



**Program Directory for
CICS Transaction Server
for OS/390**

Version 1 Release 3, Modification Level 0

Program Number 5655-147

FMID HCI5300

for Use with
OS/390 Version 2 Release 5

Document Date: July 1999

GI10-2506-35

Note!

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

This program directory, dated July 1999, applies to Release 3, Modification Level 0 of CICS Transaction Server for OS/390, Program Number 5655-147.

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 1977, 1999. All rights reserved.**

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

Contents

Notices	ix
Trademarks	x
Summary of Changes	xi
1.0 Introduction	1
1.1 CICS element	2
1.2 CICSplex SM	3
1.3 CICS Application Migration Aid	4
1.4 CICS Distributed Data Management (CICS/DDM)	4
1.5 REXX for CICS	4
1.6 Tivoli Global Enterprise Manager (GEM) CICSplex SM Instrumentation	5
2.0 Program materials	6
2.1 Basic machine-readable material	6
2.2 Optional machine-readable material	12
2.3 Program publications	12
2.3.1 Basic program publications	13
2.3.2 Optional program publications	14
2.3.2.1 Softcopy books	15
2.3.2.1.1 The Transaction Processing and Data CD-ROM kit	16
2.3.3 Program source listings	16
2.4 Publications useful during installation	17
3.0 Program support	18
3.1 Program services	18
3.2 Preventive service planning	18
3.3 Statement of support procedures	19
4.0 Program and service level information	20
4.1 Program level information	20
4.2 Service level information	20
4.3 Cumulative service tape	20
5.0 Installation requirements and considerations	21
5.1 Driving system requirements	22
5.1.1 Operating system requirements	22
5.1.2 Hardware requirements	23
5.1.3 Programming requirements	23
5.2 Target system requirements	23
5.2.1 Machine requirements	23
5.2.1.1 Parallel Sysplex support	24

5.2.1.1.1	Coupling facilities	24
5.2.1.1.2	Sysplex timer	25
5.2.1.1.3	DASD paths	25
5.2.1.2	Device Support	25
5.2.2	Programming requirements	25
5.2.2.1	Minimum requisites	25
5.2.2.2	Functional requisites	25
5.2.3	DASD storage requirements	27
5.3	Program considerations	37
5.3.1	ISC and MRO communication	37
5.3.2	Sharing the CSD with earlier CICS releases	38
5.3.3	External CICS interface	38
5.3.4	Modules eligible for the MVS linklist	38
5.3.5	Modules eligible for the MVS link pack area (LPA)	38
5.3.6	Compilers and assembler	39
5.3.6.1	Run-time support for all high-level languages	39
5.3.6.2	VS COBOL II run-time support	40
5.3.6.3	Run-time support for unsupported COBOL compilers	40
5.3.6.4	PL/I run-time support	40
5.3.6.5	Other programming language functions	40
5.3.7	Application program compatibility	41
5.3.8	Systems programming considerations	41
5.3.9	Performance considerations	42
5.3.10	Storage use	43
5.3.11	System considerations	43
5.4	Special considerations	43
6.0	Installation instructions	44
6.1	Installing CICS TS	44
6.1.1	Overview	44
6.1.2	The CICS TS installation libraries	45
6.2	Check the distribution package	46
6.3	Check that you have the installation prerequisites	47
6.4	Copy RELFILE(2) from the distribution tape	47
6.4.1.1	Result of copying RELFILE(2)	48
6.5	Edit the DFHISTAR job	50
6.5.1	Specify the CICS TS temporary installation libraries	52
6.5.2	Specify the JOB parameters for installation jobs	52
6.5.3	Specify the scope of the installation	53
6.5.4	Specify the type of JES to be used	53
6.5.5	Specify the utilities to be used	54
6.5.6	Specify the prefix of CICS TS jobs	54
6.5.7	Specify the indexes of CICS TS data sets	54
6.5.8	Specify the CICS TS HFS directories and data sets	55
6.5.9	Specify extra qualifiers	56
6.5.10	Specify block sizes	56

6.5.11	Specify the PARMLIB library to be used	57
6.5.12	Specify the disk unit for work data sets	57
6.5.13	Specify SMS option for DASD allocations	57
6.5.14	Specify disk volumes	58
6.5.14.1	When are these volumes used?	64
6.5.14.1.1	During installation	64
6.5.14.1.2	Applying service or customizing CICS TS	64
6.5.14.1.3	Assembling CICS TS tables	64
6.5.14.1.4	Running CICS TS	64
6.5.15	Allocate the space for CICS TS disk volumes	64
6.5.16	Specify attributes of the temporary SMP/E work data sets	65
6.5.17	Specify attributes of the permanent SMP/E data sets	66
6.5.18	Specify SMP/E zone attributes	67
6.5.18.1	SMP/E zone and zone log dispositions	69
6.5.19	Specify the high-level qualifiers for SMP/E data sets	70
6.5.20	Specify the distribution tape device type	70
6.5.21	Specify attributes of the CICS TS system data sets	70
6.5.22	Specify attributes of any additional target libraries	71
6.5.23	Specify the data set name of the SISpload library	73
6.5.24	Specify the data set name of the CSSLIB library	73
6.5.25	Specify the data set name of the SCEECPP library	73
6.5.26	Specify the data set name of the SCEELKED library	73
6.5.27	Specify the data set name of the SCEELKEX library	74
6.5.28	Specify the data set name of the SCEEOBJ library	74
6.5.29	Specify the data set name of the SCLBSID library	74
6.5.30	Specify the member name (JVMNAME) of the SDFHENV data set	74
6.5.31	Specify the name of the Java directory	74
6.5.32	Specify the data set name of the SDSNLOAD library	75
6.5.33	Specify the data set name of the SEZARPCL and SEZACMTX libraries	75
6.5.34	Specify the data set name of the SCEECICS and SCEERUN libraries	75
6.5.35	Specify logstream and logstream structure attributes.	75
6.6	Create RACF profiles for the CICS TS data sets	76
6.7	Run the DFHISTAR job	77
6.7.1	Check the output from the DFHISTAR job	78
6.8	Check that you are ready to run the installation jobs	79
6.9	Run the installation jobs	79
6.9.1.1	Run times of the installation jobs	80
6.9.1.2	The DFHIHFS0 job	81
6.9.1.3	The DFHIHFS1 job	81
6.9.1.4	The DFHISMKD job	82
6.9.1.5	The DFHINST1 job	82
6.9.1.6	The DFHINST2 job	82
6.9.1.7	The DFHINST3 job	83
6.9.1.8	The DFHINST4 job	83
6.9.1.9	The DFHINST5 job	84
6.9.1.10	The DFHINST6 job	84

6.9.1.11 The DFHIJVMJ job	85
6.9.2 Check the output from the installation jobs	86
6.10 What next?	87
6.10.1 Copy the CICS TS procedures into a procedure library	87
6.10.2 Create extra sets of CICS TS target libraries (optional)	90
6.10.3 Load the CICS TS source material (optional)	92
6.10.4 Load other optional features	93
6.11 Activating CICS TS	93
7.0 Post installation tasks	94
7.1 CICSplex SM	94
7.2 REXX post-installation tasks	94
7.2.1 Step 1—Modify your RDO definitions to add required entries	94
7.2.2 Step 2—Create the RFS filepools	94
7.2.3 Step 3—Create DCT definitions needed for IMPORT and EXPORT	94
7.2.4 Step 4—BIND the CICS SQL program to your DB2 plan	95
7.2.5 Step 5—Create or modify the RCT	95
7.2.6 Step 6—Add DD statements to your CICS startup job	95
7.2.7 Step 7—Modify member CICSTART	95
7.2.8 Step 8—Format the RFS filepools	95
7.2.9 Step 9—Verifying the installation	96
7.2.10 Step 10—Accessing the supplied softcopy documentation	96
8.0 Customization information for REXX	97
8.1 Changing supplied CICS transaction codes.	97
8.2 RFS filepool definitions	98
8.3 DCT entries needed for IMPORT and EXPORT commands.	98
8.4 RCT entries used for authorizing transactions to use DB2	99
8.5 Special exec data sets used by the REXX Development System	99
8.6 Special USER ids and their usage	100
8.7 Other considerations	100
8.8 Online HELP facility	101
Appendix A. CICS Transaction Server install logic	102
Appendix B. APAR fixes incorporated in CICS TS	112
Appendix C. A summary of CICS Transaction Server for OS/390 contents	126
C.1 The CICS TS load libraries	126
C.1.1 The CICSTS13.CICS.SDFHAUTH library	126
C.1.2 The CICSTS13.CICS.SDFHDLL1 library	126
C.1.3 The CICSTS13.CICS.SDFHEXCI library	126
C.1.4 The CICSTS13.CICS.SDFHLLIB library	127
C.1.5 The CICSTS13.CICS.SDFHLOAD library	127
C.1.6 The CICSTS13.CICS.SDFHPARM library	127
C.1.7 The SYS1.CICSTS13.CICS.SDFHLINK library	127

C.1.8	The SYS1.CICSTS13.CICS.SDFHLPA library	127
C.1.9	The SYS1.CICSTS13.CPSM.SEYULINK library	127
C.1.10	The SYS1.CICSTS13.CPSM.SEYULPA library	127
C.1.11	The CICSTS13.CICS.SDFHSDCK library	128
C.1.12	The CICSTS13.CICS.SDFJLOAD and SDFJLOD1 libraries	128
C.1.13	The CICSTS13.CICS.SDFJLPA library	128
C.2	Sample control tables	129
Appendix D. Checklist for the CICS Transaction Server for OS/390 installation		130
Definition of SMP/E terms		132
Reader's Comments		135

Figures

1.	Basic Material: Program Tape	7
2.	Program Tape: File Content	9
3.	Optional Material: CICS	12
4.	CICS Optional Source Material Tapes: File Content	12
5.	Basic Material: Unlicensed Publications	13
6.	Basic Material: Licensed Publications	14
7.	Optional Material: Unlicensed Publications	14
8.	Transaction Processing and Data products Collection Kit	16
9.	Publications Useful During Installation	17
10.	PSP Upgrade and Subset ID	18
11.	Component IDs	19
12.	Program products required on the installing system for ServerPac and CBPDO	22
13.	Additional LE PTFs and APARs required	23
14.	Functional Requisites	25
15.	Total DASD Space Required by CICS Transaction Server	28
16.	Storage Requirements for SMP/E Work Data Sets	28
17.	Storage Requirements for SMP/E Data Sets	29
18.	Storage Requirements for Target Libraries	30
19.	Storage Requirements for Distribution Libraries	33
20.	Installation libraries for CICS TS	45
21.	Installation process for CICS TS	46
22.	Sample job for copying RELFILE(2) from tape	48
23.	Skeleton jobs in RELFILE(2) copied to the TDFHINST library	49
24.	Alphabetical list of parameters for the DFHISTAR job	50
25.	DASD storage requirements for CICS TS	65
26.	CICS TS-supplied procedures	87

27.	System Modification Program install logic for CICS TS	102
28.	The CICS TS-supplied sample tables	129
29.	CICS TS installation checklist	130

Notices

This information was developed for products and services offered in the U.S.A. IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

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

International Business Machines Corporation
IBM Director of Licensing
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation
Licensing
2-31 Roppongi 3-chome, Minato-ku
Tokyo 106, Japan

The following paragraph does not apply in the United Kingdom or any other country where such provisions are inconsistent with local law:

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore this statement may not apply to you.

This publication could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact IBM United Kingdom

Laboratories, MP151, Hursley Park, Winchester, Hampshire, England, SO21 2JN. Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Programming License Agreement, or any equivalent agreement between us.

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.

Trademarks

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

ACF/VTAM	IMS/ESA
AD/Cycle	IMS Client Server/2
BookManager	Language Environment
C/370	Library Reader
CallPath CICS/MVS	MVS/ESA
CallPath SwitchServer/2	MVS/DFP
CallPath CICS/VSE	MVS/SP
CBPDO	MVS/XA
CBIPO	NetView
CICS	OfficeVision/VM
CICS/ESA	Operating System/2
CICS/MVS	Operating System/400
CICS OS/2	OS/390
CICSplex SM	PR/SM
CICS/VSE	PS/2
CICS/400	RACF
CICS/6000	RETAIN
Data Propagator	S/370
DATABASE 2	S/390
DB2	System/370
Enterprise Systems Architecture/370	System/390
Enterprise Systems Architecture/390	SAA
ES/9000	Tivoli
ESA/370	VSE/ESA
ESA/390	VTAM
ESCON	
GDDM	
IBM	
IBMLink	

UNIX is a registered trademark in the United States and other countries licensed exclusively through X/Open Company Limited.

Summary of Changes

Package updates: If you are an existing user of 5655-147, CICS Transaction Server for OS/390 Release 2, the following elements of the package have been updated:

- Base CICS element
- CICSplex SM - now an exclusive element of the server
- CICS Universal Clients Version 3.0 (new with this release)
- CICS Transaction Gateway Version 3.0 (new with this release)
- Support for Java programs, the CICS JVM and IIOp has been added. This requires some additional datasets and some files that are stored in the UNIX Systems Services HFS during installation

The latter two elements replace the CICS Clients Version 2 in the package.

If you are an existing user of 5655-147, CICS Transaction Server for OS/390 Release 1, in addition to the above changes, REXX for CICS (Development and Runtime) was added as a non-exclusive element of the server with Release 2.

The CICS Universal Clients Version 3 CD-ROM includes a copy of the Host TCP/IP Access feature, TCP62 protocol mapper, for installing on a client workstation (OS/2, Windows 98 or Windows NT). It does not include a copy of the Gateway for Java (MVS). The CICS Transaction Gateway Version 3.0 is shipped on a separate CD-ROM.

The CICS Gateway for Java (MVS) is still available with the CICS Client Version 2.0.4, with service level 7 applied. Later levels of all these are available for downloads from the Web via the CICS Internet home page.

Note: The evaluation kit for the IBM Transaction Server for OS/2 Warp Version 4, (90-day Evaluation copy) (5622-808) is no longer included as part of the package.

Please let us have any comments about the usability of the information given in 6.0, "Installation instructions," and in general in this program directory. We can then make any necessary improvements to make the information about installing CICS as good as possible.

For information about sending your comments, see the section "Sending your comments to IBM" at the back of this program directory.

Thank you.

CICS Information Development
IBM United Kingdom Ltd
Hursley Park, Winchester
Hampshire, SO21 2JN
England.

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 OS/390 (CICS TS). 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 6 identifies the basic and optional program materials and documentation for CICS TS.
- 3.0, “Program support” on page 18 describes the IBM support available for CICS TS.
- 3.1, “Program services” on page 18 provides detailed servicing instructions for CICS TS.
- 4.0, “Program and service level information” on page 20 lists the APARs (program level) and PTFs (service level) incorporated into CICS TS.
- 5.0, “Installation requirements and considerations” on page 21 identifies the resources and considerations for installing and using CICS TS.
- 6.0, “Installation instructions” on page 44 provides detailed installation instructions for CICS TS. It also describes the procedures for activating the functions of CICS TS, or refers to appropriate publications.
- Appendix A, “CICS Transaction Server install logic” on page 102 provides the install logic for CICS TS.
- Appendix B, “APAR fixes incorporated in CICS TS” on page 112 lists the APAR fixes against previous releases of CICS that have been incorporated into CICS TS.
- Appendix C, “A summary of CICS Transaction Server for OS/390 contents” on page 126 summarizes the modules in CICS TS.
- Appendix D, “Checklist for the CICS Transaction Server for OS/390 installation” on page 130 provides a fast path installation for the experienced user.

Before installing CICS TS, read 3.2, “Preventive service planning” on page 18. 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 CICS TS with a 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 CICS TS using the MVS Custom-Built Product Delivery Offering (CBPDO) (5751-CS3), use the softcopy program directory provided on the CBPDO tape. 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. Any additional installation instructions should be

obtained from this program directory and the *CICS Transaction Server for OS/390 Installation Guide*. However, before installing CICS:

1. Read this program directory
2. Check with your IBM Support Center or use either Information/Access or SoftwareXcel Extended to see if there is additional service information you need.

This program directory covers all the elements supplied with CICS Transaction Server. *All* the elements supplied with CICS TS are installed automatically when you run the CICS TS installation jobs. The elements that make up CICS TS are:

- CICS
- CICSplex System Manager
- CICS Distributed Data Management
- CICS Application Migration Aid
- CICS REXX (Runtime and Development)
- Tivoli Global Enterprise Manager (GEM) CICSplex SM Instrumentation

1.1 CICS element

CICS is an exclusive element of CICS TS, and includes the following major new function added since CICS TS Release 2:

Parallel Sysplex® support:

CICS support for Parallel Sysplex is extended by:

- Sysplex enqueue (ENQ) and dequeue (DEQ)
- Coupling facility data tables
- Dynamic routing for DPL and EXEC CICS START requests.

System management

CICS system management is improved by:

- Resource definition online (RDO) for CICS temporary storage
- Enhancements to CICS monitoring and statistics
- Autoinstall for consoles.

Application support and solution enablement

CICS extends application and solution enablement by:

- CICS business transaction services (BTS)
- Open transaction environment
- Long temporary storage queue names
- CICS EXCI enhancement for resource recovery
- Object-oriented interface to CICS services for C++
- Support for VisualAge for Java, Enterprise Edition for OS/390
- Support for the Java Virtual Machine (JVM).

e-business enablement for network computing

CICS support for network computing is enhanced by:

- 3270 Bridge interface enhancements
- Support for the secure sockets layer (SSL)
- IIOp inbound to Java applications
- CICS Web interface enhancements.

