6144
IBM.JCI6502.F3 (ADFHPL1)	PDS	FB	80	8800
IBM.JCI6502.F4 (ADFHSAMP)	PDS	FB	80	8800
IBM.JCI6503.F1 (JCLIN)	PDS	FB	80	8800
IBM.JCI6503.F2 (ADFHMOD)	PDS	U	0	6144
IBM.JCI6503.F3 (ADFHMODX)	PDSE	U	0	6144
IBM.JCI6503.F4 (ADFJMOD)	PDSE	U	0	6144
IBM.JCI6503.F5 (ADFHC370)	PDS	FB	80	8800
IBM.JCI6503.F6 (ADFHSAMP)	PDS	FB	80	8800
SMPMCS (Tape 2 - CI650D)	SEQ	FB	80	8800
IBM.JCI650D.F1 (JCLIN)	PDS	FB	80	8800
IBM.JCI650D.F2 (ADFJMOD)	PDSE	U	0	6144
IBM.JCI650D.F3 (ADFHSAMP)	PDS	FB	80	8800
IBM.JCI650D.F4 (ADFJH001)	PDS	V	32000	32004
IBM.JCI650D.F5 (ADFJH002)	PDS	V	32000	32004
IBM.JCI650D.F6 (ADFJH003)	PDS	V	32000	32004
IBM.JCI650D.F7 (ADFJH004)	PDS	V	32000	32004
IBM.JCI650D.F8 (ADFJH005)	PDS	V	32000	32004
IBM.JCI650D.F9 (ADFJH006)	PDS	V	32000	32004
IBM.JCI650D.F10 (ADFJH007)	PDS	V	32000	32004
IBM.JCI650D.F11 (ADFJH008)	PDS	V	32000	32004
IBM.JCI650D.F12 (ADFJH009)	PDS	V	32000	32004
IBM.JCI650D.F13 (ADFJH010)	PDS	V	32000	32004
IBM.JCI650D.F14 (ADFJH011)	PDS	V	32000	32004

Figure 2 (Page 3 of 5). Program File Content

Name	O R G	R E C F M	L R E C L	BLK SIZE
IBM.JCI650D.F15 (ADFJH012)	PDS	V	32000	32004
IBM.JCI650D.F16 (ADFJH013)	PDS	V	32000	32004
IBM.JCI650D.F17 (ADFJH014)	PDS	V	32000	32004
IBM.JCI650D.F18 (ADFJH015)	PDS	V	32000	32004
IBM.JCI650D.F19 (ADFJH016)	PDS	V	32000	32004
IBM.JCI650D.F20 (ADFJH017)	PDS	V	32000	32004
IBM.JCI650D.F21 (ADFJH018)	PDS	V	32000	32004
IBM.JCI650D.F22 (ADFJH019)	PDS	V	32000	32004
IBM.JCI650D.F23 (ADFJH020)	PDS	V	32000	32004
IBM.JCI650D.F24 (ADFJH021)	PDS	V	32000	32004
IBM.JCI650D.F25 (ADFJH022)	PDS	V	32000	32004
IBM.JCI650D.F26 (ADFJH023)	PDS	V	32000	32004
IBM.JCI650D.F27 (ADFJH024)	PDS	V	32000	32004
IBM.JCI650D.F28 (ADFJH025)	PDS	V	32000	32004
IBM.JCI650D.F29 (ADFJH026)	PDS	V	32000	32004
IBM.JCI650D.F30 (ADFJH027)	PDS	V	32000	32004
IBM.JCI650D.F31 (ADFJH028)	PDS	V	32000	32004
IBM.JCI650D.F32 (ADFJH029)	PDS	V	32000	32004
IBM.JCI650D.F33 (ADFJH030)	PDS	V	32000	32004
IBM.JCI650D.F34 (ADFJH031)	PDS	V	32000	32004
IBM.JCI650D.F35 (ADFJH032)	PDS	V	32000	32004
IBM.JCI650D.F36 (ADFJH033)	PDS	V	32000	32004
IBM.JCI650D.F37 (ADFJH034)	PDS	V	32000	32004
SMPMCS (Tape 3 - CP3200)	SEQ	FB	80	8800
IBM.JCI650M.F1 (JCLIN)	PDS	FB	80	8800
IBM.JCI650M.F2 (AEYUMOD)	PDS	U	0	6144
IBM.JCI650M.F3 (AEYUVIEW)	PDS	VB	32000	32004
IBM.JCI650M.F4 (AEYUCLIB)	PDS	FB	80	8800
IBM.JCI650M.F5 (AEYUCOB)	PDS	FB	80	8800

Figure 2 (Page 4 of 5). Program File Content

Name	O R G	R E C F M	L R E C L	BLK SIZE
IBM.JCI650M.F6 (AEYUC370)	PDS	FB	80	8800
IBM.JCI650M.F7 (AEYUDEF)	PDS	FB	80	8800
IBM.JCI650M.F8 (AEYUMAC)	PDS	FB	80	8800
IBM.JCI650M.F9 (AEYUMLIB)	PDS	FB	80	8800
IBM.JCI650M.F10 (AEYUPARM)	PDS	FB	80	8800
IBM.JCI650M.F11 (AEYUPLIB)	PDS	FB	80	8800
IBM.JCI650M.F12 (AEYUPL1)	PDS	FB	80	8800
IBM.JCI650M.F13 (AEYUPROC)	PDS	FB	80	8800
IBM.JCI650M.F14 (AEYUSAMP)	PDS	FB	80	8800
IBM.JCI650M.F15 (AEYUTLIB)	PDS	FB	80	8800
IBM.HBDD110.F1 (JCLIN)	PDS	FB	80	8800
IBM.HBDD110.F2 (AERCINST)	PDS	FB	80	8800
IBM.HBDD110.F3 (AERCMOD)	PDS	U	0	6144
IBM.H0B5110.F1 (JCLIN)	PDS	FB	80	8800
IBM.H0B5110.F2 (ACICJCL)	PDS	FB	80	8800
IBM.H0B5110.F3 (ACICRMOD)	PDS	U	0	6144
IBM.H0B7110.F1 (JCLIN)	PDS	FB	80	8800
IBM.H0B7110.F2 (ACICJCL)	PDS	FB	80	8800
IBM.H0B7110.F3 (ACICDUSR)	PDS	VB	255	27998
IBM.H0B7110.F4 (ACICDMOD)	PDS	U	0	6144
IBM.H0Z2110.F1 (JCLIN)	PDS	FB	80	8800
IBM.H0Z2110.F2 (ACICPNL)	PDS	FB	80	8800
IBM.H0Z2110.F3 (ACICCMDS)	PDS	VB	255	27998
IBM.H0Z2110.F4 (ACICMOD)	PDS	U	0	6144
IBM.H0Z2110.F5 (ACICDOC)	PDS	VB	8192	27998
IBM.H0Z2110.F6 (ACICBOOK)	PDS	FB	4096	24576
IBM.JCI650R.F1 (JCLIN)	PDS	FB	80	8800
IBM.JCI650R.F2 (ADFHMODR)	PDS	U	0	6144
IBM.JCI650W.F1 (JCLIN)	PDS	FB	80	8800

Figure 2 (Page 5 of 5). Program File Content

Name	ORG	RECFM	LRECL	BLK SIZE
IBM.JCI650W.F2 (ADFHMOD)	PDS	U	0	6144
IBM.JCI650W.F3 (ADFHMOD2)	PDS	U	0	6144

2.2 Optional Machine-Readable Material

The distribution medium for this program is 3480 cartridge.

Figure 3 describes the physical cartridge. Figure 4 describes the file content.

Figure 3. Optional Material

Medium	Feature Number	Physical Volume	External Label	Unload Utility	VOLSER
3480 cart	5832	1	CICS TS V3R2 OPT.S	IEBCOPY	CI650S
3480 cart	5832	2	CICS TS V3R2 OPT.S	IEBCOPY	CI650T

Figure 4. Optional Material File Content

Name	ORG	RECFM	LRECL	BLK SIZE	Number of Statements
CICSTS32.OPTSRC01 (CI650S)	PO	FB	80	6160	1115
CICSTS32.OPTSRC02 (CI650T)	PO	FB	80	6160	604

2.3 Program Publications

The following sections identify the basic and optional publications for CICS Transaction Server.

2.3.1 Basic Program Publications

Figure 5 on page 11 identifies the basic unlicensed program publications for CICS Transaction Server. For more information contact your IBM representative.