In addition to the above major items, the CICS element also includes a number of smaller functional changes.

See the *CICS Transaction Server for OS/390 Release Guide* for details of all the new function in CICS.

1.2 CICSplex SM

CICSplex SM is an exclusive element of CICS TS, and includes new function added since CICS TS Release 2. The CICSplex SM enhancements provide support for all the new and changed function in CICS. The CICSplex SM element can manage the following CICS systems:

- CICS Transaction Server for OS/390 Release 3
- CICS Transaction Server for OS/390 Release 2
- CICS Transaction Server for OS/390 Release 1
- IBM CICS for MVS/ESA Version 4.1
- IBM CICS for MVS/ESA Version 3.3
- CICS/MVS® Version 2.1.2
- IBM CICS for VSE/ESA® Version 2.2 and later
- IBM CICS for OS/2 Version 2.0.1 and Version 3

See the *CICS Transaction Server for OS/390 Release Guide* for details of all the new function in CICSplex SM.

Information on Managing CICS/VSE and CICS for OS/2

If you are installing a remotely managed CICS system (MAS) to run under VSE/ESA, you will find installation information in the program directory shipped with the CICSplex SM VSE agent code.

If you are installing a remote MAS to run under OS/2, the CICSplex SM OS/2 agent code is included on the SMP/E tape shipped with this program directory. You will find instructions for downloading the CICSplex SM OS/2 agent code to an OS/2 workstation in *CICS Transaction Server for OS/390 Installation Guide*, GC33-1681.

1.3 CICS Application Migration Aid

CICS Application Migration Aid simplifies the conversion of COBOL and assembler language CICS application programs from macro to command-level. COBOL and assembler source code is used as input to CICS Application Migration Aid, which converts simple macros and provides guidance on others. Such conversion is key to obtaining the benefits of the CICS command-level application programming interface (API), which is common across the CICS family. It is a requirement for applications that are to run on CICS.

CICS Application Migration Aid is a non-exclusive element, and continues to be available as a standalone product.

1.4 CICS Distributed Data Management (CICS/DDM)

CICS/DDM runs on the System/390® platform as a transaction program, under either CICS Transaction Server, CICS/ESA, CICS/VSE®, or CICS/MVS. CICS/DDM support coexists with functions currently supported by CICS and other CICS transaction programs, and operates only as a server for client systems. This means that client systems that have implemented DDM (such as AS/400® or IBM PCs) can, as client systems, have access to CICS files. However, CICS/DDM cannot have access to the client system's data.

CICS/DDM requires DDM Version 1 Release 1 or later to be installed on the client system.

CICS/DDM is a non-exclusive element, and continues to be available as a standalone product.

1.5 REXX for CICS

REXX development System for CICS and REXX Runtime Facility for CICS—two program products collectively referred to as REXX for CICS—provide improved productivity for a wide range of CICS activities.

REXX for CICS will be of particular interest to CICS system programmers, CICS and DB2 administrators, CICS and DB2 application programmers and developers, testers, support personnel and end users.

REXX programs can be written and executed in a CICS region. These programs have access to most EXEC CICS commands, the CICS CEDA and CEMT transactions, and DB2 databases through the EXEC SQL interface.

For more information about installing the REXX element, see 7.2, “REXX post-installation tasks” on page 94.

1.6 Tivoli Global Enterprise Manager (GEM) CICSplex SM Instrumentation

You can use Tivoli GEM CICSplex SM Instrumentation to monitor and manage CICS regions, and their resources, provided the regions are known to CICSplex SM as members of a CICSplex.

2.0 Program materials

An IBM program is identified by a program number and a feature number. The program number for CICS Transaction Server for OS/390 is 5655-147, which applies to all the exclusive elements. For the non-exclusive elements:

- The program number for CICS Application Migration Aid is 5695-061.
- The program number for CICS Distributed Data Management is 5695-463.
- The program number for CICS REXX Development System for CICS/ESA is 5655-086.
- The program number for CICS REXX Runtime Facility for CICS/ESA is 5655-087.
- The program number for Tivoli Global Enterprise Manager (GEM) CICSplex SM Instrumentation is 5697-GEM.

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 CICS TS. 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 9-track magnetic tape (written at 6250 BPI), 3480 cartridge, or 4mm cartridge. The tapes or cartridges contains all the programs and data needed for installation. CICS TS is packaged on these tapes or cartridges using one of three methods:

- **ServerPac.** This comprises a series of tapes, each in IEBCOPY dump-by-data set format, containing SMP/E distribution and target libraries, consolidated software inventory, and other SMP/E libraries.
- **CBPDO.** This comprises three logically stacked SMP/E RELFILE tapes that contain the CICS TS SMP/E-installable elements (excluding the CICS Universal Clients and CICS Transaction Gateway).
- Some form of fee-based IBM customized offering.

The first two of these are entitled offerings, and are described in the *CICS Transaction Server for OS/390 Planning for Installation*.

If you have ordered the CBPDO tape, you install CICS TS using SMP/E. See 6.0, "Installation instructions" on page 44 for more information about how to install the program.

If you have ordered the ServerPac, you install CICS TS using the CustomPac ISPF dialogs. See *ServerPac: Installing Your Order* documentation you receive with the distribution materials.

Figure 1 on page 7 describes the tape or cartridge. Figure 2 on page 9 describes the file content of the program tape or cartridge.

Note: If you are installing CICS TS using the MVS 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.

<i>Figure 1 (Page 1 of 2). Basic Material: Program Tape</i>				
Medium	Feature Number	Physical Volume	External Label Identification	VOLSER
6250 tape	5801	1	CICS Base (NLV - Eng.) IIOp/Java support CICSplex SM and others	CI5300
		2		CI530D
		3		LR2140
3480 cartridge	5802	1	CICS Base (NLV - Eng.) IIOp/Java support CICSplex SM and others	CI5300
		2		CI530D
		3		LR2140
4MM DAT	5720	1	CICS Base (NLV - Eng.) IIOp/Java support CICSplex SM and others	CI5300
		2		CI530D
		3		LR2140
6250 tape	5811	1	CICS Base (NLV - Eng. + JPN.) IIOp/Java support CICSplex SM and others	CI5300
		2		CI530D
		3		LR2140
3480 cartridge	5812	1	CICS Base (NLV - Eng. + JPN.) IIOp/Java support CICSplex SM and others	CI5300
		2		CI530D
		3		LR2140
4MM DAT	5721	1	CICS Base (NLV - Eng. + JPN.) IIOp/Java support CICSplex SM and others	CI5300
		2		CI530D
		3		LR2140
6250 tape	5821	1	CICS Base (NLV - Eng. + Chi.) IIOp/Java support CICSplex SM and others	CI5300
		2		CI530D
		3		LR2140

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

Medium	Feature Number	Physical Volume	External Label Identification	VOLSER
3480 cartridge	5822	1	CICS Base (NLV -	CI5300
		2	Eng. + Chi.)	CI530D
		3	IIOp/Java support CICSplex SM and others	LR2140
4MM DAT	5722	1	CICS Base (NLV -	CI5300
		2	Eng. + Chi.)	CI530D
		3	IIOp/Java support CICSplex SM and others	LR2140

Figure 2 (Page 1 of 3). Program Tape: File Content

VOLSER	File	Data Set Name	Dist Library	RECFM	LRECL	BLK SIZE
CI5300	1	SMPMCS for tape 1	n/a	FB	80	6160
	2	IBM.HCI5300.F1	JCLIN	FB	80	27920
	3	IBM.HCI5300.F2	ADFHINST	FB	80	6160
	4	IBM.HCI5300.F3	ADFHMOD	U	0	6144
	5	IBM.HCI5300.F4	ADFJMOD	U	0	6144
	6	IBM.HCI5300.F5	ADFHAPD1	FB	38	23446
	7	IBM.HCI5300.F6	ADFHAPD2	FB	227	23381
	8	IBM.HCI5300.F7	ADFHCLIB	FB	80	6160
	9	IBM.HCI5300.F8	ADFHCOB	FB	80	6160
	10	IBM.HCI5300.F9	ADFH370	FB	80	27920
	11	IBM.HCI5300.F10	ADFHENV	V	30000	30004
	12	IBM.HCI5300.F11	ADFHLANG	FB	80	6160
	13	IBM.HCI5300.F12	ADFHMAC	FB	80	6160
	14	IBM.HCI5300.F13	ADFHMLIB	FB	80	6160
	15	IBM.HCI5300.F14	ADFHMSGGS	V	30646	30650
	16	IBM.HCI5300.F15	ADFHMSRC	FB	80	6160
	17	IBM.HCI5300.F16	ADFHPARM	FB	80	6160
	18	IBM.HCI5300.F17	ADFHPLIB	FB	80	6160
	19	IBM.HCI5300.F18	ADFHPL1	FB	80	6160
	20	IBM.HCI5300.F19	ADFHPROC	FB	80	6160
	21	IBM.HCI5300.F20	ADFHSAAMP	FB	80	6160
	22	IBM.HCI5300.F21	ADFHSDCK	FB	80	3200
	23	IBM.JCI5301.F1	ADFHCOB	FB	80	6160
	24	IBM.JCI5302.F1	ADFHPL1	FB	80	6160
	25	IBM.JCI5303.F1	ADFH370	FB	80	27920
CI530D	1	SMPMCS for tape 2	n/a	FB	80	6160
	2	IBM.JCI530D.F1	JCLIN	FB	80	27920
	3	IBM.JCI530D.F2	ADFJMOD	U	0	6144
	4	IBM.JCI530D.F3	ADFHSAAMP	FB	80	27920
	5	IBM.JCI530D.F4	ADFJH001	V	32000	32004
	6	IBM.JCI530D.F5	ADFJH002	V	32000	32004

Figure 2 (Page 2 of 3). Program Tape: File Content

VOLSER	File	Data Set Name	Dist Library	RECFM	LRECL	BLK SIZE
	7	IBM.JCI530D.F6	ADFJH003	V	32000	32004
	8	IBM.JCI530D.F7	ADFJH004	V	32000	32004
	9	IBM.JCI530D.F8	ADFJH005	V	32000	32004
	10	IBM.JCI530D.F9	ADFJH006	V	32000	32004
	11	IBM.JCI530D.F10	ADFJH007	V	32000	32004
	12	IBM.JCI530D.F11	ADFJH008	V	32000	32004
	13	IBM.JCI530D.F12	ADFJH009	V	32000	32004
	14	IBM.JCI530D.F13	ADFJH010	V	32000	32004
	15	IBM.JCI530D.F14	ADFJH011	V	32000	32004
	16	IBM.JCI530D.F15	ADFJH012	V	32000	32004
	17	IBM.JCI530D.F16	ADFJH013	V	32000	32004
	18	IBM.JCI530D.F17	ADFJH014	V	32000	32004
	19	IBM.JCI530D.F18	ADFJH015	V	32000	32004
	20	IBM.JCI530E.F1	JCLIN	FB	80	27920
	21	IBM.JCI530E.F2	ADFJMOD	U	0	6144
	22	IBM.JCI530E.F3	ADFJHSAMP	FB	80	27920
LR2140	1	SMPMCS for tape 3	n/a	FB	80	6160
	2	IBM.HLR2140.F1	JCLIN	FB	80	27920
	3	IBM.HLR2140.F2	AEYUINST	FB	80	6160
	4	IBM.HLR2140.F3	AEYUMOD	U	0	6144
	5	IBM.HLR2140.F4	AEYUDEF	FB	80	6160
	6	IBM.HLR2140.F5	AEYUCLIB	FB	80	6160
	7	IBM.HLR2140.F6	AEYUCOB	FB	80	6160
	8	IBM.HLR2140.F7	AEYUC370	FB	80	6160
	9	IBM.HLR2140.F8	AEYUDEF	FB	80	6160
	10	IBM.HLR2140.F9	AEYUJCL	FB	80	6160
	11	IBM.HLR2140.F10	AEYUMAC	FB	80	6160
	12	IBM.HLR2140.F11	AEYUMLIB	FB	80	6160
	13	IBM.HLR2140.F12	AEYUOS2	FB	80	27920
	14	IBM.HLR2140.F13	AEYUPARM	FB	80	6160
	15	IBM.HLR2140.F14	AEYUPLIB	FB	80	3200

Figure 2 (Page 3 of 3). Program Tape: File Content

VOLSER	File	Data Set Name	Dist Library	RECFM	LRECL	BLK SIZE
16	IBM.HLR2140.F15		AEYUPL1	FB	80	6160
17	IBM.HLR2140.F16		AEYUPROC	FB	80	*160
18	IBM.HLR2140.F17		AEYUSAMP	FB	80	6160
19	IBM.HLR2140.F18		AEYUTLIB	FB	80	6160
20	IBM.HLR2140.F19		AEYUVEDEF	FB	80	6160
21	IBM.JLR2142.F1		n/a	FB	80	27920
22	IBM.JLR2142.F2		AEYUCOMM	U	0	6144
23	IBM.HBDD110.F1		n/a	FB	80	8800
24	IBM.HBDD110.F2		AERCINST	FB	80	8800
25	IBM.HBDD110.F3		AERCMOD	U	0	6144
26	IBM.HCC1102.F1		n/a	FB	80	8800
27	IBM.HCC1102.F2		ADDMINST	FB	80	8800
28	IBM.HCC1102.F3		ADDMLoad	U	0	6144
29	IBM.H0B5110.F1		n/a	FB	80	8800
30	IBM.H0B5110.F2		ACICJCL	FB	80	8800
31	IBM.H0B5110.F3		ACICRMOD	U	0	6144
32	IBM.H0Z2110.F1		n/a	FB	80	8800
33	IBM.H0Z2110.F2		ACICPNL	FB	80	8800
34	IBM.H0Z2110.F3		ACICCMDS	VB	255	3160
35	IBM.H0Z2110.F4		ACICMOD	U	0	6144
36	IBM.H0Z2110.F5		ACICDOC	VB	8192	8196
37	IBM.H0Z2110.F6		ACICBOOK	FB	4096	16384
38	IBM.H0B7110.F1		n/a	FB	80	8800
39	IBM.H0B7110.F2		ACICJCL	FB	80	8800
40	IBM.H0B7110.F3		ACICDUSR	VB	255	3160
41	IBM.H0B7110.F4		ACICDMOD	U	0	6144
42	IBM.H0AL200.F1		AIHSSMPC	FB	80	27920
43	IBM.H0AL200.F2		AIHSCCLSC	FB	80	27920

2.2 Optional machine-readable material

The distribution medium for this program is 9-track magnetic tape (written at 6250 BPI), 3480 cartridge or 4mm cartridge.

Figure 3 on page 12 describes the tape or cartridge. Figure 4 on page 12 describes the file content of the tape or cartridge.

Note: The optional machine-readable material (tape or cartridge) contains “Restricted Materials of IBM.”

Medium	Feature Number	Physical Volume	External Label Identification	VOLSER
6250 tape	5831	1	CICS TS V1R3 OPT.S	CI530S
6250 tape.	5831	2	CICS TS V1R3 OPT.S	CI530T
3480 cartridge	5832	1	CICS TS V1R3 OPT.S	CI530S
3480 cartridge	5832	2	CICS TS V1R3 OPT.S	CI530T
4MM DAT	5724	1	CICS TS V1R3 OPT.S	CI530S
4MM DAT	5724	2	CICS TS V1R3 OPT.S	CI530T

VOLSER	File	Name	RECFM	LRECL	BLK SIZE	Numbers of Statements
CI530S	1	CICSTS13.OPTSRC01	FB	80	6160	
CI530T	1	CICSTS13.OPTSRC02	FB	80	6160	

Use the CICS-supplied sample job DFHOPSRC to load the optional CICS Transaction Server source material from the tape. For more information, see 6.10.3, “Load the CICS TS source material (optional)” on page 92.

2.3 Program publications

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

2.3.1 Basic program publications

Figure 5 on page 13 identifies the basic unlicensed program publications for CICS TS. One copy of each of these publications is included when you order the basic materials for CICS TS. For additional copies, contact your IBM representative.

For information about the CICS TS softcopy publications, see 2.3.2.1, “Softcopy books” on page 15.

<i>Figure 5. Basic Material: Unlicensed Publications</i>	
Publication Title	Form Number
CICS Transaction Server for OS/390 Program Directory	GI10-2506
CICS Transaction Server for OS/390 Installation Guide	GC33-1681
CICS Transaction Server for OS/390 Licensed Program Specifications	GC33-1707
Memo to Licensees	GI10-2509
CICS Transaction Server for OS/390 Planning for Installation	GC33-1789
CICS Transaction Server for OS/390 Release Guide	GC34-5352
CICS Transaction Server for OS/390 Migration Guide	GC34-5353
CICS Application Programming Reference	SC33-1688
CICS Customization Guide	SC33-1683
CICS External Interfaces Guide	SC33-1944
CICS Internet Guide	SC34-5445
CICS Operations and Utilities Guide	SC33-1685
CICS RACF Security Guide	SC33-1701
CICS Resource Definition Guide	SC33-1684
CICS Supplied Transactions	SC33-1686
CICS System Definition Guide	SC33-1682
CICS System Programming Reference	SC33-1689
CICSplex SM Concepts and Planning	GC33-0786
CICSplex SM Administration	SC34-5401
LI CICS Universal Client V3	GC34-5465
LI CICS Transaction Gateway V3	GC34-5466
International Program Licence Agreement	Z125-3301

Figure 6 identifies the basic licensed program publications for CICS Transaction Server. The first copy is available at no charge to licensees of the basic material by ordering the 7xxx Feature Number. Order additional copies using the 8xxx Feature Number. A fee is charged for additional copies.

Figure 6. Basic Material: Licensed Publications

Publication Title	Form Number	Feature Number First Copy	Feature Number Additional Copy
Diagnosis Reference	LY33-6088	7061	8145
Data Areas	LY33-6089	7062	8146

2.3.2 Optional program publications

Figure 7 identifies the optional unlicensed program publications for CICS. One copy of each of these publications is included, for a fee, when you order the optional materials for CICS TS using the 81x9 feature number (where x is 4 for English, 5 for Japanese, and 6 for Chinese). For additional copies, contact your IBM representative.

Figure 7 (Page 1 of 2). Optional Material: Unlicensed Publications

Publication Title	Form Number	Feature Number
CICS Application Programming Guide	SC33-1687	8149/8159/8169
CICS Business Transaction Services	SC34-5268	8149/8159/8169
CICS C++ OO Class Libraries	SC34-5455	8149/8159/8169
CICS DB2 Guide	SC33-1939	8149/8159/8169
CICS Distributed Transaction Programming Guide	SC33-1691	8149/8159/8169
CICS Front End Programming Interface User's Guide	SC33-1692	8149/8159/8169
CICS IMS Database Control Guide	SC33-1700	8149/8159/8169
CICS Intercommunication Guide	SC33-1695	8149/8159/8169
CICS Master Index	SC33-1704	8149/8159/8169
CICS Messages and Codes	GC33-1694	8149/8159/8169
CICS Performance Guide	SC33-1699	8149/8159/8169
CICS Problem Determination Guide	GC33-1693	8149/8159/8169
CICS Recovery and Restart Guide	SC33-1698	8149/8159/8169
CICS Shared Data Tables Guide	SC33-1702	8149/8159/8169
CICS Trace Entries	SC34-5446	8149/8159/8169
CICS Transaction Affinities Utility Guide	SC33-1777	8149/8159/8169
CICS User's Handbook	SX33-6104	8149/8159/8169

Figure 7 (Page 2 of 2). Optional Material: Unlicensed Publications

Publication Title	Form Number	Feature Number
CICS Family: Communicating from CICS on System/390	SC33-1697	8149/8159/8169
CICS Family: Interproduct Communication	SC33-0824	8149/8159/8169
CICSplex SM Application Programming Guide	SC34-5457	8149/8159/8169
CICSplex SM Application Programming Reference	SC34-5458	8149/8159/8169
CICSplex SM Managing Business Applications	SC33-1809	8149/8159/8169
CICSplex SM Managing Resource Usage	SC33-1808	8149/8159/8169
CICSplex SM Managing Workloads	SC33-1807	8149/8159/8169
CICSplex SM Master Index	SC33-1812	8149/8159/8169
CICSplex SM Messages and Codes	GC33-0790	8149/8159/8169
CICSplex SM Monitor Views Reference	SC34-5402	8149/8159/8169
CICSplex SM Operations Views Reference	SC33-0789	8149/8159/8169
CICSplex SM Problem Determination	GC33-0791	8149/8159/8169
CICSplex SM Resource Tables Reference	SC33-1220	8149/8159/8169
CICSplex SM User Interface Guide	SC33-0788	8149/8159/8169
CICSplex SM View Commands Reference Summary	SX33-6099	8149/8159/8169
CICS Distributed Data Management User's Guide	SC33-0695	8149/8159/8169
CICS Application Migration Aid Guide	SC33-0768	8149/8159/8169
IBM REXX Development System for CICS/ESA and REXX Runtime Facility for CICS/ESA Guide and Reference	SH21-0482	8149/8159/8169
CICS Clients Administration	SC33-1792	8149/8159/8169

2.3.2.1 Softcopy books: Softcopy (online book) versions of the CICS TS program publications are available on the CD-ROM collection kit for *Transaction Processing and Data* products, SK2T-0730

The collection kit includes book files, a copy of the IBM Library Reader, and some other utility programs. This means that you do not have to order BookManager READ separately in order to use the CD-ROM. The softcopy books can be used with the BookManager READ licensed programs in any of the supported environments. Terms and conditions for use of the softcopy files are shipped with those files.

The best way to receive the softcopy books is through the *Transaction Processing and Data* collection kit. Information about this CD-ROM follows.

2.3.2.1.1 The Transaction Processing and Data CD-ROM kit: Softcopy (online book) versions of the unlicensed program publications are available on the CD-ROM collection kit for *Transaction Processing and Data* products, SK2T-0730. This kit contains softcopy versions of all unlicensed CICS publications, except for:

- CICS Transaction Server for OS/390 Licensed Program Specification
- CICS Master Index, SC33-1187
- CICSplex SM Master Index, SC33-1812
- CICSplex SM Views Commands Reference Summary, SX33-6099.

The kit also includes a CICS TS Glossary, GC33-1189, available in softcopy form only.

Licensees of CICS can get softcopy versions of the licensed publications on the CICS Transaction Server product kit, LK2T-1789.

The collection kit also contains books for CICS/ESA, CICS/MVS, CICS OS/2, CICS/VSE, and many related products.

To order copies of the *Transaction Processing and Data* products collection kit, please contact your IBM representative.

<i>Figure 8. Transaction Processing and Data products Collection Kit</i>			
Title	Form Number	Feature Number First Copy	Feature Number Additional Copy
<i>Transaction Processing and Data products</i> Collection Kit	SK2T-0730	7063	8148

2.3.3 Program source listings

Microfiche program listings are not provided with CICS TS. Customers with access to View Program Listings (VPL), such as through SoftwareXcel Extended, can access program listings formerly provided through microfiche.

Those customers without access to VPL can contact their IBM representative.

The VPL facility provides online viewing of program listings that are available to customers. For more information about how to use the VPL system, see the *VPL User's Guide*, dated January 1993.

2.4 Publications useful during installation

This Program Directory contains the information that you need to install the CICS TS software from the distribution medium.

The *CICS CICS Transaction Server for OS/390 Installation Guide*, GC33-1681, contains information useful when tailoring CICS to your environment and running the CICS-supplied installation verification procedures.

The publications listed in Figure 9 may be useful during the installation of CICSplex SM. To order copies, contact your IBM representative.

<i>Figure 9. Publications Useful During Installation</i>	
Publication Title	Form Number
<i>System Modification Program Extended: General Information</i>	GC38-1106
<i>System Modification Program Extended: User's Guide</i>	SC28-1806
<i>System Modification Program Extended: Reference</i>	SC28-1107
<i>Tivoli GEM CICSplex SM Instrumentation: User's Guide</i>	GCB1-5156
<i>Tivoli GEM CICSplex SM Instrumentation: Release Notes</i>	GI10-4783

Note that the installation verification procedures (IVPs) in the *CICS Transaction Server for OS/390 Installation Guide* are more up-to-date in the softcopy BookManager version than in the hardcopy printed book.

3.0 Program support

This section describes the IBM support available for CICS TS.

3.1 Program services

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

3.2 Preventive service planning

Before installing CICS TS, you should review the current Preventive Service Planning (PSP) information. If you obtained CICS TS as part of a CBPDO, there is HOLDDATA and PSP information included on the CBPDO tape. If the CBPDO is more than two weeks old when you install it, contact the IBM Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket."

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 TS are:

Figure 10. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
CICSTS13	HCI5300	CICS TS Base
	JCI5301	Cobol Language Parts
	JCI5302	PL/I Language Parts
	JCI5303	C Language Parts
	JCI530D	IIO/JAVA
	JCI530E	IIO/JAVA
	HLR2140	CICSplex SM V1R4 (MVS and OS/2 Remote MAS Support, CMAS & local MAS Support)
	JLR2142	CICSplex SM V1R4 (SAS components)
	HBDD110	CICS Application Migration Aid
	HCC1102	CICS/DDM
	H0B5110	CICS REXX Runtime Facility
	H0B7110	CICS REXX Development System
	H0Z2110	CICS REXX Common for CICS/ESA
	H0AL200	Tivoli GEM Instrumentation for CICSplex SM

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 11 on page 19 identifies the elements in the CICS TS (SREL C150), together with the FMIDs and component IDs (COMPID) of each element.

FMID	COMPID	Component Name	REL
HCI5300	565514700	CICS TS Base	300
JCI5301		COBOL Language Parts	301
JCI5302		PL/I Language Parts	302
JCI5303		C Language Parts	303
JCI530D		IIOPI/JAVA	30D
JCI530E		IIOPI/JAVA	30E
HLR2140	569508100	CICSplex SM V1R4 (MVS and OS/2 Remote MAS Support)	140
JLR2142		CICSplex SM V1R4 (SAS components)	142
HCC1102	566546301	CICS/DDM (FESN 6546301)	102
HBDD110	5695-061	CICS Application Migration Aid (FESN 0562275)	—
H0B5110	565508700	CICS REXX Runtime Facility	110
H0B7110	565508600	CICS REXX Development System	110
H0Z2110	565511200	CICS REXX Common for CICS/ESA	110
H0AL200	5697GEM00	Tivoli GEM Instrumentation for CICSplex SM	200

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 integrated. Information about the cumulative service tape is also provided.

4.1 Program level information

Appendix B, "APAR fixes incorporated in CICS TS" on page 112 lists the APARs against previous releases that have been incorporated into this release.

4.2 Service level information

This is Release 3 of CICS TS and there are no PTFs at the time of printing this Program Directory.

4.3 Cumulative service tape

There is no cumulative service tape for CICS TS Release 3.

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.
- *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.

Post-installation tasks for CICS and CICSplex SM can be found in the *CICS Transaction Server for OS/390 Installation Guide*. Post-installation tasks for the other elements of CICS TS can be found in the publications applicable to those elements.

Important Notes!

The following are new prerequisites for this release of CICS TS:

- **UNIX System Services** for OS/390 2.6 and later (or OpenEdition on OS/390 2.5) must be running in full-function mode on the MVS image being used to install CICS Transaction Server for OS/390.

The user ID under which the installation jobs are run must be defined to UNIX System Services (or OpenEdition) as a superuser. RACF ALTER access to the OMVS data sets must also be granted before installation.

- **Partitioned data sets extended (PDSE)**. Some components of CICS are installed by the installation jobs in PDSEs, which requires the use of SMS-managed volumes for these data sets, unless the PTFs for HFS and PDSE support on non-managed SMS volumes that are listed in Flash10007 are installed. This Flash can be found with links from:

<http://www.ibm.com/support/techdocs>

5.1 Driving system requirements

This section describes the environment of the driving system required to install CICS TS.

5.1.1 Operating system requirements

CICS TS requires OS/390 Version 2 Release 5 (5647-A01) or later. Note that OS/390 includes, as base elements, many of the products required by CICS TS.

Important Note!

OS/390 Binder PTFs for APARs OW36582 and OW36049, together with the IEBCOPY PDS/E PTFs UW49740 and UW54887, must be installed prior to installation of CICS TS.

Also, if you are running OS/390 Release 5 or Release 6 you must have SMP/E PTF UR50598 installed.

Figure 12. Program products required on the installing system for ServerPac and CBPDO

Program Product	Minimum Level
OS/390	Version 2 Release 5 OS/390 includes the following elements and components that are required for installing CICS TS: <ul style="list-style-type: none">• Interactive System Productivity Facility (ISPF)• Time Sharing Option/Extended (TSO/E)• DFSMSdfp (Including PTFs for APARs OW31036, OW31718, OW31924, OW32111, OW32261, OW32334, OW33782 and OW34052)• OS/390 Program Management Binder (with PTFs for APARs OW36582 and OW36049)• Language Environment (Including PTFs for APARs PQ08747, PQ17512, and PQ18559) If you use CICS API LINK commands, APARs PQ14883, PQ14888, PQ17931 and COBOL APAR PQ16794 are co-req APARs.• Two components of eNetwork Communications Server: SNA and IP (previously VTAM and TCP/IP). APAR PQ14815 is required for Return Code setting.• OS/390 UNIX system services If you are installing CICS TS using the CBPDO method, you also need: <ul style="list-style-type: none">• System Modification Program/Extended (SMP/E)• High Level Assembler/MVS & VM & VSE.

Figure 13. Additional LE PTFs and APARs required

OS/390 R2.5		OS/390 R2.6	OS/390 R2.7
APAR PQ30582	PTF UQ36601	PTF UQ36602	PTF UQ36598
APAR PQ21214	PTF UQ24876	PTF UQ24877	PTF UQ24875
APAR PQ21197	PTF UQ23629	PTF UQ23630	PTF UQ23628
APAR PQ21214	PTF UQ24876	PTF UQ24877	PTF UQ24875
APAR PQ21852	PTF UQ25326	PTF UQ25327	PTF UQ25325
APAR PQ20363		PTF UQ23584	PTF UQ23583
APAR PQ21547	PTF UQ23796	PTF UQ23798	PTF UQ23795

Contact the IBM Support Centre to obtain details of the latest information on LE related APARs.

It is recommended that service levels comply with those described in the Program Directory for "Visual Age for Java, Enterprise Edition for OS/390, V2.0.0 Program Number 5655-JAV" (GI10-4949-01) as interproduct dependencies.

5.1.2 Hardware requirements

To load the program materials for CICS TS, you need tape drives that can handle 6250 BPI 9-track tapes, 3480s for cartridges or 4MM DAT. The program materials for CICS TS can be loaded to 3380 or 3390 DASD; it cannot be loaded to earlier DASD types (for example, 3350s).

5.1.3 Programming requirements

With the exception of the requirements listed in 'Operating System Requirements' listed above, there are no programming requirements.

You are, however, recommended to refer to the Information APAR II11597 on RETAIN for information on other product required PTFs.

5.2 Target system requirements

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

5.2.1 Machine requirements

To run CICS TS you need a System/390 processor that supports OS/390 Version 2 Release 5 or later, and which has enough processor storage to meet the combined requirements of the host operating system, CICS TS, the access methods, and the application programs. Suitable processors include:

- All models of the S/390 Parallel Enterprise Servers or S/390 Parallel Transaction Servers (IBM 9672)

- All models of the Multiprise 2000
- All models of the ES/9000 Processor Unit 9021, 9121, or 9221
- IBM ES/390-9000T processors (models 15T, 17T, 18T, 25T, 28T) that support IBM Enterprise Systems Architecture/370 (ESA/370) and which must have optional ESA/390 facilities
- PC Server System/390 or RS/6000 and System/390 Server-on-Board

5.2.1.1 Parallel Sysplex support: Each of the data-sharing facilities supported by CICS, and the MVS system logger's log stream merging facility, all require a Parallel Sysplex environment. For this you need:

- One or more coupling facilities with their associated coupling links installed (see 5.2.1.1.1, "Coupling facilities.")
- An IBM sysplex timer
- Sufficient DASD paths to support the number of CPCs in the sysplex

You can use CICS support for data sharing to access the following forms of data:

- IMS databases
- DB2 databases
- VSAM data sets
- CICS temporary storage
- Coupling facility data tables
- Named number counters

5.2.1.1.1 Coupling facilities: A coupling facility can be one of the following:

- A standalone IBM 9674.
- A PR/SM logical partition (LPAR) running the coupling facility control code. The processors that can enable the coupling facility in an LPAR are:
 - ES/9000 711-based models
 - ES/9000 511-based models
 - S/390 Parallel Enterprise Servers (9672).

The 9121 511-based models require the integrated coupling migration facility (ICMF) to provide coupling facility functions.

- A PR/SM logical partition (LPAR) with ICMF for both the 9021 711-bases and 9121 511-based processors, or for the S/390 Parallel Enterprise Servers (9672). This latter configuration eliminates the need for coupling links.

In general, a standalone coupling facility is recommended for a production environment to eliminate a single point of failure, and two coupling facilities are recommended for high availability.

5.2.1.1.2 Sysplex timer: A Parallel Sysplex requires an IBM sysplex timer to provide a common external time source.

5.2.1.1.3 DASD paths: A Parallel Sysplex requires either DASD controllers with enough paths to dedicate one to each CPC in the sysplex, or an ESCON director to provide the paths.

5.2.1.2 Device Support: CICS TS supports current and new terminals if they are accessed through VTAM or TCAM(DCB).

CICS TS does not support devices and controllers accessed using BTAM, GAM, or TCAM(ACB). BTAM and TCAM(ACB) accessed terminals are supported **only through** a CICS/MVS 2.1.2 terminal-owning region using MRO or inter-region communication (ISC) or transaction routing using ISC.

To take advantage of the Japanese or Simplified Chinese language features you need terminals capable of supporting the double-byte character set (DBCS).

Support for any VTAM-attached printer will be completely transparent to CICS TS, assuming those printers are compatible with currently-supported models.

Current device types, and their modes of connection are listed in the *CICS Resource Definition Guide*.

5.2.2 Programming requirements

5.2.2.1 Minimum requisites: The minimum programming requirements for the target system are the same as those for the driving system.

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 base 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.