<i>Figure 5 (Page 1 of 2). Basic Material: Unlicensed Publications</i>	
Publication Title	Form Number
CICS Transaction Server for z/OS Program Directory	GI13-0515
CICS Transaction Server for z/OS Installation Guide	GC34-6812
CICS Transaction Server for z/OS Licensed Program Specifications	GC34-6810
CICS Tools Trial Download Announcement Flyer	GI13-0514
CICS Transaction Server for z/OS Release Guide	GC34-6811
CICS Transaction Server for z/OS Migration Guide	GC34-6858
CICS Application Programming Guide	SC34-6818
CICS Application Programming Reference	SC34-6819
CICS Business Transaction Services	SC34-6824
CICS Customization Guide	SC34-6814
CICS C++ OO Class Libraries	SC34-6822
CICS DB2 Guide	SC34-6837
CICS Distributed Transaction Processing Guide	SC34-6823
CICS External Interfaces Guide	SC34-6830
CICS Front End Programming Interface User's Guide	SC34-6821
CICS IMS Database Control Guide	SC34-6834
CICS Intercommunication Guide	SC34-6829
CICS Internet Guide	SC34-6831
Java Applications in CICS	SC34-6825
CICS Messages and Codes	GC34-6827
CICS Operations and Utilities Guide	SC34-6816
CICS Performance Guide	SC34-6833
CICS Problem Determination Guide	SC34-6826
CICS RACF Security Guide	SC34-6835
CICS Recovery and Restart Guide	SC34-6832
CICS Resource Definition Guide	SC34-6815
CICS Shared Data Tables Guide	SC34-6836
CICS Supplied Transactions	SC34-6817

Figure 5 (Page 2 of 2). Basic Material: Unlicensed Publications

Publication Title	Form Number
CICS System Definition Guide	SC34-6813
CICS System Programming Reference	SC34-6820
CICS Trace Entries	SC34-6828
CICS Web Services Guide	SC34-6838
CICS Family: Communicating from CICS on System/390	SC34-6854
CICS Family: Interproduct Communication	SC34-6853
CICSplex SM Administration	SC34-6842
CICSplex SM Application Programming Guide	SC34-6848
CICSplex SM Application Programming Reference	SC34-6849
CICSplex SM Concepts and Planning	SC34-6839
CICSplex SM Managing Business Applications	SC34-6847
CICSplex SM Managing Resource Usage	SC34-6846
CICSplex SM Managing Workloads	SC34-6845
CICSplex SM Messages and Codes	GC34-6851
CICSplex SM Monitor Views Reference	SC34-6844
CICSplex SM Operations Views Reference	SC34-6843
CICSplex SM Problem Determination	GC34-6852
CICSplex SM Resource Tables Reference	SC34-6850
CICSplex SM Web User Interface Guide	SC34-6841
Diagnosis Reference	GC34-6862
Data Areas	GC34-6863
Supplementary Data Areas	GC34-6864
Debugging Tools Interface Reference	GC34-6865

Note: Please refer to the Publications Center and Information Center to ensure that this document GI13-0515-xx is at the latest suffixed level. The Information Center can be found at the following URL :-

www.ibm.com/software/htp/cics/library/indexes/infocenters.html

2.4 Program Source Materials

Customers with access to View Program Listings (VPL), such as through S/390 SoftwareXcel, can use the VPL facility for online viewing of available program listings. Those customers without access to VPL can contact their IBM representative.

2.5 Publications Useful During Installation

The publications listed in Figure 6 may be useful during the installation of CICS Transaction Server. To order copies, contact your IBM representative or visit the IBM Publications Center on the World Wide Web at:

<http://www.ibm.com/shop/publications/order>

Publication Title	Form Number
<i>IBM SMP/E for z/OS and OS/390 User's Guide</i>	SA22-7773
<i>IBM SMP/E for z/OS and OS/390 Commands</i>	SA22-7771
<i>IBM SMP/E for z/OS and OS/390 Reference</i>	SA22-7772
<i>IBM SMP/E for z/OS and OS/390 Messages, Codes, and Diagnosis</i>	GA22-7770
<i>OS/390 UNIX System Services User's Guide</i>	SC28-1891
CICS Transaction Server for z/OS Installation Guide	GC34-6426
CICS Transaction Server Information Center	SK4T-2578

3.0 Program Support

This section describes the IBM support available for CICS Transaction Server.

3.1 Program Services

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

3.2 Preventive Service Planning

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

If the CBPDO for CICS Transaction Server is more than two weeks old when you install it, you should contact the IBM Support Center, use S/390 SoftwareXcel to obtain the current "PSP Bucket" or obtain the current PSP from the web at <https://techsupport.services.ibm.com/server/390.psp390>

For program support, access the Software Support web site at <http://www-3.ibm.com/software/support/>

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 CICS Transaction Server are:

Figure 7. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
CICSTS32	HCI6500	CICS TS Base
	JCI6501	COBOL Language Parts
	JCI6502	PL/I Language Parts
	JCI6503	C Language Parts and XPLINK
	JCI650D	IIOP/JAVA
	JCI650M	CICS System Manager
	JCI650R	REXX Alternate Library
	JCI650W	WS-Security
	HBDD110	CICS Application Migration Aid
	H0B5110	CICS REXX Runtime Facility
	H0B7110	CICS REXX Development System
	H0Z2110	CICS REXX Common for CICS/ESA

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 8 on page 16 identifies the component IDs (COMPID) for CICS Transaction Server.

<i>Figure 8. Component IDs</i>			
FMID	COMPID	Component Name	RETAIN Release
HCI6500	5655M1500	CICS TS Base	500
JCI6501	5655M1500	COBOL Language Parts	501
JCI6502	5655M1500	PL/I Language Parts	502
JCI6503	5655M1500	C Language Parts	503
JCI650D	5655M1500	IIOF/JAVA	50D
JCI650M	5655M1500	CICS System Manager	50M
JCI650R	5655M1500	REXX Alternate Library	50R
JCI650W	5655M1500	WS-Security	50W
HBDD110	569506100	CICS Application Migration Aid	110
H0B5110	565508700	CICS REXX Runtime Facility	110
H0B7110	565508600	CICS REXX Development System	110
H0Z2110	565511200	CICS REXX Common for CICS/ESA	110

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of CICS Transaction Server. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs incorporated into the program.

4.1 Program Level Information

You can find the APARs against previous releases that have been incorporated into this release by going to www-1.ibm.com/support/docview.wss?rs=1083&uid=swg21260444.

4.2 Service Level Information

No PTFs against this release of CICS Transaction Server have been incorporated into the product tape.

5.0 Installation Requirements and Considerations

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

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

The program may have specific operating system or product level requirements for utilizing processes such as binder or assembly utilities during the install.

- *Target system*: the system on which the program is intended to run.

The program may have specific product level requirements such as needing access to another product's library for link-edits that may directly affect the elements during the install or for its basic or enhanced operation. These requirements may be mandatory or optional.

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 CICS Transaction Server.

5.1.1 Machine Requirements

To install CICS Transaction Server you need a System/390 processor that supports z/OS Version 1 Release 7 or later, and which has sufficient DASD space for all the product datasets.

5.1.2 Programming Requirements

Figure 9. Driving System Software Requirements

Program Number	Product Name and Minimum VRM/Service Level
5694-A01	z/OS V1.07.0 or later
5655-G44	IBM SMP/E for z/OS V3.03.0 or later

5.2 Target System Requirements

This section describes the environment of the target system required to install and use CICS Transaction Server.

CICS Transaction Server installs in the CICS (C150) 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 Installation Requisites: An installation requisite is defined as a product that is required and **must** be present or one that is not required but **should** be present on the system for the successful installation of this product.

A mandatory installation requisite identifies products that are required, without exception, or this product **will not install** on your system. This includes products specified as PREs or REQs.

Figure 10. Mandatory Installation Requisites

Program Number	Product Name and Minimum VRM/Service Level
5694-A01	z/OS Version 1.7 or later
5655-J51	z/OS XML Toolkit 1.9

The XML Toolkit can be downloaded from the following URL:

<http://www-03.ibm.com/servers/eserver/zseries/software/xml/>

A conditional installation requisite identifies products that are **not** required for successful install but may resolve such things as certain warning messages at installation time. They include products that are specified as IF REQs.

5.2.2.2 Operational Requisites: An operational requisite is defined as a product that is required and **must** be present or a product that is not required but **should** be present on the system in order for this product to operate all or some of its functions.

A mandatory operational requisite identifies products that are required, without exception, or this product **will not operate** its basic function unless the requisite is met. This includes products specified as PREs or REQs.

Figure 11. Mandatory Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level
5694-A01	z/OS V1.7 will need PTFs for APARs OA14340 & BA19565
5994-A01	z/OS V1.8 will need PTF for APAR AA19565
5994-A01	z/OS V1.9 will need PTF for APAR OA19565

A conditional operational requisite identifies products that are **not required** for the basic function but are needed at run time for this product to utilize specific functions. They may include products specified as IF REQs.