Program Number	Product Name and Minimum VRM/Service Level	Function
5695-039	OS/390 Security Server (RACF) Version 2.5, plus PTFs UW91119 and UW91120, and PTF UW90545 for APAR OW35612.	Security
5695-101	Tivoli Performance Reporter (Tivoli Performance Reporter for OS/390 V1R4 will support the CICS TS 1.3 through APAR PQ23257)	SMF Record reporting
5688-197	IBM COBOL for MVS and VM	Language compiler
5688-235	IBM PL/I for MVS and VM	Language compiler
5655-121	IBM C/C++ Release 1	Language compiler

Figure 14 (Page 2 of 2). Functional Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
5668-958	VS/COBOL II (all releases)	Language compiler
5688-040 5688-187	C/370 Version 1.2	Language compiler
5668-814	CSP Version 3 or higher	Application development
5668-910	OS PL/I with PL/1 Version 2.3 or later run-time library	Language compiler
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
	Run time support for any other programming language which complies with the LE language environment Version 1.5	
5695-010	CICS VSAM Recovery (CICSVR) Version 2.3 or higher	VSAM file recovery
5695-176	IMS/ESA Database manager Version 5.1 or higher	IMS DBCTL Multisystem Data sharing
5695-DB2	DB2 Version 4.1 or higher	DATABASE 2 (DB2) Data sharing
5655-A95	MQSeries for OS/390 Version 2.1	MQSeries Messaging Mechanism for Use with 3270-bridge
5647-A01 5648-B43	OS/390 Version 2.5 for Java Development Kit/Runtime 1.1 CICS TRansaction Gateway V3.1	Java Client Support
5639-001	CICS Clients 2.0.4 with service level 7 applied	Clients
5655-JAV	IBM Visual Age for Java, Enterprise Edition for OS/390, Version 2.0 with PTFs UQ90004, UQ90005, UQ90006 and UQ90007 for the runtime library	Java Language Support
5647-A01	OS/390 2.5 + PTF UW46914	External CICS interface (EXCI) with resource recovery support using MVS recoverable resource management services (RRMS)
5647-A01	OS/390 2.7 CICS enabling APAR PQ23421	Support for Secure Sockets Layer function

DB2 4.1 is enhanced to issue workload manager calls for any -904 (resource unavailable) return codes. For this function, you require APAR PN76625. PN76625 is mandatory if you are running CICS Transaction Server and DB2 4.1, not just if you want the workload manager function.

APAR PN76609 should be applied to DB2 version 3 release 1 and DB2 version 4 release 1 systems in order to receive a -923 SQLCODE when running with options STRWT=AUTO and STANDBY=SQLCODE in the RCT. These specify that if an SQL request be attempted when the CICS-DB2 attachment facility is in 'standby mode' waiting for DB2, then the application should be returned a SQLCODE rather than abending AEY9. With the APAR applied, a -923 SQLCODE is returned, without a -924 SQLCODE is returned.

5.2.3 DASD storage requirements

CICS TS libraries can reside on 3380 or 3390 DASD.

Figure 18 on page 29 and Figure 19 on page 33 list the target and distribution libraries (data sets) and their attributes required to install CICS TS.

These libraries are allocated and cataloged when you run the DFHINST1 job during the CICS TS installation process, as described in 6.9.1.5, "The DFHINST1 job" on page 82.

The storage values given in Figure 18 on page 29 and Figure 19 on page 33 are those *allocated* by the DFHINST1 job. The actual *used* values required for the libraries are less than these values, and depend on your installation and your use of the libraries. For example, the allocated size of the SYS1.CICSTS13.SDFHLP library is 420 blocks and 100 directory blocks, but when you first install CICS TS this contains only those modules that must be in that library. (The used size of the library is 34 blocks and 2 directory blocks.) If you choose later to install other modules in the SYS1.CICSTS13.SDFHLP library (for use in the MVS link pack area), more space is used.

SMP/E DDDEF entries for each data set are created when you run the DFHINST4 job during the CICS TS installation process, as described in 6.9.1.8, "The DFHINST4 job" on page 83.

You specify the block size to be used for allocating the CICS library data sets by the following parameters of the DFHISTAR job during the CICS TS installation process:

- BLKFB80, the block size for data sets that have an 80-byte **fixed block** record format (FB 80)
- BLKU, the block size for data sets that have an **undefined** record format (U).

For advice on choosing block sizes, see 6.5.10, "Specify block sizes" on page 56.

Figure 15 lists the total space required for each type of library.

Figure 15. Total DASD Space Required by CICS Transaction Server

Library Type	Total Space Required
Target	43480 blocks
Distribution	49790 blocks

Notes:

1. The data set sizes specified contain 15% extra space. You may wish to revise these numbers based on your plans for adding additional function or service.
2. 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.

If you choose not to use system determined block sizes, use the block sizes and numbers of blocks specified to allocate the data sets. Data sets can be reblocked to a larger size. Note that the maximum allowable block size depends on the type of DASD on which the dataset will reside.

3. Abbreviations used for the data set type are:

- U** Unique data set used by only the FMIDs listed. In order 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 used by more than the FMIDs listed. In order 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.

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, see Figure 18 on page 29.

Figure 16 (Page 1 of 2). Storage Requirements for SMP/E Work Data Sets

Library DDNAME	T	D S R E G	R E F M	L R E C L	No. of Blks	BLK SIZE	No. of 3380/ 9345 Trks	No. of 3390 Trks	No. of DIR Blks
SMPWRK1	S	PO	FB	80	380	6160			5
SMPWRK2	S	PO	FB	80	380	6160			5
SMPWRK3	S	PO	FB	80	8000	6160			50

Figure 16 (Page 2 of 2). Storage Requirements for SMP/E Work Data Sets

Library DDNAME	T Y P E	D S R G	R E C F M	L R E C L	No. of Blks	BLK SIZE	No. of 3380/ Trks	No. of 3390 Trks	No. of DIR Blks
SMPWRK4	S	PO	FB	80	380	6160			5
SMPWRK6	S	PO	FB	80	40000	6160			90
SYSUT1	U	PS	--	--	1700	6144			0
SYSUT2	U	PS	--	--	1700	6144			0
SYSUT3	U	PS	--	--	1700	6144			0
SYSUT4	U	PS	--	--	1700	6144			0

The following table provides an estimate of the storage needed in the SMP/E data sets for CICS Transaction Server. The estimates must be added to those of any other programs and service being installed to determine the total additional storage requirements.

Figure 17. Storage Requirements for SMP/E Data Sets

Library DDNAME	T Y P E	D S R G	R E C F M	L R E C L	No. of Blks	BLK SIZE	No. of 3380/ Trks	No. of 3390 Trks	No. of DIR Blks
SMPLTS	S	PO	U	0	6000	6144			50
SMPMTS	S	PO	FB	80	10	8800			1
SMPPTS	S	PO	FB	80	90	6160			1
SMPSCDS	S	PO	FB	80	20	8800			1
SMPSTS	S	PO	FB	80	10	8800			1

The following figures list the target and distribution libraries (data sets) and their attributes 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 data set (library).

¹ SDFJLPA cannot be in LPALSTxx member at IPL time.

Figure 18 (Page 1 of 4). Storage Requirements for Target Libraries

Data Set Name or Library Name (HLQ=CICSTS13)	T Y P E	D S R G	R O C F M	L R E C L	BLK SIZE	No. of BLKS	No. of DIR BLKS
.CICS.SDFHINST	NU	PO	FB	80	27920	45	4
.CICS.SDFHSDCK	NU	PO	FB	80	27920	23	2
.CICS.SDFHAPD1	NU	PO	FB	38	23446	8	2
.CICS.SDFHAPD2	NU	PO	FB	227	23381	8	2
.CICS.SDFHAUTH	NU	PO	U	0	32760	210	10
.CICS.SDFHCLIB	NU	PO	FB	80	27920	23	2
.CICS.SDFHCOB	NU	PO	FB	80	400	810	5
.CICS.SDFHC370	NU	PO	FB	80	400	810	5
.CICS.SDFHEXCI	NU	PO	U	0	32760	30	4
.CICS.SDFHLANG	NU	PO	FB	80	27920	23	2
.CICS.SDFHLLIB	NU	PO	U	0	32760	30	2
.CICS.SDFHLOAD	NU	PO	U	0	32760	1020	119
.CICS.SDFHMAC	NU	PO	FB	80	27920	450	24
.CICS.SDFHMLIB	NU	PO	FB	80	27920	23	2
.CICS.SDFHMMSG	NU	PO	V	30646	30650	68	2
.CICS.SDFHPARM	NU	PO	FB	80	27920	23	2
.CICS.SDFHPLIB	NU	PO	FB	80	27920	23	2
.CICS.SDFHPL1	NU	PO	FB	80	400	608	5
.CICS.SDFHPROC	NU	PO	FB	80	27920	23	3
.CICS.SDFHSAMP	NU	PO	FB	80	27920	360	25
.CICS.SDFHMSRC	NU	PO	FB	80	27920	563	14
.CICS.SDFHDLL1	NU	PO	U	0	32760	30	2
SYS1.CICSTS13. CICS.SDFHLINK	NU	PO	U	0	32760	300	5
SYS1.CICSTS13. CICS.SDFHLPA	NU	PO	U	0	32760	450	72
.CICS.SDFHENV	NU	PO	V	30000	30004	23	2
.CICS.SDFJLOAD	NU	PO	U	0	32760	1170	PDSE
.CICS.SDFJLPA1	NU	PO	U	0	32760	30	PDSE
.CICS.SDFJL0D1	NU	PO	U	0	32760	1170	PDSE

Figure 18 (Page 2 of 4). Storage Requirements for Target Libraries

Data Set Name or Library Name (HLQ=CICSTS13)	T Y P E	D S O R G	R E C F M	L R E C L	BLK SIZE	No. of BLKS	No. of DIR BLKS
.CICS.SDFJH001	N/A	-	-	-	-	-	HFS
.CICS.SDFJH002	N/A	-	-	-	-	-	HFS
.CICS.SDFJH003	N/A	-	-	-	-	-	HFS
.CICS.SDFJH004	N/A	-	-	-	-	-	HFS
.CICS.SDFJH005	N/A	-	-	-	-	-	HFS
.CICS.SDFJH006	N/A	-	-	-	-	-	HFS
.CICS.SDFJH007	N/A	-	-	-	-	-	HFS
.CICS.SDFJH008	N/A	-	-	-	-	-	HFS
.CICS.SDFJH009	N/A	-	-	-	-	-	HFS
.CICS.SDFJH010	N/A	-	-	-	-	-	HFS
.CICS.SDFJH011	N/A	-	-	-	-	-	HFS
.CICS.SDFJH012	N/A	-	-	-	-	-	HFS
.CICS.SDFJH013	N/A	-	-	-	-	-	HFS
.CICS.SDFJH014	N/A	-	-	-	-	-	HFS
.CICS.SDFJH015	N/A	-	-	-	-	-	HFS
.AMA.SERCLMD	NU	PO	U	0	32760	30	7
.DDM.DDMINST	NU	PO	FB	80	27920	23	2
.DDM.DDMLOAD	NU	PO	U	0	32760	30	2
.CPSM.SEYUINST	NU	PO	FB	80	27920	23	3
.CPSM.SEYUSAMP	NU	PO	FB	80	27920	23	4
.CPSM.SEYUPARM	NU	PO	FB	80	27920	23	2
.CPSM.SEYUMAC	NU	PO	FB	80	27920	90	37
.CPSM.SEYUJCL	NU	PO	FB	80	27920	45	5
.CPSM.SEYUDEF	NU	PO	FB	80	27920	45	3
.CPSM.SEYUOS2	NU	PO	FB	80	27920	158	3
.CPSM.SEYULOAD	NU	PO	U	0	32760	750	20
.CPSM.SEYUAUTH	NU	PO	U	0	32760	1830	248
.CPSM.SEYUCMOD	NU	PO	U	0	32760	180	110
.CPSM.SEYUADEF	NU	PO	FB	80	27920	90	18

Figure 18 (Page 3 of 4). Storage Requirements for Target Libraries

Data Set Name or Library Name (HLQ=CICSTS13)	T Y P E	D S R G	R E C F M	L R E C L	BLK SIZE	No. of BLKS	No. of DIR BLKS
.CPSM.SEYUCLIB	NU	PO	FB	80	27920	45	3
.CPSM.SEYUMLIB	NU	PO	FB	80	27920	23	10
.CPSM.SEYUPLIB	NU	PO	FB	80	27920	203	83
.CPSM.SEYUTLIB	NU	PO	FB	80	27920	23	2
.CPSM.SEYUVDEF	NU	PO	FB	80	27920	315	32
.CPSM.SEYUPROC	NU	PO	FB	80	27920	23	2
.CPSM.SEYUC370	NU	PO	FB	80	27920	113	37
.CPSM.SEYUCOB	NU	PO	FB	80	27920	113	37
.CPSM.SEYUPL1	NU	PO	FB	80	27920	113	37
SYS1.CICSTS13. CPSM.SEYULINK	NU	PO	U	0	32760	30	2
SYS1.CICSTS13. CPSM.SEYULPA	NU	PO	U	0	32760	330	12
.GEM.SIHSSMPC	NU	PO	FB	80	27920	23	2
.GEM.SIHSCLSC	NU	PO	FB	80	27920	23	2
.REXX.SCICJCL	NU	PO	FB	80	27920	23	3
.REXX.SCICPNL	NU	PO	FB	80	27920	23	2
.REXX.SCICDBRM	NU	PO	FB	80	27920	23	2
.REXX.SCICBOOK	NU	PO	FB	4096	16384	23	3
.REXX.SCICLOAD	NU	PO	U	0	32760	90	3
.REXX.SCICCMDS	NU	PO	VB	255	3160	57	2
.REXX.SCICEXEC	NU	PO	VB	255	3160	57	2
.REXX.SCICUSER	NU	PO	VB	255	3160	575	2

Figure 18 (Page 4 of 4). Storage Requirements for Target Libraries

Data Set Name or Library Name (HLQ=CICSTS13)	T Y P E	D S R G	R E F M	L R E C L	BLK SIZE	No. of BLKS	No. of DIR BLKS
.REXX.SCICDOC	NU	PO	VB	8192	8196	158	2
Notes:							
1. The number of blocks and directory blocks specified is the actual minimum storage required by CICS TS after the program is installed and the data sets are compressed. When allocating these data sets, you may want to specify additional storage and directory blocks to allow for maintenance.							
2. If required, data sets may be reblocked to a larger size.							
3. SMP/E DDDEF entries for each data set are created when you run the DFHINST4 job during the CICS TS installation process, as described in 6.9.1.8, "The DFHINST4 job" on page 83.							
4. Abbreviations used for the data set type are:							
NU	New data set used by only the FMIDs listed. In order to determine the correct storage needed for this data set, only the storage size given in the one table needs to be used. No other tables (or program directories) need to be referenced for the data set size.						
NM	New data set used by more than the FMIDs listed. In order to determine the correct storage needed for this data set, the storage size given in the one table needs to be added to other tables (perhaps in other program directories).						
EU	Existing data set used by only the FMIDs listed. In order to determine the correct storage needed for this data set, only the storage size given in the one table needs to be used. No other tables (or program directories) need to be referenced for the data set size.						
EM	Existing data set used by more than the FMIDs listed. In order to determine the correct storage needed for this data set, the storage size given in the one table needs to be added to other tables (perhaps in other program directories).						

The allocations for data sets in Figure 18 on page 29 contain extra space. (DFHINST1 allocates space rounded up to the next cylinder.) Revise these numbers in line with your plans for adding additional function or service.