Figure 12 (Page 1 of 2). Conditional Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
5694-A01	z/OS V1.7 with APARs UA33777,UA32788, BA20384 and PTF UK24826	CICS IP Interconnectivity
5695-039	OS/390 Security Server(RACF)	Security
5698-TD9	Tivoli Decision Support for OS/390	SMF Record Reporting
5688-197	IBM COBOL for MVS and VM	Language Compiler
5648-A25	IBM COBOL for OS/390 and VM. For integrated CICS translator support, you need Version 2 Release 2, or later, with the appropriate PTF (UQ52879, UQ52880 or UQ52881) for APAR PQ45462, and the PTF for APAR PQ55290.	Language Compiler
5655-G53	IBM Enterprise COBOL for z/OS and OS/390 Version 3	Language Compiler
5688-235	IBM PL/I for MVS and VM	Language Compiler
5655-B22	IBM Visual Age PL/I for OS/390. For integrated translator support, you need Version 2 Release 2.1, or later, plus PTF UQ53116 for APAR PQ45562 and PTF UQ57194 for APAR PQ51233.	Language Compiler
5655-121	IBM C/C++ Release 1	Language Compiler
5668-814	CSP Version 3 or higher	Application Development

Figure 12 (Page 2 of 2). Conditional Operational Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
5688-197	SAA AD/Cycle COBOL/370	Language Compiler
5688-235	SAA AD/Cycle PL/I	Language Compiler
5688-216	SAA AD/Cycle C/370	Language Compiler
5665-356	GDDM/MVS Version 2.3	Graphical Application Support
5694-A01	OS/390 Language Environment with APAR PQ99064	
5695-H91	CICS VSAM Recovery (CICSVR) Version 3.3 or higher For forward recovery support of extended ESDS datasets CICS VSAM Recovery Version 4.2 (5655-P30) is required	VSAM File Recovery
5655-C56	IMS/ESA Database Manager Version 8	IMS DBCTL Multisystem Data Sharing
5655-J38	IMS/ESA Database Manager Version 9	IMS DBCTL Multisystem Data Sharing
5635-A01	IMS/ESA Database Manager Version 10	IMS DBCTL Multisystem Data Sharing
5675-DB2	DB2 Universal Database Server for OS/390 and z/OS V7.1	
5625-DB2	DB2 Universal Database Server for z/OS V8.1	
5635-DB2	DB2 Version 9.1 for z/OS	
5655-F10	Websphere MQ for z/OS V5.3.1	
5655-L82	Websphere MQ for z/OS V6.0	
5655-D35	IBM Software Developer Kit for z/OS, Java 2 Technology Edition V1.4 with PTF for APAR PQ79281 - see note below.	Java Virtual Machine
5655-JAV	IBM Visual Age for Java, Enterprise Edition for OS/390, Version 2.0 with PTFs UQ90004, UQ90006, UQ90007 and UQ54258 for the runtime library.	

CICS Transaction Server customers using CICS/TS 2.2.0 with CICS/TS 3.2 must install some pre-req service.

If the CICSplex SM component of CICS Transaction Server for z/OS 3.2 is to be used with an earlier release of CICS TS, the following must be installed:

- For CICS/TS 2.2.0 the APAR is PK43690
- For CICS/TS 2.3.0 the APAR is PK43690
- For CICS/TS 3.1.0 the APAR is PK47318

If using Websphere/MQ V5.3.1 or V6.0.0 the following APARs are required :-

- For Websphere/MQ V5.3.1 APAR is PK39200
- For Websphere/MQ V6.0.0 APARs are PK38772 & PK42616

Note: To obtain the IBM Software Developer Kit for z/OS Java 2 Technology edition, with the persistent reusable Java Virtual Machine technology, go to:

<http://www.ibm.com/servers/eserver/zseries/software/java/>

For information about prerequisites for the IBM Software Developer Kit for z/OS, Java 2 Technology Edition with persistent reusable Java Virtual Machines, go to:

<http://www.ibm.com/servers/eserver/zseries/software/java/prereqs14.html>

5.2.2.3 Operational Considerations

If STGPROT=YES is specified, a SET FILE CLOSE may result in CICS terminating with a 378-14 abend. This problem is reported in DFSMS APAR OA20352. A fix will be made available as soon as possible.

For 'Threadsafe File Control for Local VSAM' customers will need APAR PK45354.

For 'Threadsafe File Control for RLS' customers will need APAR OA20343.

Extended Addressability ESDS's that can be used in a 'combined environment', sharing CICS VSAM Record Level Sharing (VSAM RLS) files with batch applications, requires APAR OA19958 for the support of Transactional VSAM Services (TVS).

5.2.2.4 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.

5.2.2.5 Incompatibility (Negative) Requisites: A negative requisite identifies products which must *not* be installed on the same system as this product.

CICS Transaction Server has no negative requisites.

5.2.3 DASD Storage Requirements

CICS Transaction Server libraries can reside on all supported DASD types.

Figure 13 lists the total space required for each type of library.

Figure 13. Total DASD Space Required by CICS Transaction Server

Library Type	Total Space Required
Target	710 cylinders
Distribution	839 cylinders
HFS	40 cylinders

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.

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.
- The data set may be either a PDS or a 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:

- The data set may be in the LPA.
- It is not required for the data set to be in the LPA.
- The data set may be in the LNKLIST.
- 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 CICS Transaction Server. The storage requirements of CICS Transaction Server 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 14 (Page 1 of 3). Storage Requirements for CICS Transaction Server Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C O M	L R E C L	No. of 3390 Trks	No. of DIR Blks
SDFHINST	Sample	ANY	U	PDS	FB	80	41	6
SDFHSDCK	Data	ANY	U	PDS	FB	80	2	2
SDFHAPD1	Data	ANY	U	PDS	FB	38	1	2
SDFHAPD2	Data	ANY	U	PDS	FB	227	1	1
SDFHAUTH	LMOD	ANY	U	PDS	U	0	97	12
SDFHCLIB	CLIST	ANY	U	PDS	FB	80	1	2
SDFJAUTH	LMOD	ANY	U	PDSE	U	0	9	2
SDFHCOB	Source	ANY	U	PDS	FB	80	81	7
SDFHC370	Sample	ANY	U	PDS	FB	80	70	5
SDFHEXCI	LMOD	ANY	U	PDS	U	0	4	3
SDFHLANG	Source	ANY	U	PDS	FB	80	1	1
SDFHLLIB	LMOD	ANY	U	PDS	U	0	5	1
SDFHLOAD	LMOD	ANY	U	PDS	U	0	810	137
SDFHLODX	LMOD	ANY	U	PDS	U	0	1	1
SDFHMAC	Macro	ANY	U	PDS	FB	80	327	23

Figure 14 (Page 2 of 3). Storage Requirements for CICS Transaction Server Target Libraries

Library DDNAME	Member Type	Target Volume	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
SDFHMLIB	Message	ANY	U	PDS	FB	80	1	1
SDFHMSG	Message	ANY	U	PDS	V	30646	279	1
SDFHPARM	PARM	ANY	U	PDS	FB	80	1	1
SDFHPLIB	Panel	ANY	U	PDS	FB	80	3	1
SDFHPL1	Source	ANY	U	PDS	FB	80	62	6
SDFHPROC	PROC	ANY	U	PDS	FB	80	6	2
SDFHSAMP	Sample	ANY	U	PDS	FB	80	396	31
SDFHMSRC	Source	ANY	U	PDS	FB	80	520	16
SDFHDLL1	LMOD	ANY	U	PDS	U	0	10	1
SDFHLINK	LMOD	ANY	U	PDS	U	0	190	4
SDFHLPA	LMOD	ANY	U	PDS	U	0	7	2
SDFHENV	Data	ANY	U	PDS	V	30000	13	1
SDFHRALT	LMOD	ANY	U	PDS	U	0	9	2
SDFHWSSX	Data	ANY	U	PDS	FB	80	4	1
SDFHWSLD	LMOD	ANY	U	PDS	U	0	131	1
SDFJLOAD	LMOD	ANY	U	PDSE	U	0	7	2
SDFJLPA	LMOD	ANY	U	PDSE	U	0	1	2
SERCLMD	LMOD	ANY	U	PDS	U	0	17	6
SEYUSAMP	Sample	ANY	U	PDS	FB	80	26	2
SEYUPARM	PARM	ANY	U	PDS	FB	80	1	1
SEYUMAC	Macro	ANY	U	PDS	FB	80	79	38
SEYUDEF	Sample	ANY	U	PDS	FB	80	24	2
SEYULOAD	LMOD	ANY	U	PDS	U	0	600	18
SEYUAUTH	LMOD	ANY	U	PDS	U	0	173	4
SEYUCLIB	EXEC	ANY	U	PDS	FB	80	3	1
SEYUMLIB	Message	ANY	U	PDS	FB	80	5	3
SEYUPLIB	Panel	ANY	U	PDS	FB	80	1	1
SEYUTLIB	Table	ANY	U	PDS	FB	80	1	1
SEYUPROC	PROC	ANY	U	PDS	FB	80	1	1

Figure 14 (Page 3 of 3). Storage Requirements for CICS Transaction Server Target Libraries

Library DDNAME	Member Type	Target Volume	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
SEYUC370	Source	ANY	U	PDS	FB	80	85	37
SEYUCOB	Source	ANY	U	PDS	FB	80	99	37
SEYUPL1	Macro	ANY	U	PDS	FB	80	90	37
SEYULINK	LMOD	ANY	U	PDS	U	0	5	1
SEYULPA	LMOD	ANY	U	PDS	U	0	1	1
SEYUVIEW	Data	ANY	U	PDS	VB	32000	2984	1
SCICJCL	Sample	ANY	U	PDS	FB	80	6	2
SCICPNL	Panel	ANY	U	PDS	FB	80	1	1
SCICDBRM	Data	ANY	U	PDS	FB	80	1	1
SCICBOOK	Book	ANY	U	PDS	FB	4096	18	1
SCICLOAD	LMOD	ANY	U	PDS	U	0	24	2
SCICCMD5	Data	ANY	U	PDS	VB	255	1	1
SCICEXEC	EXEC	ANY	U	PDS	VB	255	2	1
SCICUSER	Data	ANY	U	PDS	VB	255	3	1
SCICDOC	Book	ANY	U	PDS	VB	8192	76	1

Figure 15 (Page 1 of 3). CICS Transaction Server HFS Paths

DDNAME	T Y P E	Path Name
SDFJH001	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/lib/IBM
SDFJH002	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/dfjcorb/BankAccount/IBM
SDFJH003	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/dfjcorb/BankAccount/javaclient/
SDFJH004	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/dfjcorb/BankAccount/server/IBM
SDFJH005	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/dfjcics/IBM
SDFJH006	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/dfjcics/examples/HelloWorld/IBM

Figure 15 (Page 2 of 3). CICS Transaction Server HFS Paths

DDNAME	T Y P E	Path Name
SDFJH007	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/dfjcics/examples/ProgramControl
SDFJH008	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/dfjcics/examples/TDQ/IBM
SDFJH009	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/dfjcics/examples/TSQ/IBM
SDFJH010	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/docs/IBM
SDFJH011	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/dfjcorb/IBM
SDFJH012	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/dfjcorb/HelloWorld/IBM
SDFJH013	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/dfjcorb/HelloWorld/server/IBM
SDFJH014	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/dfjcorb/HelloWorld/client/IBM
SDFJH015	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/ejb/helloworld/IBM
SDFJH016	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/ejb/bankaccount/IBM
SDFJH017	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/cci/IBM
SDFJH018	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/jdbc/IBM
SDFJH019	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/lib/security/IBM
SDFJH020	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/utils/IBM
SDFJH021	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/utils/namespace/IBM
SDFJH022	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/dfjcics/examples/Web/IBM
SDFJH023	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/useroutputclass/com/ibm/cics/sample/IBM/
SDFJH024	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/lib/wSDL/IBM

Figure 15 (Page 3 of 3). CICS Transaction Server HFS Paths

DDNAME	T Y P E	Path Name
SDFJH025	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/ samples/pipelines/IBM
SDFJH026	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/ pipeline/configs/IBM
SDFJH027	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/ samples/webservices/JCL/IBM
SDFJH028	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/ samples/webservices/wsd/IBM
SDFJH029	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/ samples/webservices/wsbinding/provider/IBM
SDFJH030	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/ samples/webservices/wsbinding/requester/IB
SDFJH031	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/ samples/webservices/client/IBM
SDFJH032	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/IBM
SDFJH033	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@ utils/isolation/IBM
SDFJH034	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/samples/ ws-trust/IBM
SDFHH035	N	/@pathprefix@/usr/lpp/cicsts/@ussdir@/lib/IBM

Please note the above variables '@pathprefix@' and '@ussdir@' should be changed to a suitable value of your choice.

Figure 16 (Page 1 of 4). Storage Requirements for CICS Transaction Server Distribution Libraries

Library DDNAME	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
ADFHINST	U	PDS	FB	80	41	5
ADFHSDCK	U	PDS	FB	80	2	1
ADFHAPD1	U	PDS	FB	38	1	1
ADFHAPD2	U	PDS	FB	227	1	1
ADFHCLIB	U	PDS	FB	80	1	1

Figure 16 (Page 2 of 4). Storage Requirements for CICS Transaction Server Distribution Libraries

Library DDNAME	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
ADFHCOB	U	PDS	FB	80	81	7
ADFHC370	U	PDS	FB	80	70	5
ADFHENV	U	PDS	V	30000	13	1
ADFHLANG	U	PDS	FB	80	1	1
ADFHMAC	U	PDS	FB	80	325	22
ADFHMLIB	U	PDS	FB	80	1	1
ADFHMOD	U	PDS	U	0	1041	536
ADFHMOD2	U	PDS	U	0	2	12
ADFHMODR	U	PDS	U	0	2	2
ADFHMODX	U	PDS	U	0	1	10
ADFJMOD	U	PDSE	U	0	2457	2
ADFHMSG	U	PDS	V	30646	279	1
ADFHPARM	U	PDS	FB	80	1	1
ADFHPLIB	U	PDS	FB	80	3	1
ADFHPL1	U	PDS	FB	80	62	6
ADFHPROC	U	PDS	FB	80	6	2
ADFHSAMP	U	PDS	FB	80	396	31
ADFHMSRC	U	PDS	FB	80	520	16
ADFJH001	U	PDS	V	32000	110	1
ADFJH002	U	PDS	V	32000	1	1
ADFJH003	U	PDS	V	32000	1	1
ADFJH004	U	PDS	V	32000	1	1
ADFJH005	U	PDS	V	32000	1	1
ADFJH006	U	PDS	V	32000	1	1
ADFJH007	U	PDS	V	32000	1	1
ADFJH008	U	PDS	V	32000	1	1
ADFJH009	U	PDS	V	32000	1	1
ADFJH010	U	PDS	V	32000	21	1
ADFJH011	U	PDS	V	32000	1	1

Figure 16 (Page 3 of 4). Storage Requirements for CICS Transaction Server Distribution Libraries

Library DDNAME	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
ADFJH012	U	PDS	V	32000	1	1
ADFJH013	U	PDS	V	32000	1	1
ADFJH014	U	PDS	V	32000	1	1
ADFJH015	U	PDS	V	32000	3	1
ADFJH016	U	PDS	V	32000	22	1
ADFJH017	U	PDS	V	32000	1	1
ADFJH018	U	PDS	V	32000	1	1
ADFJH019	U	PDS	V	32000	1	1
ADFJH020	U	PDS	V	32000	1	1
ADFJH021	U	PDS	V	32000	1	1
ADFJH022	U	PDS	V	32000	1	1
ADFJH023	U	PDS	V	32000	1	1
ADFJH024	U	PDS	V	32000	74	1
ADFJH025	U	PDS	V	32000	1	1
ADFJH026	U	PDS	V	32000	1	1
ADFJH027	U	PDS	V	32000	1	1
ADFJH028	U	PDS	V	32000	3	1
ADFJH029	U	PDS	V	32000	1	1
ADFJH030	U	PDS	V	32000	1	1
ADFJH031	U	PDS	V	32000	37	1
ADFJH032	U	PDS	V	32000	1	1
ADFJH033	U	PDS	V	32000	1	1
ADFJH034	U	PDS	V	32000	1	1
AERCINST	U	PDS	FB	80	2	1
AERCMOD	U	PDS	U	0	10	7
AEYUMOD	U	PDS	U	0	1143	688
AEYUSAMP	U	PDS	FB	80	26	2
AEYUPARM	U	PDS	FB	80	1	1
AEYUMAC	U	PDS	FB	80	79	38

Figure 16 (Page 4 of 4). Storage Requirements for CICS Transaction Server Distribution Libraries

Library DDNAME	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
AEYUDEF	U	PDS	FB	80	24	2
AEYUCLIB	U	PDS	FB	80	3	1
AEYUMLIB	U	PDS	FB	80	5	3
AEYUPLIB	U	PDS	FB	80	1	1
AEYUTLIB	U	PDS	FB	80	1	1
AEYUPROC	U	PDS	FB	80	1	1
AEYUC370	U	PDS	FB	80	85	37
AEYUCOB	U	PDS	FB	80	99	37
AEYUPL1	U	PDS	FB	80	90	37
AEYUVIEW	U	PDS	VB	32000	2984	1
ACICRMOD	U	PDS	U	0	1	1
ACICMOD	U	PDS	U	0	36	27
ACICDMOD	U	PDS	U	0	1	1
ACICJCL	U	PDS	FB	80	6	2
ACICPNL	U	PDS	FB	80	1	1
ACICDBRM	U	PDS	FB	80	1	1
ACICBOOK	U	PDS	FB	4096	18	1
ACICDOC	U	PDS	VB	8192	76	1
ACICCMDS	U	PDS	VB	255	1	1
ACICEXEC	U	PDS	VB	255	2	1
ACICUSER	U	PDS	VB	255	2	1
ACICDUSR	U	PDS	VB	255	2	1

The allocations for data sets in Figure 16 on page 29 contain extra space. (DFHALLOC allocates space rounded up to the next cylinder.) Revise these numbers according to your plans for adding additional function or service.