Figure 19 (Page 1 of 4). Storage Requirements for Distribution Libraries

Data Set Name or Library Name (HLQ=CICSTS13)	T Y P E	D S R G	R E F M	L R E C L	BLK SIZE	No. of BLKS	No. of DIR BLKS
.CICS.ADFHINST	NU	PO	FB	80	27920	45	4
.CICS.ADFHSDCK	NU	PO	FB	80	27920	23	2
.CICS.ADFHAPD1	NU	PO	FB	38	23446	8	2
.CICS.ADFHAPD2	NU	PO	FB	227	23381	8	2

Figure 19 (Page 2 of 4). Storage Requirements for Distribution Libraries

Data Set Name or Library Name (HLQ=CICSTS13)	T Y P E	D S O R G	R E C F M	L R E C L	BLK SIZE	No. of BLKS	No. of DIR BLKS
.CICS.ADFHCLIB	NU	PO	FB	80	27920	23	2
.CICS.ADFHCOB	NU	PO	FB	80	400	810	5
.CICS.ADFHC370	NU	PO	FB	80	400	810	5
.CICS.ADFHENV	NU	PO	V	30000	30004	23	2
.CICS.ADFHLANG	NU	PO	FB	80	27920	23	2
.CICS.ADFHMAC	NU	PO	FB	80	27920	450	24
.CICS.ADFHMLIB	NU	PO	FB	80	27920	23	2
.CICS.ADFHMOD	NU	PO	U	0	32760	1710	515
.CICS.ADFJMOD	NU	PO	U	0	32760	2310	PDSE
.CICS.ADFHMMSG	NU	PO	V	30646	30650	68	2
.CICS.ADFHPPARM	NU	PO	FB	80	27920	23	2
.CICS.ADFHPLIB	NU	PO	FB	80	27920	23	2
.CICS.ADFHPL1	NU	PO	FB	80	400	608	5
.CICS.ADFHPROC	NU	PO	FB	80	27920	23	3
.CICS.ADFHSAMP	NU	PO	FB	80	27920	360	25
.CICS.ADFHMSRC	NU	PO	FB	80	27920	563	14
.CICS.ADFJH001	NU	PO	V	32000	32004	19	2
.CICS.ADFJH002	NU	PO	V	32000	32004	4	2
.CICS.ADFJH003	NU	PO	V	32000	32004	4	2
.CICS.ADFJH004	NU	PO	V	32000	32004	4	2
.CICS.ADFJH005	NU	PO	V	32000	32004	4	2
.CICS.ADFJH006	NU	PO	V	32000	32004	4	2
.CICS.ADFJH007	NU	PO	V	32000	32004	4	2
.CICS.ADFJH008	NU	PO	V	32000	32004	4	2
.CICS.ADFJH009	NU	PO	V	32000	32004	4	2
.CICS.ADFJH010	NU	PO	V	32000	32004	4	2
.CICS.ADFJH011	NU	PO	V	32000	32004	4	2
.CICS.ADFJH012	NU	PO	V	32000	32004	4	2
.CICS.ADFJH013	NU	PO	V	32000	32004	4	2

Figure 19 (Page 3 of 4). Storage Requirements for Distribution Libraries

Data Set Name or Library Name (HLQ=CICSTS13)	T Y P E	D S O R G E	R E C O R D S	L R E C O R D S	BLK SIZE	No. of BLKS	No. of DIR BLKS
.CICS.ADFJH014	NU	PO	V	32000	32004	4	2
.CICS.ADFJH015	NU	PO	V	32000	32004	4	2
.AMA.AERCINST	NU	PO	FB	80	27920	23	2
.AMA.AERCMOD	NU	PO	U	0	32760	30	8
.DDM.ADDMLOAD	NU	PO	U	0	32760	30	5
.DDM.ADDMINST	NU	PO	FB	80	27920	23	2
.CPSM.AEYUINST	NU	PO	FB	80	27920	23	3
.CPSM.AEYUMOD	NU	PO	U	0	32760	350	871
.CPSM.AEYUSAMP	NU	PO	FB	80	27920	23	4
.CPSM.AEYUPARM	NU	PO	FB	80	27920	23	2
.CPSM.AEYUMAC	NU	PO	FB	80	27920	90	37
.CPSM.AEYUJCL	NU	PO	FB	80	27920	45	5
.CPSM.AEYUDEF	NU	PO	FB	80	27920	45	3
.CPSM.AEYUOS2	NU	PO	FB	80	27920	158	3
.CPSM.AEYUCOMM	NU	PO	U	0	32760	30	6
.CPSM.AEYUCOSM	NU	PO	U	0	32760	90	41
.CPSM.AEYUCOBM	NU	PO	U	0	32760	120	65
.CPSM.AEYUAEDEF	NU	PO	FB	80	27920	90	18
.CPSM.AEYUCLIB	NU	PO	FB	80	27920	45	3
.CPSM.AEYUMLIB	NU	PO	FB	80	27920	23	10
.CPSM.AEYUPLIB	NU	PO	FB	80	27920	203	83
.CPSM.AEYUTLIB	NU	PO	FB	80	27920	23	2
.CPSM.AEYUVEDEF	NU	PO	FB	80	27920	315	32
.CPSM.AEYUPROC	NU	PO	FB	80	27920	23	2
.CPSM.AEYUC370	NU	PO	FB	80	27920	113	37
.CPSM.AEYUCOB	NU	PO	FB	80	27920	113	37
.CPSM.AEYUPL1	NU	PO	FB	80	27920	113	37
.GEM.AIHSSMPC	NU	PO	FB	80	27920	23	2
.GEM.AIHSLCLSC	NU	PO	FB	80	27920	23	2

Figure 19 (Page 4 of 4). Storage Requirements for Distribution Libraries

Data Set Name or Library Name (HLQ=CICSTS13)	T Y P E	D S R G	R E C F M	L R E C L	BLK SIZE	No. of BLKS	No. of DIR BLKS
.REXX.ACICRMOD	NU	PO	U	0	32760	30	2
.REXX.ACICMOD	NU	PO	U	0	32760	90	32
.REXX.ACICDMOD	NU	PO	U	0	32760	30	2
.REXX.ACICJCL	NU	PO	FB	80	27920	23	3
.REXX.ACICPNL	NU	PO	FB	80	27920	23	2
.REXX.ACICDBRM	NU	PO	FB	80	27920	23	2
.REXX.ACICBOOK	NU	PO	FB	4096	16384	23	2
.REXX.ACICDOC	NU	PO	VB	8192	8196	158	2
.REXX.ACICCMDS	NU	PO	VB	255	3160	57	2
.REXX.ACICEXEC	NU	PO	VB	255	3160	57	2
.REXX.ACICUSER	NU	PO	VB	255	3160	57	2
.REXX.ACICDUSR	NU	PO	VB	255	3160	57	2

Note:

- Abbreviations used for the data set type are:
 - NU** New data set used by only the FMIDs listed. In order to determine the correct storage needed for this data set, only the storage size given in the one table needs to be used. No other tables (or program directories) need to be referenced for the data set size.
 - NM** New data set used by more than the FMIDs listed. In order to determine the correct storage needed for this data set, the storage size given in the one table needs to be added to other tables (perhaps in other program directories).
 - EU** Existing data set used by only the FMIDs listed. In order to determine the correct storage needed for this data set, only the storage size given in the one table needs to be used. No other tables (or program directories) need to be referenced for the data set size.
 - EM** Existing data set used by more than the FMIDs listed. In order to determine the correct storage needed for this data set, the storage size given in the one table needs to be added to other tables (perhaps in other program directories).

The allocations for data sets in Figure 19 on page 33 contain extra space. (DFHINST1 allocates space rounded up to the next cylinder.) Revise these numbers according to your plans for adding additional function or service.

5.3 Program considerations

The following sections list the programming considerations for installing CICS TS and activating its functions.

5.3.1 ISC and MRO communication

CICS supports intersystem communication (ISC) links with:

- Other CICS Transaction Server regions
- CICS/ESA Version 4 regions
- CICS/ESA Version 3 regions
- CICS/MVS Version 2 regions
- CICS/VSE Version 2 regions
- CICS/6000
- CICS/400
- CICS OS/2
- IMS/ESA Transaction Manager Version 4 Release 1
- Any system that supports advanced program-to program communication (APPC) protocols (LUTYPE6.2), including:
 - APPC/PC
 - AS/400
 - Displaywriter
 - RT/PC
 - Personal System/2
 - Series 1
 - System/36
 - System/38
 - System/88.

CICS supports multiregion operation (MRO) for communication with:

- Other CICS TS regions
- CICS/ESA Version 4 regions
- CICS/ESA Version 3 regions
- CICS/MVS Version 2 regions
- CICS/OS/VS Version 1 Release 7 regions. (The systems must be in the same MVS image.)

If the CICS regions are using the latest CICS TS level of the DFHIRP module, and are running on MVS/ESA SP 5.1 or later, you can use XCF/MRO to communicate between MVS images.

Note: The function provided on any MRO or ISC connection is that of the lower release in the connection.

5.3.2 Sharing the CSD with earlier CICS releases

If you plan to share the CSD with earlier CICS releases, apply the relevant PTF for APAR PN50317 to the earlier CICS releases.

5.3.3 External CICS interface

Client programs running in an MVS address space can communicate only with CICS server regions running under CICS/ESA 4.1 or a later, upward-compatible release. This is because of the changes to the MRO connection definition to support the external CICS interface.

Also, the client program can connect to the server CICS region only through the CICS/ESA 4.1, or later, interregion communication program, DFHIRP.

5.3.4 Modules eligible for the MVS linklist

Modules that must be included in an APF-authorized library in the MVS linklist are installed in the SYS1.CICSTS13.CICS.SDFHLINK and SYS1.CICSTS13.CPSM.SEYULINK libraries. These libraries **must** be APF-authorized library in the MVS linklist. For further information about adding CICS modules to the MVS linklist, see the *CICS Transaction Server for OS/390 Installation Guide*.

5.3.5 Modules eligible for the MVS link pack area (LPA)

CICS DFHxxxxx modules that must be included in the LPA are supplied in the SYS1.CICSTS13.CICS.SDFHLPA library. Other CICS modules that can be included in the LPA are listed in the sample SMP/E USERMOD, installed in CICSTS13.CICS.SDFHSAMP. The member name of the sample USERMOD is

DFH\$UMOD

Installing CICS TS allocates the SYS1.CICSTS13.CICS.SDFJLPA and SYS1.CICSTS13.CPSM.SEYULPA libraries as empty data sets with no members. You can use these data sets in which to store your own, or IBM-supplied, LPA-eligible modules for CICSplex SM and CICS Java and IOP support. The IBM-supplied eligible modules are supplied as shown in the following table:

Function	Libraries	Where listed
CICSplex SM	SEYUAUTH and SEYULOAD	In the EYU\$UM01 and EYU\$UM02 USERMOD members in SEYUSAMP library
CICS Java and IOP support	SDFJLOAD and SDFJL0D1	In the DFJ\$UMOD and DFJ\$UM01 USERMOD members in SDFHSAMP library

Do not specify SDFJLPA in LPALSTxx

Do not include data set SDFJLPA in your LPALSTxx concatenation. This LPA library is a PDSE, and PDSEs cannot be loaded into the LPA at MVS IPL time, as MVS nucleus initialization processing does not recognize them. Use an MVS SETPROG command after an IPL to add members of a PDSE into the LPA dynamically. MVS issues message number IGGN311I if you try to IPL MVS with SDFJLPA in the LPALST.

For further information about adding CICS TS modules to the LPA, see the *CICS Transaction Server for OS/390 Installation Guide*.

5.3.6 Compilers and assembler

CICS TS supports the following assembler, COBOL, PL/I and C/370 compilers:

- High-level Assembler/MVS, VM, and VSE (5696-234)
- IBM COBOL for MVS and VM (5688-197)
- VS COBOL II (5668-958 and 5688-023)
(Requires PTF for APAR PN43097—See 5.3.6.2, “VS COBOL II run-time support” on page 40.)
- IBM PL/I for MVS and VM (5688-235)
- OS PL/I Optimizing Compiler Version 1 Release 5.1 (5734-PL1)
- OS PL/I Optimizing Compiler Version 2 Release 1 (5668-910) or later
- IBM C/C++ for MVS/ESA (5655-121)
- C/370 Version 2 Release 1 (5688-187).
- SAA AD/Cycle COBOL/370 (5688-197)
- SAA AD/Cycle C/370 (5688-216)
- SAA AD/Cycle PL/I (5688-235)

5.3.6.1 Run-time support for all high-level languages: CICS supports OS/390 Language Environment (LE) for the execution of all application programs compiled by the high-level languages—COBOL, PL/I, C and C++, and Java. The support provided by the CICS-LE run-time environment covers the following LE-conforming compilers:

- IBM COBOL for MVS & VM (5688–197)
- IBM PL/I for MVS & VM (5688–235)
- IBM C/C++ for MVS (5655–121)
- SAA AD/Cycle COBOL/370 (5688–197)
- SAA AD/Cycle PL/I (5688–235)
- SAA AD/Cycle C/370 (5688–216)
- Visual Age for Java, Enterprise Toolkit for OS/390 (ET/390)

LE also supports the execution of CICS application programs compiled by the older, non-LE conforming compilers in compatibility mode. These are:

- OS PL/I Optimizing Compiler Version 2 Release 1 (5668–910)
- OS PL/I Optimizing Compiler Version 1 Release 5 (5724–PL1)
- VS COBOL II (5668–958 and 5668–023)
- OS/VS COBOL
- C/370 (5688–040 and 5688–187)

5.3.6.2 VS COBOL II run-time support: If you are running VS COBOL II program with native VS COBOL II runtime support (instead of the recommended OS/390 LE libraries) apply the requisite PTFs for APAR PN43097 to prevent 0C4 abends caused by IGZECIC returning to CICS with an incorrect mode. These PTFs are as follows:

PTF UN48282 for FMID JCL1331
 PTF UN48283 for FMID JCL1341
 PTF UN48284 for FMID JCL1403

5.3.6.3 Run-time support for unsupported COBOL compilers: CICS TS retains run-time support for application programs compiled by the following unsupported COBOL compilers:

- Full American National Standard Version 4 (5734-CB2)
- OS/VS COBOL (5740-CB1)

Run-time support is withdrawn for application programs compiled by the old OS/VS COBOL compilers 360S-CB-545 and 5734-CB1.

5.3.6.4 PL/I run-time support: For non-LE PL/I run-time support in a CICS environment, of an application compiled with any PL/I compiler, CICS TS requires an OS PL/I Version 2 Release 3 (5668-910 or 5668-911) run-time library.

5.3.6.5 Other programming language functions: If you are not using OS/390 LE run-time support for your CICS application programs, you need the specified language compilers for the following programming language functions in CICS TS:

- To use the CICS support for C/370, you need the following compiler and library combinations for C language translations: C/370 Compiler (5688-187) and C/370 Library (5688-188) Version 2 Release 1 or later.
- To use CICS support for COBOL ANSI 85 standards, use VS COBOL II Release 3 (5688-023).
- To use the double byte character set (DBCS) support, the correct compiler for COBOL or PL/I must be used:
 - VS COBOL II Release 2 (5688-023)
 - OS PL/I Version 2 Release 1 (5668-910).
- To enable CICS to run Java programs under control of a JVM, apply the PTF for the LE APAR PQ21852.

5.3.7 Application program compatibility

CICS provides upward compatibility from earlier releases of CICS TS, CICS/ESA 4.1, and CICS/ESA 3.3, at both source and object level, for CICS application programs provided that they conform to the application programming interface and executed correctly under the earlier release, subject to the exceptions and comments summarized below and also to any exceptions described in the relevant *Migration Guide* or *Release Guide* for the earlier releases.

Support for the EXEC CICS ADDRESS CSA command was discontinued in CICS/ESA 3.2.1

- Customers who need to reassemble any command-level program written in assembler language for CICS TS, that was originally assembled on CICS/MVS Version 2 or CICS/OS/VS Version 1, need to be aware that an additional base register may be required. This occurs only if the size of DFHEISTG was close to a 4096 addressing boundary on the earlier version of CICS, such that the extra storage that CICS/ESA Version 3 (or later) uses for parameter lists (136 bytes) causes a user variable to be moved past the boundary.
- Support is retained for CALL DL/I statements as well as EXEC DLI
- Macro-level program support has been discontinued. Applications that are not converted to command level should be run on CICS/MVS 2.1.2.

The DFHMSCAN utility program, which is available with CICS/MVS Version 2 and CICS/ESA Version 3, or DFHMS170, which is available with CICS/OS/VS 1.7, is recommended for reviewing CICS application program libraries. This program can be run against each application load library to find out which application programs use CICS macros. The DFHMSCAN utility program provided with CICS/ESA Version 3 can also be used to check on use of the EXEC CICS ADDRESS CSA command.

The CICS Application Migration Aid should be used to assist customers migrating macro-level programs to command-level programs.

- Basic mapping support (BMS) maps that are defined using CICS-supplied macro instructions, or defined online using Screen Definition Facility II (5664-366), are upward compatible.

5.3.8 Systems programming considerations

Compatibility APARs for lower levels of CICSplex SM to communicate with the CICSplex SM element of CICS Transaction Server are listed below:

- PQ05976
- PQ09511 (CICSplex SM 1.3 only)
- PQ11318 (CICSplex SM 1.2 and 1.3)
- PQ13281 (CICSplex SM 1.2 and 1.3)
- PQ14319/PQ15180 (CICSplex SM 1.2 and 1.3)
- PQ16586 (CICSplex SM 1.2 and 1.3)
- PQ16588 (CICSplex SM 1.2 and 1.3)

- PQ17747 (CICSplex SM 1.2 and 1.3)
- PQ20539
- PQ21143 (CICSplex SM 1.3 only)
- PQ21798
- PQ23016
- PQ22788 (CICSplex SM 1.2 and 1.3)
- PQ23027 (CICSplex SM 1.2 and 1.3)
- PQ23062 (CICSplex SM 1.3 only)

The *CICS/ESA Migration Guide for Version 3 Releases 1 and 2*, GC33-0656, includes information about operational and systems programming procedures introduced in CICS/ESA Version 3. (If you are migrating from before CICS/ESA Version 3, you should obtain a copy of this publication.)

The following functions previously available in CICS/ESA 4.1 are discontinued:

- Support for local DL/I. Database access will continue to be supported by the DBCTL interface.
- Support for logging or journal output to tape.

Also, the formats of the system log record types have changed.

The following functions previously available in CICS/MVS Version 2 and CICS/OS/VS 1.7 are discontinued:

- Support for macro-level execution
- Support for devices and controllers accessed using BTAM, GAM, or TCAM (ACB)
- Direct addressing of CICS control blocks (other than the EIB and user areas such as CWA) from within CICS applications
- EXEC CICS ADDRESS CSA command
- CICS internal security
- DFHXSP and DFHXSE as user-replaceable modules
- CSMT, CSSF, CSSN, CSST, and CSOT transactions
- System initialization modifications (SIMODs)
- PCTs, PPTs, and TCTs generated by resource definition macros. You must migrate macro-generated tables to the CSD, at the earlier release of CICS.

TCT definition for TCAM (DCB), remote BTAM devices, and sequential terminals must be done with TCT macros.