5.3 FMIDs Deleted

Installing CICS Transaction Server 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 CICS Transaction Server 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

CICS Transaction Server has no special considerations for the target system.

6.0 Installation Instructions

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

Please note the following:

- If you want to install CICS Transaction Server 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 CICS Transaction Server

6.1.1 SMP/E Considerations for Installing CICS Transaction Server

This release of CICS Transaction Server 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	2611,792,689	The space used if SMP/E allocates the RELFILE datasets
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.
Binder return code	4	IBM recommends using a minimum return code of 4 for the binder.

6.1.3 SMP/E CALLLIBS Processing

CICS Transaction Server uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When CICS Transaction Server is installed, ensure that DDDEFs exist for the following libraries:

- CSSLIB
- MACLIB
- MODGEN
- SCEELKED
- SCEELKEX
- SCEEBND2
- SCEEOBJ
- SCEECPP
- SCLBSID
- SCSFMOD0
- SDSNLOAD
- SEZARPCL
- SEZACMTX
- SISpload
- SIXMEXP

Note: The DDDEFs above are used only to resolve the link-edit for CICS Transaction Server using CALLLIBS. These data sets are not updated during the installation of CICS Transaction Server.

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install CICS Transaction Server:

<i>Figure 18 (Page 1 of 2). Sample Installation Jobs</i>			
Job Name	Job Type	Description	RELFILE
DFHIHFS0		Sample job to create HFS dataset and directory	IBM.HCI6500.F2
DFHIHFS1		Sample job to create and mount HFS directory	IBM.HCI6500.F2
DFHALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HCI6500.F2
DFHSMPSU	ZONES	Sample job to setup SMP/E zones	IBM.HCI6500.F2
DFHDDDEF	DDDEF	Sample job to create DDDEF entries for Target and Distribution libraries	IBM.HCI6500.F2
DFHRECV	RECEIVE	Sample RECEIVE job from tape	IBM.HCI6500.F2
DFHRECV	RECEIVE	Sample RECEIVE job from DASD	IBM.HCI6500.F2
DFHAPPLY	APPLY	Sample APPLY job	IBM.HCI6500.F2
DFHACCPT	ACCEPT	Sample ACCEPT job	IBM.HCI6500.F2

Figure 18 (Page 2 of 2). Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
DFHISMKD	MKDIR	Sample job to invoke the supplied DFHMKDIR EXEC to allocate HFS paths	IBM.HCI6500.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the relfiles to a work data set for editing and submission. See Figure 18 on page 36 to find the appropriate relfile data set.

For this release of CICS Transaction Server the installation method has been changed in line with IBM Corporate Standards. However, the traditional method of installing CICS Transaction Server is still available. For more information on DFHISTAR refer to member DFHIHELP in dataset 'IBM.HCI6500.F2' or refer to Chapter 3 of the CICS Transaction Server Installation Guide GC34-6426

6.2 Copy RELFILE(2) from the Distribution Tape

The distribution tape contains several files, but at this stage, you only need to copy the third file, RELFILE(2), from the tape into a temporary installation library. (Later, all files are copied from tape to disk by SMP/E.)

To copy RELFILE(2) (named IBM.HCI6500.F2) from the tape:

1. Choose a name for the temporary installation library, TDFHINST (the default name is CICSTS32.TDFHINST). You can use another name for the library to suit your installation's naming conventions.

Note: Throughout this Program Directory, the CICS Transaction Server partitioned data sets are qualified by the high-level index **CICSTS32**.

2. Modify the R2 DD statement parameter (see Figure 19 on page 38) to satisfy your installation requirements. e.g. UNIT=3480 .
3. Edit any other part of the job to ensure it meets your installation requirements and submit job.

```

//COPYINST JOB (accounting information)
//*
//* Insert here instructions for mounting the tape.
//*
//COPYSTEP EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=A
//SYSUT3 DD UNIT=SYSDA,SPACE=(CYL,(1,1))
//R2 DD UNIT={TAPE|device-type|user-group-name}
// VOL=SER=CI6500,LABEL=3,DSN=IBM.HCI6500.F2,
// DISP=(OLD,KEEP)
//TDFHINST DD DSN=CICSTS32.TDFHINST,DISP=(NEW,CATLG,DELETE),
// UNIT=SYSALLDA,
// SPACE=(TRK,(50,50,50))
//*
//SYSIN DD *
COPY INDD=((R2,R)),OUTDD=TDFHINST
/*

```

Figure 19. Sample job for copying RELFILE(2) from tape

In the sample above, update the statements as noted below:

If using TAPEIN:

tunit is the unit value matching the product tape.

volser is the volume serial matching the product tape.

x is the tape file number where the data set name is on the tape.

Refer to the documentation provided by CBPDO to see where IBM.fmid.Fy is on the tape.

If using FILEIN

filevol is the volume serial of the DASD device where the downloaded files reside.

OUT

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.

SYSIN

xxxxIN is either TAPEIN or FILEIN depending on your input DD statement.

6.2.1.1 Result of copying RELFILE(2): When you have copied RELFILE(2) from the distribution tape, the CICSTS32.TDFHINST library contains the DFHISTAR job and the skeleton jobs, listed in Figure 20, for installing CICS Transaction Server elements, creating CICS Transaction Server data sets, and running the installation verification procedures (IVPs).

Figure 20 (Page 1 of 3). Skeleton jobs in RELFILE(2) copied to the TDFHINST library

Job	Function
CAUJCLLD	Sample JCL to run Load Module Scanner component of the Affinities Utility (Detail mode)
CAUJCLLS	Sample JCL to run Load Module Scanner component of the Affinities Utility (Summary mode)
DFHINSTE	SMP/E RECEIVE from disk
DFHALLOC	Sample job to allocate target and distribution libraries

Figure 20 (Page 2 of 3). Skeleton jobs in RELFILE(2) copied to the TDFHINST library

Job	Function
DFHDDDEF	Sample job to define SMP/E DDDEFs
DFHRECV	Sample RECEIVE job from tape
DFHAPPLY	Sample APPLY job
DFHACCPT	Sample ACCEPT job
DFHSMPSU	Sample job to setup SMP/E zones
DFHISMKD	Sample job to invoke the supplied DFHMKDIR EXEC to allocate HFS paths
DFH\$BRXJ	Sample JCL for running the link 3270 bridge EXCI business client samples DFH0CBRX and DFH\$BRXC.
DFHAUPLE	Create CICS control tables
DFHBPXPA	MOUNT statement for HFS dataset with name defined by DFHISTAR parameter HFSADSN for inclusion in SYS1.PARMLIB BPXPRMxx member
DFHBPXP0	MOUNT statement for HFS dataset with name defined by DFHISTAR parameter HFS0DSN for inclusion in SYS1.PARMLIB BPXPRMxx member
DFHBPXP1	MOUNT statement for HFS dataset with name defined by DFHISTAR parameter HFS1DSN for inclusion in SYS1.PARMLIB BPXPRMxx member
DFHCDBMI	Define and initialize the CDBM GROUP command file
DFHCMACI	Create CICS messages data set
DFHCMACU	Update (service) CICS messages data set
DFHCOMDS	Create data sets common to all CICS regions
DFHDEFDS	Create data sets for each CICS region
DFHIHELP	Member containing documentation relevant to DFHISTAR
DFHIHFSA	Create <i>pathprefix/usr/lpp/cicsts/ussdira</i> directory and its associated HFS
DFHIHFS0	Create <i>/pathprefix/usr/lpp/cicsts</i> directory and its associated HFS
DFHIHFS1	Create <i>/pathprefix/usr/lpp/cicsts/ussdir</i> directory and its associated HFS
DFHIJVME	Customize a member of the SDFHENV library
DFHIJVMJ	Customize the JVM environment members by DFHISTAR
DFHIJVMS	Manually customize the JVM environment members
DFHILG1	Define log stream CF structures to the MVS logger
DFHILG2	Define log stream models for system log streams
DFHILG3	Define log stream models for individual CICS region
DFHILG4	Define specific log stream for the log of logs
DFHILG5	Sample JCL to define a DASDONLY log stream model for the CICS log streams
DFHILG6	Sample JCL to define a DASDONLY log stream model for user journals on a particular CICS region
DFHILG7	Sample JCL to define a DASDONLY log stream model for the CICS log of logs
DFHINST	CLIST to tailor skeleton jobs
DFHINSTA	Create additional set of target libraries
DFHINSTJ	Install optional features (if any)
DFHINST1	1st installation job (for use with DFHISTAR)
DFHINST2	2nd installation job (for use with DFHISTAR)
DFHINST3	3rd installation job (for use with DFHISTAR)
DFHINST4	4th installation job (for use with DFHISTAR)
DFHINST5	5th installation job (for use with DFHISTAR)
DFHINST6	6th installation job (for use with DFHISTAR)
DFHISMKD	Create UNIX System Services directories
DFHISTAR	Tailor skeleton jobs to customer environment
DFHIVPBT	IVP (batch) to verify CICS startup

Figure 20 (Page 3 of 3). Skeleton jobs in RELFILE(2) copied to the TDFHINST library

Job	Function
DFHIVPDB	This job brings up CICS and attempts to connect to the DBCTL system IVP3 generated by the IMS IVP
DFHIVPOL	IVP to run an online CICS
DFHLPUMD	Receive and apply sample SMP/E USERMOD DFH\$UMOD
DFHLS2WS	Generate WSDL from language structures
DFHMKDIR	REXX EXEC to create all the HFS directories needed under /pathprefix/usr/lpp/cicsts
DFHNADEF	Sample JCL to define the NACT sample files and load data into them.
DFHOPSRC **	Load optional source tapes
DFHSMPE	Service CICS
DFHSTART	Start up CICS
DFHWS2LS	Generate language structures from WSDL
DFH0JCUS	Define and load sample applications details data set
DFH0JHLP	Define and load sample applications help data set
DFH99BLD	Create dynamic allocation sample program
DFH\$ECAT	Sample JCL to build the catalog data file required by the base application of the web services example application
DFHNOTE1	Legal notice (1) - Please read
DFHNOTE2	Legal notice (2) - Please read
DFH\$ECNF	Sample JCL to build the configuration file required by the base application of the web services example application
EYUCMASJ	In-stream procedure
EYUCMASP	Sample CMAS start up JCL
EYUCMSDS	Sample CMAS setup + create and initialize a CICS CSD
EYUCMSSP	Sample to initialize a CMAS
EYUCMS0P	Sample EYUPARM parameters for a CMAS
EYUCSYDS	Sample MAS setup + create and initialize a CICS CSD
EYUCSYSJ	In-stream procedure
EYUCSYSP	Sample MAS start up JCL
EYUJHIST	Deletes/Defines LMAS History data sets
EYUJWREP	Deletes/Defines WUI Server Repository data sets
EYULMSSP	Sample CICS SIT overrides to initialize a MAS
EYULMS0P	Sample EYUPARM parameters for a MAS
EYULPMOD	apply USERMOD EYU\$UM01 which moves local MAS modules to SEYULPA
EYUWUIDS	Sample WUI setup + create and initialize a CICS CSD
EYUWUIIN	Sample EYUWUI parameters for a WUI
EYUWUIJ	In-stream procedure for WUI
EYUWUIP	Sample WUI start up JCL
EYUWUISP	Sample CICS SIT overrides to initialize a WUI
EYUWUI0P	Sample EYUPARM parameters for a WUI

** more information about DFHOPSRC can be found in the CICS Transaction Server Installation Guide.

6.3 Check that you are ready to run the Installation Jobs

Check that you are now ready to run the installation jobs:

1. Check the names of the data sets to be created by these jobs, because any existing data sets with those names are deleted by the installation jobs. If you want to keep an existing data set with a name specified in one of the installation jobs, you must change the name to be used for the new data set.

Caution: *If you intend using an existing target or distribution zone that contains an earlier release of CICS Transaction Server, be aware that any earlier release of CICS Transaction Server will be cleared before being replaced by CICS Transaction Server.*

2. If you intend installing CICS Transaction Server using both existing and new CSIs, any new CSIs must have the same control interval size as the existing CSIs.

If your existing CSIs do not have a control interval size of 4096 bytes, you must edit the DFHSMPSU job (before running it) to change the CONTROLINTERVALSIZE(4096) parameter on the commands used to create the VSAM data sets for the new CSIs, to specify the same control interval size as the existing CSIs.

For further information about considerations for allocating CSI data sets, see the *System Modification Program Extended: Reference manual, SA22-7772*.

3. Ensure that you have appropriate RACF authority for the CICS Transaction Server data sets. For more information, see your Security Administrator and the *CICS RACF Security Guide*.

6.4 Run the installation Jobs

OMVS requirement

Before running the installation jobs:

- Ensure the MVS image was IPLed with OMVS in full-function mode.
- Ensure the userid under which you are running the jobs has superuser authority

This section describes the CICS Transaction Server installation jobs, and gives considerations that may affect how you use them.

The CICS Transaction Server jobs are in the library you created as a result of copying the installation file from the distribution tape as described in 6.2, “Copy RELFILE(2) from the Distribution Tape” on page 37.

These jobs should be run one at a time. Before you run a job, read the information about it (starting in topic DFHIHFS0 on page 42).

After you have run a job, check its output before proceeding to the next job. If a job terminates abnormally, find out why it failed (the job log lists the error messages produced on each run). Correct the

error, and then proceed as advised in the job description. In any case, do not attempt to run the next job until the previous job has run successfully.

All references below to 'HFS dataset' means the dataset created by the jobs for use within the Hierarchical File Structure. The dataset created is in z/FS format.

6.4.1.1 The DFHIHFS0 Job: This job:

- Creates the `cicsts` directory at `/pathprefix/usr/lpp`
- Mounts the HFS at directory `/pathprefix/usr/lpp/cicsts`
- Changes the permission settings for the `/cicsts` directory to:
 - Owner=RWX
 - Group=RWX
 - Other=R-X

(In octal form: 775)

Where:

- R equates to Read
- W equates to Write
- X equates to Execute
- - equates to no permission

Notes:

1. **DFHIHFS0 only ever needs to be run once.**
2. RACF ALTER ACCESS to the OMVS data sets must be granted before running this DFHIHFS0.
3. The `/cicsts` directory is common to all releases of CICS TS from 1.3 onwards.
4. The `/cicsts` directory contains only directories, each being a mount point.
5. CICS requires the MOUNT issued by DFHIHFS0 to access files stored in the HFS, but the MOUNT command is lost when you re-IPL MVS. SDFHINST member DFHBPXP0 contains a MOUNT command for `/pathprefix/usr/lpp/cicsts`. Copy this command into a BPXPRMxx member of the SYS1.PARMLIB dataset to ensure the mount is restored when MVS is IPLed.
6. All steps of DFHIHFS0 must end with return code zero for the job to be successful.

6.4.1.2 The DFHIHFS1 Job: This job:

- Unmounts the HFS at directory `/pathprefix/usr/lpp/cicsts/ussdir` to allow the job to be rerun, and if necessary forces return code zero.
- Deletes from `/pathprefix/usr/lpp/cicsts` the directory defined by the `ussdir` parameter. This is to allow the job to rerun, and if necessary forces return code zero.
- Deletes the HFS specified in the `@hfs1dsn@` variable to allow the job to rerun, and if necessary forces return code zero.
- Creates the HFS specified by the `@hfs1dsn@` variable
- Creates the `ussdir` directory at `/pathprefix/usr/lpp/cicsts`, where `ussdir` is the name of the directory specified on the `ussdir` parameter.
- Mounts the HFS at directory `/pathprefix/usr/lpp/cicsts/ussdir`
- Changes the permission settings for the `ussdir` directory to `775`.

All steps of DFHIHFS1 must end with return code zero for the job to be successful.

CICS requires the MOUNT issued by DFHIHFS1 to access files stored in the HFS, but the MOUNT command is lost when you re-IPL MVS. SDFHINST member DFHBXP1 contains a MOUNT command for `/pathprefix/usr/lpp/cicsts/ussdir`. Copy this command into a BPXPRMxx member of the SYS1.PARMLIB dataset to ensure the mount is restored when MVS is IPLed.

6.4.1.3 The DFHISMKD Job: This job creates the UNIX System Services directories.

The highest expected return code is 0.

6.4.1.4 The DFHALLOC Job: This job allocates and catalogs CICS Transaction Server distribution and target libraries.

To ensure that this job can be rerun, it deletes (and uncatalogs) the data sets that are allocated in the second step of the job.

If the DFHALLOC job terminates abnormally, examine the job log to determine the cause, correct the problem, then rerun the job.

The highest expected return code is 0.

6.4.1.5 The DFHSMPSU Job: This job sets up the SMP/E zones.

Note : Only run this job if you are installing CICS Transaction Server into its own zone.

Edit and submit the sample job DFHSMPSU to setup the zones for CICS Transaction Server. Consult the instructions in the sample job for more information.

The highest expected return code is 0.

6.4.1.6 The DFHDDDEF Job: This job creates DDDEF entries for the SMP/E target, and distribution zones.

If the DFHDDDEF job terminates abnormally, examine the job log to determine the cause, correct the problem, then re-run DFHDDDEF

The highest expected return code is 0, if you install into new zones and 8 if you are installing into existing zones.

Before you run the DFHDDDEF job

- If you have a DB2 SDSNLOAD library on your system, replace @DSNLOAD@ with the dataset name.
- If you do not have DB2 on your system, replace @DSNLOAD@ with the name of the SDFHLOAD dataset for this install, which contains a DB2 stub.

6.4.1.7 The DFHRECV Job: This job RECEIVES the CICS Transaction Server software into the Global zone.

It is the only installation job (apart from the initial IEBCOPY job) that requires the distribution tape to be mounted.

If the DFHRECV job terminates abnormally, examine the job log to determine the cause, correct the problem, then re-run DFHRECV.

The highest expected return code is 0.

6.4.1.8 The DFHAPPLY Job: This job performs the SMP/E APPLY function needed to install CICS Transaction Server into the target libraries.

Before you run the DFHAPPLY job

- **DFHAPPLY must be run on the same MVS image on which the HFS is installed.**
If you have modified the other installation jobs (for example, to use existing libraries and therefore existing target and distribution zones) consider splitting the DFHAPPLY job to do APPLY CHECK, APPLY) functions as two separate jobs.

The region size for the DFHAPPLY job is currently set to 'REGION=0M'. This is because this job requires more memory than the other install jobs. You may need to adjust your JES parameters (for example, with a JES2 /*JOBPARM LINES=99 statement) to avoid a system abend 722.

This job gives a return code of 4 or less when all is well. (See the “GIM23903W - LINK SUCCESSFUL . . .” message, listed in the report that is output by the apply job.) DFHAPPLY job may issue messages GIM23903W and GIM23913W depending on the execution environment of the installer. Both these messages are acceptable.

The binder produces IEW2454W messages during the APPLY stage for unresolved external references while some CICS Transaction Server load modules are being link-edited during installation, giving return code 4. You may also receive numerous IEW2646W and IEW2651W messages, which are conflicts with user-specified RMODE and AMODEs respectively. You can ignore these IEWxxxx messages, which are output for component object modules of executable CICS Transaction Server load modules.

Messages IEW2689W, IEW2470E, IEW2648E and IEW2303E might be displayed, and can also be ignored.

When you have run the DFHAPPLY job, you should see the following SMP/E message in the output from the job:

```
GIM20502I GIMSMP PROCESSING IS COMPLETE - THE HIGHEST RETURN CODE WAS 0
```

This SMP/E message can be ignored.

If any other SMP/E messages appear, see the *SMP/E: Messages and Codes* manual for guidance information about their meaning, and take the appropriate action.

If the DFHAPPLY job terminates abnormally, examine the job log to determine the cause, correct the problem, then re-run DFHAPPLY

Note: If the DFHAPPLY job fails and you are using an existing global zone you must first REJECT the CICS Transaction Server base-level function SYSMOD before rerunning the DFHALLOC job. When you rerun the installation jobs, some steps that were successfully completed in the previous run will produce return codes with a value of '8'.

Enhanced HOLDDATA introduced ERROR HOLDS against FMIDs for HIPER APARs. Prior to installing, you should ensure you have the latest Enhanced HOLDDATA (available at url <http://service.software.ibm.com/holdata/390holddata.html>). The FMID(s) should be installed regardless of the status of unresolved HIPERs, however, the software should not be deployed until the unresolved HIPERs have been analyzed to determine applicability.

There are two methods to complete an FMID installation where ++HOLDS for HIPERs exist for the FMID(s) being installed:

1. To ensure that all recommended and critical service is installed with the FMID(s), add the SOURCEIDs of PRP, HIPER, and RSU* to the APPLY command. There may be PE or HIPER APARs that do not have resolving PTFs available yet. You need to analyze the symptom flags to determine if you want to BYPASS the specific ERROR HOLDS and continue the FMID installation.

```
APPLY S(fmid,fmid,...)
FORFMID(fmid,fmid,...)
SOURCEID(PRP,HIPER,RSU*,...)
GROUPEXTEND .
```

This method requires more initial research, but will provide resolution for all HIPERs that have fixes available and are not in a PE chain. There may still be unresolved PEs or HIPERs which will require the use of BYPASS.

2. To install the FMID(s) as it would have been installed prior to Enhanced HOLDDATA, you can add a BYPASS(HOLDCLASS(HIPER)) operand to the APPLY command. This will allow the FMID to be installed even though there are HIPER ERROR HOLDS against it. Note that not all ERROR HOLDS were bypassed, only the HIPER ERROR HOLDS. After the FMID(s) are installed, the SMP/E REPORT ERRSYSMODS command should be run to identify any missing HIPER maintenance.

```
APPLY S(fmid,fmid,...)
FORFMID(fmid,fmid,...)
SOURCEID(RSU*)
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER)) .
other parameters documented in the program directory...
```

This method is the quicker of the two, but requires subsequent review of the REPORT ERRSYSMODS to investigate any HIPERs.

If you bypass any HOLDS during the installation of the FMID(s) because fixing PTFs were not yet available you can use the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink to be notified when the fixing PTF is available.

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: 0

Expected Return Codes and Messages from APPLY: 0

Note!

Using GROUPEXTEND in APPLY with maintenance with HOLDDATA may cause a return code other than 0.

6.4.1.9 The DFHACCP Job This job performs the SMP/E ACCEPT function needed to install CICS Transaction Server into the distribution libraries.

Before you run the DFHACCPT job

- **DFHACCPT must be run on the same MVS image on which the HFS is installed.**

If you have modified the other installation jobs (for example, to use existing libraries and therefore existing target and distribution zones) consider splitting the DFHACCPT job to do ACCEPT CHECK and ACCEPT function as two separate jobs.

The region size for the DFHACCPT job is currently set to 'REGION=0M'. This is because this job requires more memory than the other install jobs. You may need to adjust your JES parameters (for example, with a JES2 /*JOBPARM LINES=99 statement) to avoid a system abend 722.

This job gives a return code of 0 when all is well. (See the “GIM23903W - LINK SUCCESSFUL . . .” message, listed in the report that is output by the apply job.) DFHACCPT job may issue messages GIM23903W and GIM23913W depending on the execution environment of the installer. Both these messages are acceptable.

If the DFHACCPT job terminates abnormally, examine the job log to determine the cause, correct the problem, then re-run DFHACCPT.

Note: If the DFHACCPT job fails and you are using an existing global zone you must first RESTORE the CICS Transaction Server base-level function SYSMOD before rerunning the DFHALLOC job. When you rerun the installation jobs, some steps that were successfully completed in the previous run will produce return codes with a value of '8'.

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:

If PTFs containing replacement modules are being ACCEPTed, SMP/E ACCEPT processing will link-edit/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.

Expected Return Codes and Messages from ACCEPT: 0

6.4.2 Run REPORT CROSSZONE

The SMP/E REPORT CROSSZONE command will identify requisites defined for products that have been installed in separate zones. This command will also create APPLY and ACCEPT commands in the SMP/PUNCH data set which you can use to install those cross-zone requisites it identifies.

After you have installed CICS Transaction Server, it is recommended that you run REPORT CROSSZONE against the new or updated target and distribution zones. REPORT CROSSZONE requires a global zone with ZONEINDEX entries describing all the target and distribution libraries to be reported on.

For more information on REPORT CROSSZONE, see the SMP/E manuals.

6.4.3 Check the Output from the Installation Jobs

When you have successfully run all of the installation jobs described in this chapter, CICS Transaction Server will have been loaded into the following libraries:

- CICSTS32.AMA.SERCLMD
- CICSTS32.CICS.SDFHAPD1
- CICSTS32.CICS.SDFHAPD2
- CICSTS32.CICS.SDFHAUTH
- CICSTS32.CICS.SDFHCLIB
- CICSTS32.CICS.SDFHCOB
- CICSTS32.CICS.SDFHC370
- CICSTS32.CICS.SDFHDLL1
- CICSTS32.CICS.SDFHENV
- CICSTS32.CICS.SDFHEXCI
- CICSTS32.CICS.SDFHINST
- CICSTS32.CICS.SDFHLANG
- CICSTS32.CICS.SDFHLINK
- CICSTS32.CICS.SDFHLLIB
- CICSTS32.CICS.SDFHLOAD
- CICSTS32.CICS.SDFHLODX
- CICSTS32.CICS.SDFHLPA
- CICSTS32.CICS.SDFHMAC
- CICSTS32.CICS.SDFHMLIB
- CICSTS32.CICS.SDFHMSG
- CICSTS32.CICS.SDFHMSRC
- CICSTS32.CICS.SDFHPARM
- CICSTS32.CICS.SDFHPLIB
- CICSTS32.CICS.SDFHPL1

CICSTS32.CICS.SDFHPROC
CICSTS32.CICS.SDFHRALT
CICSTS32.CICS.SDFHSAMP
CICSTS32.CICS.SDFHSDCK
CICSTS32.CICS.SDFHWSLD
CICSTS32.CICS.SDFHWSSX
CICSTS32.CICS.SDFJAUTH
CICSTS32.CICS.SDFJLOAD
CICSTS32.CICS.SDFJLPA
CICSTS32.CPSM.SEYUAUTH
CICSTS32.CPSM.SEYUCLIB
CICSTS32.CPSM.SEYUCOB
CICSTS32.CPSM.SEYUC370
CICSTS32.CPSM.SEYUDEF
CICSTS32.CPSM.SEYULINK
CICSTS32.CPSM.SEYULOAD
CICSTS32.CPSM.SEYULPA
CICSTS32.CPSM.SEYUMAC
CICSTS32.CPSM.SEYUMLIB
CICSTS32.CPSM.SEYUPARM
CICSTS32.CPSM.SEYUPLIB
CICSTS32.CPSM.SEYUPL1
CICSTS32.CPSM.SEYUPROC
CICSTS32.CPSM.SEYUSAMP
CICSTS32.CPSM.SEYUTLIB
CICSTS32.CPSM.SEYUVIEW
CICSTS32.REXX.SCICBOOK
CICSTS32.REXX.SCICCMDS
CICSTS32.REXX.SCICDBRM
CICSTS32.REXX.SCICDOC
CICSTS32.REXX.SCICEXEC
CICSTS32.REXX.SCICJCL
CICSTS32.REXX.SCICLOAD
CICSTS32.REXX.SCICPNL
CICSTS32.REXX.SCICUSER

You now have CICS Transaction Server installed on your DASD. Back up the volume on which CICS Transaction Server resides. This avoids the need to re-run the installation jobs if any errors occur during customization later.

6.5 What next?

You should next copy the CICS Transaction Server procedures into a cataloged procedure library, load any CICS features that you have, and tailor the CICS Transaction Server to your needs. For information about copying the CICS Transaction Server procedures, and loading the CICS Transaction Server features, see the following sections. For information about tailoring CICS Transaction Server to your needs, see the *CICS Transaction Server for z/OS Installation Guide*.

6.5.1 Copy the CICS Transaction Server Procedures into a Procedure Library

CICS Transaction Server supplies the procedures listed in Figure 21.

<i>Figure 21 (Page 1 of 3). CICS Transaction Server-supplied procedures</i>	
Procedure	Description
DFHASMVS	Assembles some CICS Transaction Server programs and user-written assembler language programs.
DFHAUPLE	Assembles and link-edits CICS Transaction Server control tables, and makes the assembly and link-edit information available to SMP/E. Note: DFHAUPLE is installed in SDFHINST.
DFHBMSU	Runs the BMS load module disassemble utility program, DFHBMSUP.
DFHEBTAL	Translates, assembles, and link-edits assembler application programs using EXEC DLI commands in a batch environment under Language Environment.
DFHEITAL	Translates, assembles, and link-edits assembler application programs using the command-level interface.
DFHEXTAL	Translates, assembles, and link-edits assembler application programs using the external CICS Transaction Server interface.
DFHLNKVS	Link-edits CICS Transaction Server programs and application programs.
DFHMAPS	Prepares physical and symbolic maps.
DFHMAPT	Prepares physical and symbolic maps and map templates.
DFHSMPE	Executes SMP/E. Note: DFHSMPE is installed in SDFHINST.
DFHSTART	Starts CICS. Note: DFHSTART is installed in SDFHINST.
DFHUPDVS	Update utility using IEBUPDTE
DFHYBTPL	Translates, compiles, and link-edits PL/I application programs using EXEC DLI commands in a batch environment under Language Environment.
DFHYBTVL	Translates, compiles, and link-edits COBOL application programs using EXEC DLI commands in a batch environment under Language Environment.

Figure 21 (Page 2 of 3). CICS Transaction Server-supplied procedures

Procedure	Description
DFHYITDL	Translates, compiles, and link-edits C application programs using the command-level interface under Language Environment.
DFHYITEL	Translates, compiles, and link-edits C++ application programs using the command-level interface C/370 complier
DFHYITFL	Translates, compiles, and link-edits C application programs using the command-level interface under Language Environment.
DFHYITGL	Translates, compiles, and link-edits C++ application programs using the command-level interface under Language Environment.
DFHYITPL	Translates, compiles, and link-edits PL/I application programs using the command-level interface under Language Environment.
DFHYITVL	Translates, compiles, and link-edits COBOL application programs using the command-level interface under Language Environment.
DFHYXTDL	Translates, compiles, and link-edits C application programs using the external CICS Transaction Server interface under Language Environment.
DFHYXTEL	Translates, compiles, and link-edits C++ application programs using the external CICS Transaction Server interface under Language Environment.
DFHYXTPL	Translates, compiles, and link-edits PL/I application programs using the external CICS Transaction Server interface under Language Environment.
DFHYXTVL	Translates, compiles, and link-edits COBOL application programs using the external CICS Transaction Server interface under Language Environment.
DFHZITCL	Translates, compiles, and link-edits COBOL application programs using the external CICS Transaction Server interface under Language Environment.
DFHZITPL	Translates, compiles, and link-edits PL/I application programs using the external CICS Transaction Server interface under Language Environment.
ICCFCC	CICS foundation classes
ICCFCL	CICS foundation classes
ICCFCL	CICS foundation classes
EYUCMASP	CICSplex SM CMAS Start up Note: EYUCMASP is installed in SDFHINST.
EYUCSYSP	CICSplex SM MAS Start up Note: EYUCSYSP is installed in SDFHINST.

Figure 21 (Page 3 of 3). CICS Transaction Server-supplied procedures

Procedure	Description
EYUWUIP	CICSplex SM WUI Start up Note: EYUWUIP is installed in SDFHINST.
Note: For further information about using the CICS Transaction Server-supplied procedures, see: <ul style="list-style-type: none">• The CICS Transaction Server for z/OS for z/OS Installation Guide, GC34-5985, for information about DFHSMPE and DFHSTART• The <i>CICS System Definition Guide</i>, SC34-5988, for information about the other procedures.	

You should copy all these procedures into a cataloged procedure library (for example, SYS1.PROCLIB).

Before you copy the procedures, read the following:

1. Your procedure library may already contain procedures, supplied with an earlier release of CICS, that have the same names as the new procedures but are, in fact, different. If so, you must find some way of selecting the right release. Here are some ways of using the new versions:
 - a. For the time being, rename either set of procedures, and modify the appropriate jobs to use the new names.
 - b. Insert the new procedures into the job streams that use them, and use the procedures as in-stream procedures. The inserted procedures should be placed between the JOB statement and the first EXEC statement. You must insert a // PEND statement after the inserted procedures. When the new release becomes the production system, you can copy the new procedures into your procedure library.
 - c. Indicate the DDNAME of the cataloged procedure library that is to be used to convert the JCL for the job. For example, you could use the JES2 /*JOBPARM PROCLIB=xxxxxxx. For further information about specifying DDNAMEs in JCL, see the *MVS/ESA JCL Reference* manual.
2. If service is applied to the CICS Transaction Server procedures, it is the versions in the libraries CICSTS32.CICS.SDFHINST and CICSTS32.CICS.SDFHPROC that will be updated by SMP/E. You must then copy the updated procedures into your procedure library.
3. Change the OUTC parameter as required.

When you have read these notes, and acted on them as necessary, copy the procedures into a cataloged procedure library.

6.6 Activating CICS Transaction Server

After you have loaded CICS Transaction Server to disk, you should perform the following steps, described in the CICS Transaction Server for z/OS for z/OS Installation Guide, GC34-5985:

1. (If needed) Apply service
2. Integrate CICS Transaction Server with MVS
3. Create CICS Transaction Server system data sets
4. (Optional) Install CICS-DATABASE 2 support
5. (Optional) Install MRO and ISC support
6. (Optional) Run the installation verification procedures (IVPs).

The CICS Transaction Server for z/OS for z/OS Installation Guide also contains information about how to get CICS Transaction Server into operational status, as part of the process of verifying the installation.

7.0 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.

7.1 Trademarks

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

CBPDO	DATABASE 2	GDDM
IBM®	DB2	IMS/ESA
AD/Cycle	SystemPac	Language Environment
CICS	ServerPac	MVS/ESA
CICS/ESA	ResourceLink	MVS/DFP
CICS/MVS	ServiceLink	OS/390
CICS OS/2	ES/9000	RACF
CICSplex SM	ESA/370	RETAIN
CICS/VSE	ESA/390	VTAM
CICS/400	ESCON	z/OS

Reader's Comments

Program Directory for CICS Transaction Server for z/OS, June 2007

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 satisfied	<----->	very dissatisfied	not 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 CICS Transaction Server for z/OS Development group):

IBM United Kingdom Laboratories
User Technologies Department (MP 095)
Hursley Park
Winchester
Hampshire SO21 2JN
United Kingdom

FAX Number: (Outside the UK) +44 1962 816151

FAX Number: (Inside the UK) 01962 816151

E-Mail: IDRCF@HURSLEY.IBM.COM



Printed in U.S.A.

G113-0515-00