5.3.9 Performance considerations

This section outlines performance considerations for CICS TS.

Note: The performance benefits to be obtained in user installations depend on the CICS workload characteristics and on the use of CICS within the total system environment.

5.3.10 Storage use

CICS TS has four dynamic storage areas (DSAs) below the line and four dynamic storage areas in extended storage. Management of the DSAs has been simplified in CICS TS. There is only one parameter (DSALIM) to control the DSAs below the line compared to four parameters in CICS/ESA 3.3. There is only one parameter (EDSALIM) to control the DSAs above the line compared to six parameters in CICS/ESA 3.3.

CICS usage of virtual storage below the 16Mb line has changed with the introduction of more self-managed DSAs within an overall user specified limit. Initial storage comparisons indicate that the total virtual storage requirement below the 16Mb line for CICS TS is equivalent to CICS/ESA 3.3.

However, when using the transaction isolation facility, the user DSA is aligned on a megabyte boundary and is an integral number of megabytes in length, which may be less flexible for some workloads than when not using that facility.

When using transaction isolation there is a requirement of one megabyte EUDSA (Extended User Dynamic Storage Area) per concurrent active user task compared to 64K per task when not using transaction isolation.

Central storage use is not significantly changed from CICS/ESA 4.1.

5.3.11 System considerations

There are no system considerations for CICS TS.

5.4 Special considerations

CICS TS 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 TS.

Please note the following:

- If you want to install CICS TS 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.

This chapter also describes the options available to you to tailor CICS TS while loading it to DASD. The *CICS Transaction Server for OS/390 Installation Guide*, GC33-1681, contains information about activating CICS TS elements as part of the process of verifying its installation.

If you obtained CICS TS as part of a CBPDO, you can use the RCVPDO job found in the CBPDO RIMLIB data set as well as any service, HOLDDATA, or preventive service planning (PSP) information included in the CBPDO tape. For more information, refer to the *MVS CBPDO Memo to User Extension* included with the CBPDO.

6.1 Installing CICS TS

6.1.1 Overview

The process described in this chapter is used to install CICS Transaction Server for OS/390 from the distribution tape to DASD. The steps that you must complete to install CICS TS are outlined in Figure 21 on page 46.

The actual process of moving the software from the distribution tape onto DASD is automatic, but controlled by parameters that you can change. Before you actually cause the software to be loaded to DASD, you should complete a number of steps; for example, to check that you have what you ordered and to specify your own values to use for CICS TS installation parameters.

To help you monitor your progress when installing CICS TS, a checklist is provided in Figure 29 on page 130. The checklist indicates:

- The steps that you should complete
- Any useful parameters that you should record when completing the associated step
- References to information about the step or parameter.

As you progress through the steps to install CICS TS, described in the following sections, you may like to “tick off” the steps that you have completed, and record any values that you want to use for parameters to tailor CICS TS.

To install CICS TS to DASD, follow the instructions given in subsequent sections (as referenced from the checklist), ideally in the order in which the sections are documented. Some sections refer you to other sections for more information; but if you use the checklist as your guide, you should complete the installation steps without losing track of your progress.

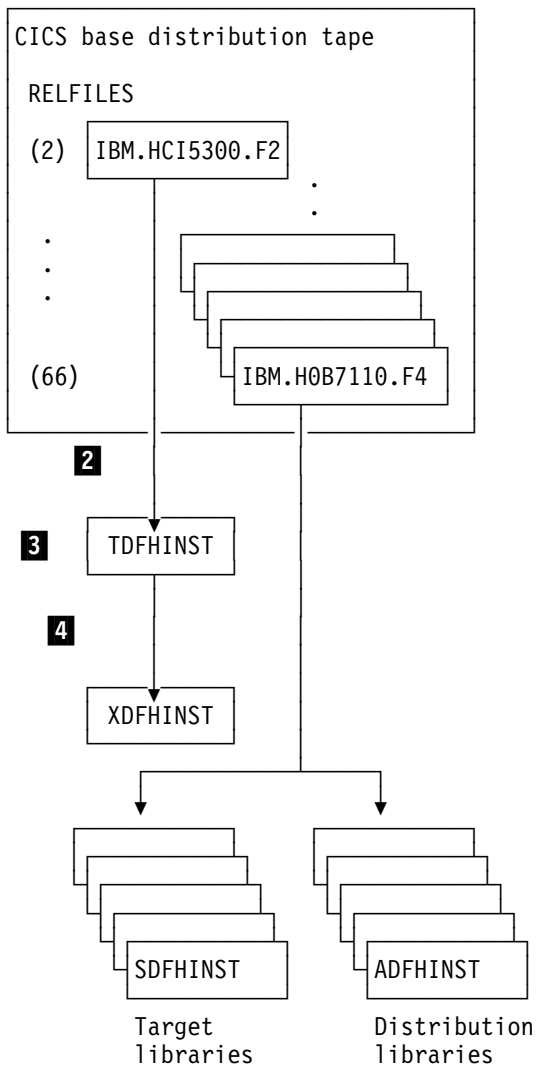
Once you have installed CICS TS to DASD, you can tailor it further to suit your system environment (some tailoring is done when loading CICS TS to DASD). How to tailor CICS TS further, to complete the installation, is described in the *CICS CICS Transaction Server for OS/390 Installation Guide*, GC33-1681. That publication also provides information about how to verify the installation and operation of CICS TS.

Note: The process to install CICS TS, described in this chapter, is different from the process used to install earlier releases of CICS TS.

6.1.2 The CICS TS installation libraries

When you install CICS TS, you use the installation libraries listed in Figure 20 and shown in Figure 21 on page 46.

<i>Figure 20. Installation libraries for CICS TS</i>	
Library	Function
TDFHINST	To store the DFHISTAR job that you edit and run to tailor the skeleton installation-related jobs to your CICS TS environment. Until you have installed the CICS TS software into the SMP/E-supported CICS TS libraries, the TDFHINST library also stores the skeleton jobs to be tailored.
XDFHINST	To store the tailored, executable, copies of the skeleton jobs that are to be run.
SDFHINST	The SMP/E-supported target installation library. After you have installed the CICS TS software into this and other SMP/E-supported libraries (named SDFHLxxx and ADFHLxxx), the SDFHINST library stores the skeleton jobs that you should use on any later runs of the DFHISTAR job.
XEYUINST	To store the tailored, executable, post installation jobs for CICSplex SM.
SEYUINST	The SMP/E-supported target installation library for CICSplex SM. SEYUINST library stores the skeleton jobs that you should use on any later runs of the EYUISTAR job.
ADFHINST	The SMP/E-supported distribution installation library.
Note: The actual names of the TDFHINST and XDFHINST libraries, and the suffix for those and other CICS libraries, are defined in the DFHISTAR job, which you edit as described in this chapter.	



Installation process steps
(See page 130.)

1
Check the distribution tape.

2
Copy RELFILE(2), IBM.HCI5300.F2, to the TDFHINST library. The TDFHINST library is used to store the DFHISTAR job and skeleton installation jobs before you tailor the jobs to your CICS TS environment.

3
Edit your copy of the DFHISTAR job in the TDFHINST library.

4
Run your copy of the DFHISTAR job in the TDFHINST library to tailor the skeleton installation jobs and add them to the XDFHINST library. The XDFHINST library is used to store the tailored, executable, copies of the installation jobs.

5
Submit the installation jobs from the XDFHINST library to create the CICS TS SMP/E-supported target and distribution libraries and to transfer the other RELFILES (3 to 66) to those libraries.

Figure 21. Installation process for CICS TS

6.2 Check the distribution package

When you receive the box containing your copy of CICS, check that you have the appropriate materials (tapes, books, CD-ROMs, and so on.)

For further information about the contents of the distribution tapes, see 2.0, "Program materials" on page 6.

There may also be a program update tape (PUT) with the distribution package.

Check that the tapes are the ones you ordered.

Record any discrepancies for when you call your IBM support center.

6.3 Check that you have the installation prerequisites

Check that you have the prerequisites for installing CICS TS, as given in 5.0, “Installation requirements and considerations” on page 21.

If you have not already done so, call your IBM Support Center to confirm that no further APAR fixes or PTFs are required, either for CICS or for the programs it works with (for example, MVS, VSAM, and DL/I). Ask for any additional PSP information for the UPGRADE and SUBSET values given in 3.0, “Program support” on page 18.

For guidance information about applying APAR fixes and PTFs, see the *CICS CICS Transaction Server for OS/390 Installation Guide*.

6.4 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.HCI5300.F2) from the tape:

1. Choose a name for the temporary installation library, TDFHINST (the default name is CICSTS13.TDFHINST). You can use another name for the library to suit your installation’s naming conventions.

Record the name you choose on the checklist for use later in the installation process.

Note: Throughout this Program Directory, the CICS Transaction Server partitioned data sets are qualified by the high-level index **CICSTS13**.

2. Modify the parameter in Figure 22 on page 48 R2 DD statement 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,(2,1))
//SYSUT4 DD UNIT=SYSDA,SPACE=(CYL,(2,1))
//R2 DD UNIT={TAPE|device-type|user-group-name},
// VOL=SER=CI5300,LABEL=3,DSN=IBM.HCI5300.F2,
// DISP=(OLD,KEEP)
//TDFHINST DD DSN=CICSTS13.TDFHINST,DISP=(,CATLG,DELETE),
// UNIT=SYSDA,
// SPACE=(6160,(136,15,10)),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160)
//*
//SYSIN DD *
COPY INDD=((R2,R)),OUTDD=TDFHINST
/*

```

Figure 22. Sample job for copying RELFILE(2) from tape

6.4.1.1 Result of copying RELFILE(2): When you have copied RELFILE(2) from the distribution tape, the CICSTS13.TDFHINST library contains the DFHISTAR job and the skeleton jobs, listed in Figure 23 on page 49, for installing CICS TS elements, creating CICS TS data sets, and running the installation verification procedures (IVPs). The CICSTS13.TDFHINST library also contains the following members used by the CICS TS installation process:

Job	Function
-----	----------

DFHINST	CLIST to tailor skeleton jobs
---------	-------------------------------

What next?

You next tailor the skeleton jobs to your CICS environment, as described in 6.5, “Edit the DFHISTAR job” on page 50.

Figure 23 (Page 1 of 2). Skeleton jobs in RELFILE(2) copied to the TDFHINST library

Job	Function
CAUJCLBL	Sample JCL for running CAU Builder
CAUJCLCA	Sample JCL for CAU Affinity Data Files
CAUJCLCC	Sample JCL for CAU Affinity Control File
CAUJCLLD	Sample JCL for running CAU Scanner
CAUJCLLS	Sample JCL for running CAU Scanner
CAUJCLRP	Sample JCL for running CAU Reporter
DFHAUPL	Create CICS control tables
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
DFHIHFS0	Create /usr/lpp/cicsts directory and its associated HFS
DFHIHFS1	Create /usr/lpp/cicstsussdir directory and its associated HFS
DFHIHFS2	Create /usr/lpp/cicstsussdira directory and its associated HFS
DFHIJVMJ	Customize the JVM environment members
DFHILG1	Define logstream CF structures to the MVS logger
DFHILG2	Define logstream models for system log streams
DFHILG3	Define logstream models for individual CICS region
DFHILG4	Define specific logstream for the log of logs
DFHILG5	Sample JCL to define a DASDONLY log stream model for the CICS system 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
DFHINST2	2nd installation job
DFHINST3	3rd installation job
DFHINST4	4th installation job
DFHINST5	5th installation job
DFHINST6	6th installation job
DFHIONCD	Sample job for replacing DDDEFS in the SMP/E Target Zone for ONC/RPC where LE/370, TCP/IP have not been initially installed.
DFHIONCL	Sample job for relinking the DFHRPRP Load Module outside SMP/E for ONC/RPC if LE/370 and TCP/IP were not initially installed.
DFHIPUBS	Load books from publications distribution tape
DFHISMKD	Create UNIX System Services directories
DFHISTAR	Tailor skeleton jobs to customer environment
DFHIVPBT	IVP (batch) to verify CICS startup
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
DFHOPSRC	Load optional source tapes
DFHSMPE	Service CICS
DFHSTART	Start up CICS

Figure 23 (Page 2 of 2). Skeleton jobs in RELFILE(2) copied to the TDFHINST library

Job	Function
DFH0JCUS	Define and load sample applications details data set
DFH0JHLP	Define and load sample applications help data set
DFH99BLD	Create dynamic allocation sample program

6.5 Edit the DFHISTAR job

Edit the DFHISTAR job, to assign values to installation parameters for your environment. The DFHISTAR job is in the TDFHINST library when you copy RELFILE(2) from the distribution tape. You can either edit the DFHISTAR job directly, or copy the DFHISTAR job (to preserve the IBM-supplied values) and edit your copy.

This section describes the process of editing the parameters in the DFHISTAR job, and contains sub-sections in an order that corresponds to the order of parameters in the DFHISTAR job.

To help you look up details about a particular parameter, Figure 24 lists the DFHISTAR parameters, in alphabetical order, with their predefined values. (The parameters in the DFHISTAR job itself are listed in associated groups.)

The default values of the parameters are the same as the IBM-supplied values.

You can use the IBM-supplied values, define your own values, or let the CICS TS installation process determine default values for you.

Note: You can enter your values for parameters of the DFHISTAR job in lower case; the DFHISTAR job translates the values into upper case when it is run.

Figure 24 (Page 1 of 3). Alphabetical list of parameters for the DFHISTAR job

Parameter	CICS-supplied value	Your value ?	See page
ADDTVOL	CICS13 3390		71
AINDEX	CICSTS13.A		71
ALINDEX	SYS1.CICSTS13.A		71
ASMPPTS	CICSTS13.A.SMPLTS		71
ASMPMTS	CICSTS13.A.SMPMTS		71
ASMPSCDS	CICSTS13.A.SMPSCDS		71
ASMPSTS	CICSTS13.A.SMPSTS		71
AZONE	AZONE		71
AZONECSI	CICSTS13.A.AZONE		71
AZONELOG	CICSTS13.A.AZONE.SMPLOG		71
BLKFB80	0		56
BLKISPF	3200		56
BLKU	32760		56
CMACVOL	CICS13		58

Figure 24 (Page 2 of 3). Alphabetical list of parameters for the DFHISTAR job

Parameter	CICS-supplied value	Your value ?	See page
CSSLIB	SYS1.CSSLIB		73
DEFVOL	CICS13 3390		58
DINDEX	CICSTS13		54
DISTVOL	CICS13 3390		58
DSINFO	CICSTS13 CICSTS13 3390 .		70
DZONE	DZONE		67
DZONECSI	CICSTS13.DZONE NEW CICSTS13 3390		67
DZONELOG	CICSTS13.DZONE.SMPLOG NEW		67
GINDEX	CICSTS13		54
GZONE	NEW CICSOPT		67
GZONECSI	CICSTS13.GZONE NEW CICSTS13 3390		67
GZONELOG	CICSTS13.GZONE.SMPLOG NEW		67
HFS0DSN	OMVS.USR.LPP.CICSTS		55
HFS1DSN	OMVS.USR.LPP.CICSTS.CICSTS13		56
HFSADSN	OMVS.USR.LPP.CICSTS.CICSTS13..A		56
JAVADIR	java/J1.1		74
JES	JES2		53
JOB	(No valid value)		52
JVMNAME	DFHJVM		74
LIB	CICSTS13.XDFHINST		52
LINDEX	SYS1.CICSTS13		54
LOGGER-INFO	001 2048 4096 64000 2048 MVSX XXXXXXXXXXXXXXXXXXXX		75
OPTVOL	CICS13 3390		58
PARMLIB	SYS1.PARMLIB		57
PREFIX	DFH		54
SCEECICS	SYS1.SCEECICS		75
SCEECPP	SYS1.SCEECPP		73
SCEERUN	SYS1.SCEERUN		75
SCEELKED	SYS1.SCEELKED		73
SCEELKEX	SYS1.SCEELKEX		74
SCEEOBJ	SYS1.SCEEOBJ		74
SCLBSID	SYS1.SCLBSID		74
SCOPE	ALL		53
SDSNLOAD	SYS1.SDSNLOAD		75
SEZACMTX	SYS1.SEZACMTX		75
SEZARPCL	SYS1.SEZARPCL		75
SISPLOAD	SYS1.SISPLOAD		73
SMPMTS	CICSTS13.SMPMTS		66
SMPPTS	CICSTS13.SMPPTS		66
SMPSCDS	CICSTS13.SMPSCDS		66
SMPSTS	CICSTS13.SMPSTS		66
SMPVOL	CICS13 3390		58
SMPWORK	SYSDA		65
SMS	N		57

Figure 24 (Page 3 of 3). Alphabetical list of parameters for the DFHISTAR job

Parameter	CICS-supplied value	Your value ?	See page
TAPEUNIT	3480		70
TARGVOL	CICS13 3390		58
TEMPLIB	CICSTS13.TDFHINST		52
TINDEX	CICSTS13		54
TZONE	TZONE		67
TZONECSI	CICSTS13.TZONE NEW CICSTS13 3390		67
TZONELOG	CICSTS13.TZONE.SMPLOG NEW		67
USSDIR	cicsts13		55
USSDIRA	cicsts13.a		71
UTILITIES	ASMA90 IEWL GIMSMP IEBCOPY		54
WORKUNIT	SYSDA		57
XTRAQUAL		56

6.5.1 Specify the CICS TS temporary installation libraries

Specify the data set names you want to use for the two temporary libraries that will be used to install CICS TS. If you do not want to use the default names, record your values for the TEMPLIB and LIB parameters.

TEMPLIB library_name

This specifies the name of the temporary installation library that contains the skeleton installation jobs. Specify the name of the data set into which you copied RELFILE(2) from the distribution tape (in 6.4, "Copy RELFILE(2) from the distribution tape" on page 47).

Also specify this name on the SYSPROC DD statement of the DFHISTAR job.

LIB library_name

Specifies the name of the installation output library to which the jobs generated by the DFHISTAR job are added.

6.5.2 Specify the JOB parameters for installation jobs

Decide what parameters you want to use on the JOB statements of the CICS TS installation jobs, and specify them on the JOB parameter:

JOB accounting_information

Specifies the JOB statement and accounting information that you want substituted into the jobs generated by the DFHISTAR job. For example:

```
JOB //XXXXXXXX JOB 1,userId,MSGCLASS=A,MSGLEVEL=(1,1),
JOB //          CLASS=A,NOTIFY=userId
JOB /*JOBPARM SYSAFF=node1
JOB /*ROUTE PRINT node2.userId
```


Notes:

1. Do not change XXXXXXXX given in the sample JOB statement in the DFHISTAR job. This is the 8-character job name that is substituted by the DFHISTAR job. For example, for the installation job DFHIVPBT, the DFHISTAR job changes XXXXXXXX to DFHIVPBT.
2. Normal JCL rules for coding JOB statements apply to the JOB parameter.
3. If you want to add a TIME parameter to the CICS TS installation jobs, sample run times are given in 6.9.1.1, “Run times of the installation jobs” on page 80.
4. Delete (or comment out) extra lines of the JOB statement that you do not need.
5. Normal JCL rules apply when coding the JOB statement (for example, all lines except the last line must end in a comma).

6.5.3 Specify the scope of the installation

Specify the scope of the CICS TS installation on the SCOPE parameter:

SCOPE ALLIBASEIPOST

Specifies whether you want to generate all the CICS TS installation and post-installation jobs, or only the post-installation jobs. When installing CICS TS from the distribution tape, you would normally specify SCOPE ALL (the default). You would normally code the other options, if necessary, during some post-installation tasks, as described in the *CICS CICS Transaction Server for OS/390 Installation Guide*.

ALL

Specifies that you want to generate all the CICS TS installation jobs and all the post-installation jobs.

BASE

Specifies that you want to generate only the installation jobs (DFHINST1 through DFHINST6, DFHIHFS0, DFHIHFS1, and DFHISMKD) that you use to install CICS TS from the distribution tape.

POST

Specifies that you want to generate only the post-installation jobs, that you can use to create the CICS TS data sets, and run the IVPs.

6.5.4 Specify the type of JES to be used

Specify the type of job entry subsystem (JES) that you intend to use to install CICS TS on the JES parameter: This enables the DFHISTAR job to generate jobs with statements suitable for JES2 or JES3.

JES JES2|JES3|3

Specifies the release of JES that you are using. If you are using JES2, specify *JES2* or *2*. If you are using JES3, specify *JES3* or *3*.

6.5.5 Specify the utilities to be used

Specify the utilities to be used to install CICS TS on the UTILITIES parameter:

UTILITIES *asmprog binder smpeprog copyutil*

Specifies the names of utility programs to be used when installing CICS TS elements and programs that it uses.

asmprog

is the program name of the assembler. Specify ASMA90, for High Level Assembler/MVS & VM & VSE, which is required.

binder

is the program name of the OS/390 binder. Ensure that program IEWL references the OS/390 program management binder.

smpeprog

is the program name of the SMP/E program. The IBM-supplied name is GIMSMP.

copyutil

is the program name of the data set copy utility program. The IBM-supplied name is IEBCOPY.

Note: The High Level Assembler must be either in the LINKLST concatenation **or** you must add a STEPLIB DD statement that points to the library containing the High Level Assembler in any jobs that invoke SMP/E.

6.5.6 Specify the prefix of CICS TS jobs

Specify the prefix, as one through six characters, to be added to the jobs generated by the DFHISTAR job. This prefix overwrites the first characters of the job name. For example, PREFIX USERID changes the job name DFHINST1 to USERIDT1.

PREFIX *prefix*

One through six characters.

6.5.7 Specify the indexes of CICS TS data sets

Specify the high-level indexes for the CICS TS distribution, target, and SMP/E libraries allocated by the installation process.

DINDEX *library_prefix*

Assigns a high-level index to the CICS TS SMP/E distribution libraries (except for the SDFHLINK and SDFHLPA target libraries) allocated by the installation process.

The *library_prefix* value must not be longer than 26 characters, and the leading character must be alphabetic. If you specify more than one level of index, the names must be separated by a period (for example, DINDEX CICSTS13.TEST).

GINDEX library_prefix

Assigns a high-level index to the CICS TS SMP/E global libraries (except for the SDFHLINK and SDFHLPA target libraries) allocated by the installation process.

The *library_prefix* value must not be longer than 26 characters, and the leading character must be alphabetic. If you specify more than one level of index, the names must be separated by a period (for example, GINDEX CICSTS13.TEST).

LINDEX library_prefix

Assigns a high-level index to the SDFHLPA, SDFHLINK, SDFJLPA, SEYULINK and SEYULPA libraries allocated by the installation process. The *library_prefix* value must be defined in the MVS Master Catalog.

The *library_prefix* value must not be longer than 26 characters, and the leading character must be alphabetic. If you specify more than one level of index, the names must be separated by a period (for example, LINDEX SYS1.CICSTS13.TEST).

TINDEX library_prefix

Assigns a high-level index to the CICS TS SMP/E target libraries (except for the SDFHLINK, SDFHLPA, SDFJLPA, SEYULINK, and SEYULPA target libraries) allocated by the installation process.

Notes:

1. The high-level index for the SDFHLINK and SDFHLPA libraries is defined by the LINDEX parameter.
2. The high-level index for the data sets created by the jobs DFHCOMDS and DFHDEFDS is defined by the *dsindex* operand of the DSINFO parameter.

The *library_prefix* value must not be longer than 26 characters, and the leading character must be alphabetic. If you specify more than one level of index, the names must be separated by a period (for example, TINDEX CICSTS13.TEST).

6.5.8 Specify the CICS TS HFS directories and data sets

The DFHISTAR job has parameters that enable you to customize the OMVS HFS directories.

USSDIR

The name of the CICS TS directory under /usr/lpp/cicsts. The default is the value of the TINDEX parameter in lowercase.

The default path will be: /usr/lpp/cicsts/cicsts13

Note: The name of the third UNIX System Services directory after the root directory is always "cicsts".

HFS0DSN

The dataset name of the HFS to be mounted at directory /usr/lpp/cicsts. Note that these directory names are fixed. The default is data set name OMVS.USR.LPP.CICSTS.

See 6.9.1.2, "The DFHIHFS0 job" on page 81 for details of the job that uses this parameter.

HFS1DSN

The dataset name of the HFS to be mounted at directory `/usr/lpp/cicsts/ussdir`, where *ussdir* is the name of the directory specified on the *ussdir* parameter in the DFHISTAR job. The default is data set name OMVS.USR.LPP.CICSTS.CICSTS13.

See 6.9.1.3, “The DFHIHFS1 job” on page 81 for details of the job that uses this parameter.

HFSADSN

The dataset name of the HFS equivalent of the SMP/E “additional target zone,” to be mounted at directory `/usr/lpp/cicsts/ussdira`, where *ussdira* is the name of the directory specified on the *ussdira* parameter in the DFHISTAR job. The default data set name is OMVS.USR.LPP.CICSTS.CICSTS13.A.

See the list step about running DFHIHFSA on page 91 for details of the job that uses this parameter.

6.5.9 Specify extra qualifiers

Specify extra qualifiers that can optionally be inserted into the data set name of the 'global', 'target', 'distribution' and 'additional' zone data sets respectively. Inserted before the last data set qualifier. For example, XTRAQUAL . FRED . . changes the name of the target zone libraries to the values set by TINDEX.CICSTS13.CICS.FRED.SDFHLOAD (this is only an example).

XTRAQUAL

Four qualifiers to be used by 'global', 'target', 'distribution' and 'additional' zone data sets. If none required specify a period (.).

6.5.10 Specify block sizes

Specify the block sizes to be used when allocating data sets during installation on the BLKFB80 and BLKU parameters:

BLKFB80 {0|blocksize}

The block size to be used when allocating data sets that have a fixed block record format and record length of 80 bytes.

The IBM-supplied value in DFHISTAR is 0. You are recommended to leave this value specified as 0 to allow OS/390 to determine the optimum block size for you.

If you specify any value other than 0, you must edit DFHINST and change the value of the variable *IBM_supplied_blkfb80* from 6160 to 27920, otherwise some data set allocations are too small.

BLKU blocksize

BLKU {32760|blocksize}

The block size to be used when allocating data sets that have an **undefined** record length.

BLKISPF {3200|blocksize}

The block size to be used when allocating data sets in CICSplex System Manager that are intended to be used by ISPF.

To allow device independence, the SPACE parameters in the installation procedures are defined in terms of blocks. The block sizes listed in Figure 18 on page 29 are based on 3390 DASD devices, and the number of blocks on block sizes of 27920 and 32760 for the BLKFB80 and BLKU parameters respectively. You can specify other block sizes that are more appropriate for your own installation or DASD type.

If you intend using several types of DASD when installing CICS TS, use the default block sizes.

Note: If you intend to copy or move modules to a different device type or data set after installation, you should either:

1. Make sure that the block sizes chosen for the CICS TS libraries are not larger than the block size or track capacity of the data set or device type you will be copying to, or
2. Use a copying method that will re-block the copied module(s) when the target data set has a smaller block size than the data set you are copying from (for example, use the COPYMOD function of the IEBCOPY command).

6.5.11 Specify the PARMLIB library to be used

Specify the name of the MVS library that contains the GIMOPCDE member to be used by SMP/E when installing CICS TS on the PARMLIB parameter:

PARMLIB library_name

The name of the MVS library that contains the GIMOPCDE member to be used by SMP/E.

6.5.12 Specify the disk unit for work data sets

Specify the UNIT parameter for the disk or disks on which work data sets are stored on the WORKUNIT parameter:

WORKUNIT disktype

a unit identifier.

6.5.13 Specify SMS option for DASD allocations

Specifies the extent to which you want to leave the allocation of CICS TS installation data sets to SMS. You can either let SMS handle all DASD allocation, or you can opt to use volume parameters to control the allocations that do not have to be SMS-managed.

Note: Some CICS TS data sets are installed in PDSE data sets. These are:

- The SMP/E SMPLTS data set.
- The distribution library, ADFJMOD.
- The target libraries SDFJLOAD, SDFJLPA, and SDFJLOD1.

See Figure 18 on page 29 and Figure 19 on page 33 for information about these data sets.

These data sets must reside in SMS-managed storage unless you have installed the PTFs for HFS and PDSE support on non-managed SMS volumes. A list of these PTFs can be found in Flash10007 which can be found by links from:

<http://www.ibm.com/support/techdocs>

SMS YIN

If you specify SMS Y, the VOLUME parameter is omitted from the generated installation jobs, and all data set allocations are handled by SMS.

If you specify SMS N, the VOLUME parameter is included on the generated installation jobs, and will be honored according to your SMS configuration. The VOLUME parameters used are those specified on the ADDTVOL, DEFVOL, DISTVOL, CMACVOL, OPTVOL, SMPVOL, and TARGVOL parameters.

6.5.14 Specify disk volumes

If you intend installing CICS TS into disk space managed by the storage management subsystem (SMS)² component of MVS/DFP, you do not need to specify your own disk volumes; device assignment can be determined by SMS. In this case, proceed to 6.5.18, “Specify SMP/E zone attributes” on page 67.

To allow you to make the best use of your disk space, you can specify your own disk volumes and device types to be used to install CICS TS. You can specify your own disk details on the following parameters:

DEFVOL volume disktype

Defines the default disk on which the contents of the disk volumes CMACVOL, DISTVOL, OPTVOL, SMPVOL, and TARGVOL will reside if the appropriate parameter is not coded in the DFHISTAR job. For example, if you do not code the DISTVOL parameter, the CICS distribution libraries will reside on the disk defined by DEFVOL.

volume

is one of the following:

- The volume serial identifier, in the range 1 through 6 characters, of the default volume.
- A period (.) if all volumes other than CMACVOL and SMPVOL that are not specifically defined by the appropriate parameter of the DFHISTAR job will be put onto any available volume. The CMACVOL and SMPVOL volumes will be put onto the same volume as the library specified by the TEMPLIB parameter.

disktype

is the UNIT parameter of the volume.

If you omit the DEFVOL parameter altogether, all volumes that are not specifically defined by the appropriate parameter of the DFHISTAR job will be put onto the same volume as the library specified by the TEMPLIB parameter.

² For further information about installing system-managed storage, and about planning for and migrating storage to an SMS-managed environment, see the *MVS Storage Management Library: Storage Management Subsystem Migration Planning Guide*, SC26-4406.

DISTVOL volume disktype

Defines the disk on which the CICS TS distribution libraries will reside. These libraries are:

CICSTS13.CICS.ADFHAPD1
CICSTS13.CICS.ADFHAPD2
CICSTS13.CICS.ADFHCOB
CICSTS13.CICS.ADFHC370
CICSTS13.CICS.ADFHINST
CICSTS13.CICS.ADFHMAC
CICSTS13.CICS.ADFHMOD
CICSTS13.CICS.ADFHMSGGS
CICSTS13.CICS.ADFHPARM
CICSTS13.CICS.ADFHPL1
CICSTS13.CICS.ADFHPROC
CICSTS13.CICS.ADFHSAMP
CICSTS13.CICS.ADFHMSRC
CICSTS13.CICS.ADFHCLIB
CICSTS13.CICS.ADFHENV
CICSTS13.CICS.ADFHLANG
CICSTS13.CICS.ADFHMLIB
CICSTS13.CICS.ADFHPLIB
CICSTS13.CICS.ADFHSDCK
CICSTS13.CICS.ADFJMOD
CICSTS13.CICS.ADFJH001
CICSTS13.CICS.ADFJH002
CICSTS13.CICS.ADFJH003
CICSTS13.CICS.ADFJH004
CICSTS13.CICS.ADFJH005
CICSTS13.CICS.ADFJH006
CICSTS13.CICS.ADFJH007
CICSTS13.CICS.ADFJH008
CICSTS13.CICS.ADFJH009
CICSTS13.CICS.ADFJH010
CICSTS13.AMA.AERCINST
CICSTS13.AMA.AERCMOD
CICSTS13.DDM.ADDMLOAD
CICSTS13.DDM.ADDMINST
CICSTS13.CPSM.AEYUINST
CICSTS13.CPSM.AEYUMOD
CICSTS13.CPSM.AEYUSAMP
CICSTS13.CPSM.AEYUPARM
CICSTS13.CPSM.AEYUMAC
CICSTS13.CPSM.AEYUJCL
CICSTS13.CPSM.AEYUDEF
CICSTS13.CPSM.AEYUOS2
CICSTS13.CPSM.AEYUCOMM

CICSTS13.CPSM.AEYUCOSM
CICSTS13.CPSM.AEYUCOBM
CICSTS13.CPSM.AEYUAEDEF
CICSTS13.CPSM.AEYUCLIB
CICSTS13.CPSM.AEYUMLIB
CICSTS13.CPSM.AEYUPLIB
CICSTS13.CPSM.AEYUTLIB
CICSTS13.CPSM.AEYUVDEF
CICSTS13.CPSM.AEYUPROC
CICSTS13.CPSM.AEYUC370
CICSTS13.CPSM.AEYUCOB
CICSTS13.CPSM.AEYUPL1
CICSTS13.GEM.AIHSSMPC
CICSTS13.GEM.AIHSCLSC
CICSTS13.REXX.ACICRMOD
CICSTS13.REXX.ACICJCL
CICSTS13.REXX.ACICMOD
CICSTS13.REXX.ACICPNL
CICSTS13.REXX.ACICDBRM
CICSTS13.REXX.ACICBOOK
CICSTS13.REXX.ACICDOC
CICSTS13.REXX.ACICCMDS
CICSTS13.REXX.ACICEXEC
CICSTS13.REXX.ACICUSER
CICSTS13.REXX.ACICDMOD
CICSTS13.REXX.ACICDUSR

volume

is one of the following:

- The volume serial identifier, in the range 1 through 6 characters, of the volume on which the distribution libraries will reside.
- A period (.) if the CICS TS libraries are to be put onto any available volume.

disktype

is the UNIT parameter of the volume.

Note: If you omit the DISTVOL parameter, the distribution libraries will be put on the volume specified by the DEFVOL parameter. If the DEFVOL parameter is omitted, or if a period (.) is specified for its *volume* operand, the distribution libraries will be put onto any available volume.

TARGVOL volume disktype

Specifies details of the disk containing the CICS TS target libraries. These libraries are:

CICSTS13.CICS.SDFHAPD1
CICSTS13.CICS.SDFHAPD2
CICSTS13.CICS.SDFHAUTH

CICSTS13.CICS.SDFHCOB
CICSTS13.CICS.SDFHC370
CICSTS13.CICS.SDFHINST
SYS1.CICSTS13.CICS.SDFHLPA
SYS1.CICSTS13.CICS.SDFHLINK
CICSTS13.CICS.SDFHLOAD
CICSTS13.CICS.SDFHMAC
CICSTS13.CICS.SDFHMSGGS
CICSTS13.CICS.SDFHPARM
CICSTS13.CICS.SDFHPROC
CICSTS13.CICS.SDFHSAMP
CICSTS13.CICS.SDFHPL1
CICSTS13.CICS.SDFHCLIB
CICSTS13.CICS.SDFHENV
CICSTS13.CICS.SDFHEXCI
CICSTS13.CICS.SDFHLANG
CICSTS13.CICS.SDFHLLIB
CICSTS13.CICS.SDFHMLIB
CICSTS13.CICS.SDFHPLIB
CICSTS13.CICS.SDFHSDCK
CICSTS13.CICS.SDFHMSRC
CICSTS13.CICS.SDFHDLL1
CICSTS13.CICS.SDFJLOAD
CICSTS13.CICS.SDFJLPA
CICSTS13.CICS.SDFJLOD1
CICSTS13.AMA.SERCLMD
CICSTS13.DDM.DDMINST
CICSTS13.DDM.DDMLOAD
CICSTS13.CPSM.SEYUINST
CICSTS13.CPSM.SEYUSAMP
CICSTS13.CPSM.SEYUPARM
CICSTS13.CPSM.SEYUMAC
CICSTS13.CPSM.SEYUJCL
CICSTS13.CPSM.SEYUDEF
CICSTS13.CPSM.SEYUOS2
CICSTS13.CPSM.SEYULOAD
CICSTS13.CPSM.SEYUAUTH
CICSTS13.CPSM.SEYUCMOD
CICSTS13.CPSM.SEYUADEF
CICSTS13.CPSM.SEYUCLIB
CICSTS13.CPSM.SEYUMLIB
CICSTS13.CPSM.SEYUPLIB
CICSTS13.CPSM.SEYUTLIB
CICSTS13.CPSM.SEYUVDEF
CICSTS13.CPSM.SEYUPROC
CICSTS13.CPSM.SEYUC370

CICSTS13.CPSM.SEYUCOB
CICSTS13.CPSM.SEYUPL1
SYS1.CICSTS13.CPSM.SEYULINK
SYS1.CICSTS13.CPSM.SEYULPA
CICSTS13.GEM.SIHSSMPC
CICSTS13.GEM.SIHSCLSC
CICSTS13.REXX.SCICJCL
CICSTS13.REXX.SCICLOAD
CICSTS13.REXX.SCICPNL
CICSTS13.REXX.SCICDBRM
CICSTS13.REXX.SCICBOOK
CICSTS13.REXX.SCICDOC
CICSTS13.REXX.SCICCMDS
CICSTS13.REXX.SCICEXEC
CICSTS13.REXX.SCICUSER

volume

is one of the following:

- The volume serial identifier, in the range 1 through 6 characters, of the volume on which the CICS TS target libraries are to reside.
- A period (.) if the CICS TS target libraries are to be put onto any available volume.

disktype

is the UNIT parameter for the volume.

Note: If you omit the TARGVOL parameter, the CICS TS target libraries will be put onto the volume specified by the DEFVOL parameter. If the DEFVOL parameter is omitted, or if a period (.) is specified for its *volume* operand, the CICS TS target libraries will be put onto any available volume.

SMPVOL volume disktype

Specifies the disk that contains the permanent, non-VSAM SMP/E data sets for CICS TS that are associated with global or distribution zones, and are therefore unique. These data sets are:

CICSTS13.SMPMTS
CICSTS13.SMPPTS
CICSTS13.SMPSCDS
CICSTS13.SMPSTS

volume

is one of the following:

- The volume serial identifier, in the range 1 through 6 characters, of the volume on which the permanent non-VSAM SMP/E data sets are to reside.
- A period (.) if the permanent non-VSAM SMP/E data sets are to be put onto the same volume as the library specified by the TEMPLIB parameter.

disktype

is the UNIT parameter for the volume.

Note: If you omit the SMPVOL parameter, the permanent non-VSAM SMP/E data sets for CICS TS will be put on the volume specified by the DEFVOL parameter. If the DEFVOL parameter is omitted, or if a period (.) is specified for its *volume* operand, the data sets will be put onto the same volume as the library specified by the TEMPLIB parameter.

OPTVOL volume disktype

Specifies details of the disk onto which the optional source material is copied.

volume

is one of the following:

- The volume serial identifier, in the range 1 through 6 characters, of the volume on which the optional source material is to reside.
- A period (.) if the optional source material is to be put on any available volume.

disktype

is the UNIT parameter of the volume. This is needed only if *volume* is specified.

Note: If you omit the OPTVOL parameter, the optional source material will be put on the volume specified by the DEFVOL parameter. If the DEFVOL parameter is omitted, or if a period (.) is specified for its *volume* operand, the optional source material will be put onto any available volume.

CMACVOL volume

Defines the disk on which the VSAM KSDS, DFHMACD, will reside. This data set is used for the CICS TS messages facility (CICS-supplied transaction CMAC).

volume

is one of the following:

- The volume serial identifier, in the range 1 through 6 characters, of the volume on which the VSAM KSDS, DFHMACD, will reside
- A period (.) if the DFHMACD data set is to be put onto the same volume as the library specified by the TEMPLIB parameter.

Note: If you omit the CMACVOL parameter, the DFHMACD data set will be put onto the volume specified by the DEFVOL parameter. If the DEFVOL parameter is omitted, or if a period (.) is specified for its *volume* operand, the DFHMACD data set will be put onto the same volume as the library specified by the TEMPLIB parameter.

6.5.14.1 When are these volumes used?

DFHISTAR Volume Parameter	Installing	Applying Service	Customizing	Assembling Resource Tables	Running CICS TS
SMPVOL	*	*	*	*	
DISTVOL	*	*	*		
TARGVOL	*	*	*	*	*
DZONECSI ¹	*	*	*		
TZONECSI ¹	*	*	*	*	
GZONECSI ¹	*	*	*	*	

¹ The entries for xZONECSI parameters are also for the associated xZONE parameters.

6.5.14.1.1 During installation: The relfile data sets on SMPVOL are needed during installation only.

6.5.14.1.2 Applying service or customizing CICS TS: SMPVOL, DISTVOL, TARGVOL, DZONE, TZONE, and GZONE are needed whenever you apply service or customize your CICS TS programs.

SMPVOL and GZONE are needed whenever you apply service or customize your **alternative** libraries for use with the extended recovery facility.

6.5.14.1.3 Assembling CICS TS tables: SMPVOL, TARGVOL, TZONE, and GZONE are needed whenever you assemble your CICS TS tables.

SMPVOL and GZONE are needed whenever you assemble CICS TS tables for the second (alternate) CICS TS region.

6.5.14.1.4 Running CICS TS: Only TARGVOL is needed to run CICS TS.

6.5.15 Allocate the space for CICS TS disk volumes

Whether or not you use SMS-managed data sets, you still need enough disk space in which to create the CICS TS disk volumes.

The space required by the installation jobs on these volumes depends on the type of disk you intend to use. The number of cylinders required on the different types of DASD are given in Figure 25. The size of the CICS TS distribution and target libraries are given in 5.2.3, "DASD storage requirements" on page 27.

<i>Figure 25. DASD storage requirements for CICS TS</i>		
Identification	3380	3390
CICSTS13.TDFHINST	1	1

<i>Figure 25. DASD storage requirements for CICS TS</i>		
Identification	3380	3390
CICSTS13.XDFHINST	1	1
Relfile data sets on SMPVOL	325	300
SMP/E non-VSAM data sets on SMPVOL	26	25
DISTVOL	312	288
TARGVOL	749	678
DZONE	11	11
TZONE	11	11
GZONE	11	11
Total during installation	1447	1327
Total after installation	1122	1027

Allow up to 15% on the values in Figure 25 on page 64 for servicing requirements. Secondary allocations are 10% of the primary allocations.

If you intend to store other IBM software or your own application programs in these libraries, then you must modify the generated jobs accordingly.

6.5.16 Specify attributes of the temporary SMP/E work data sets

You must define the attributes of the temporary SMP/E work data sets (SMPWRK1, SMPWRK2, SMPWRK4, and SMPWRK6): for the following CICS TS jobs: DFHINSTJ, DFHLPJPN, DFHLPUMD, and DFHSMPE. You define the attributes of those SMP/E data sets on the SMPWORK parameter:

The CICS TS jobs used to install CICS Transaction Server for OS/390 have DD statements for the SMP/E data sets that they need to know about.

SMPWORK disktype

This is the UNIT parameter for the disk that is to contain the temporary SMP/E work data sets (SMPWRK1, SMPWRK2, SMPWRK4, and SMPWRK6) needed to install CICS TS.

If you specify a value for *disktype*, or omit the SMPWORK parameter altogether, //SMPWRKn DD statements are added to the following jobs generated by the DFHISTAR job:

```
DFHINSTJ
DFHLPUMD
DFHSMPE
```

If you specify NO, a period (.), or a null string, CICS TS assumes that SMP/E knows about the temporary SMP/E work data sets. To define the attributes of the SMP/E work data sets, you must do one of the following:

- Provide appropriate DDDEFS for the temporary SMP/E work data sets.
- Have applied the SMP/E sample usermod (SMP0001) that contains superzap statements for updating the default attributes of the SMP/E data sets in the GIMMPDFT module.

The GIMMPDFT module, which is part of SMP/E, defines the default attributes of SMP/E data sets, and can be used to dynamically allocate data sets to be used by all zones. The usermod is in member GIMZPDFT in the SYS1.SAMPLIB library. You can use this usermod as a model, change it to meet your needs, or install it as supplied. For further information about the entries in the GIMMPDFT module and the sample entry values in the usermod SMP0001, see the *System Modification Program Extended: Reference* manual, SC28-1107.

Notes:

1. The SMPWRK6 data set must not be allocated to Virtual I/O (VIO). If you specify a value for *disktype*, ensure that this cannot happen.

6.5.17 Specify attributes of the permanent SMP/E data sets

Specify the attributes of the permanent SMP/E data sets on the following parameters:

SMPPTS dsname

Specifies the name of the SMP/E primary data set used to store temporarily PTF function SYSMODs or other fixes that are in RECEIVE or APPLY status; that is, PTF fixes that have not been rejected or accepted.

SMPMTS dsname

Specifies the name of the SMP/E macro temporary store (MTS) data set used to store updated versions of macros. Although required by SMP/E, this MTS data set is not used by CICS.

SMPSTS dsname

Specifies the name of the SMP/E source temporary store (STS) data set used to store updated versions of source elements. Although required by SMP/E, this STS data set is not used by CICS.

SMPSCDS dsname

Specifies the name of the SMP/E saved control data set (SCDS) used to store old target zone entries that have been modified by inline JCLIN processing in a SYSMOD.

SMPLTS dsname

Specifies the name of the linkedit temporary (LTS) data set used with the CALLLIBS function. This dataset must always be an SMS-managed PDSE, whether or not Java is installed unless you have installed the PTFs for HFS and PDSE support on non-managed SMS volumes listed in Flash10007 which can be found by links from:

<http://www.ibm.com/support/techdocs>

The CICS TS jobs that need to know the attributes of the SMP/E data sets have DD statements for them.

6.5.18 Specify SMP/E zone attributes

Specify the attributes of the SMP/E distribution zone, global zone, target zone, and any additional target zones.

Note: The CICS-DB2 attachment facility contains modules named with the DSN prefix. Therefore, to prevent existing DB2 modules with the same DSNxxxxx names from being overwritten, you should not install CICS TS into the same target and distribution zones as DB2.

To specify SMP/E zone attributes, use the following parameters:

GZONELOG dsname NEWIOLD

Specifies details of the SMP/E log for the global zone CSI.

dsname

is the name of the global zone log.

NEWIOLD

Specifies whether an existing global zone log is to be used. If you specify NEW, any existing global zone log with the specified *dsname* is deleted, and a new global zone log is allocated. If you specify OLD, an existing global zone log is used.

TZONELOG dsname NEWIOLD

Specifies details of the SMP/E log for the target zone CSI.

dsname

is the name of the target zone log.

NEWIOLD

Specifies whether an existing target zone log is to be used. If you specify NEW, any existing target zone log with the specified *dsname* is deleted, and a new target zone log is allocated. If you specify OLD, an existing target zone log is used.

DZONELOG dsname NEWIOLD

Specifies details of the SMP/E log for the distribution zone CSI.

dsname

is the name of the distribution zone log.

NEWIOLD

Specifies whether an existing distribution zone log is to be used. If you specify NEW, any existing distribution zone log with the specified *dsname* is deleted, and a new distribution zone log is allocated. If you specify OLD, an existing distribution zone log is used.

GZONECSI cluster NEWIOLD volume disktype

Specifies details of the global zone CSI.

cluster

is the VSAM cluster name, minus the qualifier '.CSI'.

NEWIOLD

Specifies whether an existing global zone CSI is to be used. If you specify **NEW**, any existing global zone CSI with the specified *cluster* name is deleted, and a new global zone CSI is allocated. If you specify **OLD**, an existing global zone CSI is used.

volume

is either the volume serial (*volser*) identifier for the volume on which the global zone CSI is to be allocated or a period (.) if the CSI is to be put on a volume determined by the CICS TS installation process.

disktype

is the UNIT parameter for the volume.

TZONECSI cluster NEWIOLD volume disktype

Specifies details of the target zone CSI.

cluster

is the VSAM cluster name, minus the qualifier '.CSI'.

NEWIOLD

Specifies whether an existing target zone CSI is to be used. If you specify **NEW**, any existing target zone CSI with the specified *cluster* name is deleted, and a new target zone CSI is allocated. If you specify **OLD**, an existing target zone CSI is used.

volume

is either the volume serial (*volser*) identifier for the volume on which the target zone CSI is to be allocated or a period (.) if the CSI is to be put on a volume determined by the CICS TS installation process.

disktype

is the UNIT parameter for the volume.

DZONECSI cluster NEWIOLD volume disktype

Specifies details of the distribution zone CSI.

cluster

is the VSAM cluster name, minus the qualifier '.CSI'.

NEWIOLD

specifies whether an existing distribution zone CSI is to be used. If you specify **NEW**, any existing distribution zone CSI with the specified *cluster* name is deleted, and a new distribution zone CSI is allocated. If you specify **OLD**, an existing distribution zone CSI is used.

volume

is either the volume serial (*volser*) identifier for the volume on which the distribution zone CSI is to be allocated or a period (.) if the CSI is to be put on a volume determined by the CICS TS installation process.

disktype

is the UNIT parameter for the volume.

GZONE NEW/OLD options

Specifies whether the global zone to be used already exists.

NEW/OLD

Specifies whether an existing global zone is to be used. The DFHISTAR job as supplied specifies NEW. Optionally change this to OLD if you want to use an existing global zone. If you specify OLD, CICS TS is installed into an existing SMP/E global zone.

Note: Specify NEW if you want to preserve your existing releases of CICS TS in their current SMP/E zones and install the new release in its own zones.

If you specify OLD, the existing SMP/E zones are used and any existing release of the product is deleted.

If you specify OLD, but specify NEW for the GZONECSI parameter, both parameters are assigned the NEW disposition.

options

Specifies the name of the SMP/E options (on the SET BOUNDARY command) to be used.

TZONE zonename

Specifies the name of the target zone.

zonename

is the name of the target zone to be used by SMP/E. This name must be unique to the target zone. It must not be longer than 7 characters, and the leading character must be alphabetic.

DZONE zonename

Specifies the name of the distribution zone.

zonename

is the name of the distribution zone to be used by SMP/E. This name must be unique within the global zone. It must not be longer than 7 characters, and the leading character must be alphabetic.

6.5.18.1 SMP/E zone and zone log dispositions: As supplied, the DFHISTAR job assumes that you are going to install CICS TS into new target and distribution zones. However you can specify a new or old global zone, and new or old zone logs by the disposition option NEW/OLD on the associated parameters of the DFHISTAR job. The disposition option NEW means that the DFHINST3 job deletes any existing zone or zone log with name specified before redefining it. For example, if you specify the parameter

```
GZONELOG CICSTS13.GZONE.SMPLOG NEW
```

the DFHINST3 job deletes any existing SMP/E global zone log with the name CICSTS13.GZONE.SMPLOG before defining a new SMP/E global zone log with that name.

Further, if you specify different dispositions for a zone parameter and its associated zone log parameter, they are both given the default disposition NEW. This is to ensure that both a zone and its zone log have the same disposition.

If you intend installing CICS TS using one new CSI for all zones, you must specify the disposition NEW on all three CSI parameters of the DFHISTAR job. For example:

```
DZONE          DZONE
DZONECSI       CICSTS13.SMPZONE NEW CICSTS13 3390
DZONELOG       CICSTS13.DZONE.SMPLOG NEW
GZONE          NEW CICSOPT
GZONECSI       CICSTS13.SMPZONE NEW CICSTS13 3390
GZONELOG       CICSTS13.GZONE.SMPLOG NEW
TZONE          TZONE
TZONECSI       CICSTS13.SMPZONE NEW CICSTS13 3390
TZONELOG       CICSTS13.TZONE.SMPLOG NEW
```

6.5.19 Specify the high-level qualifiers for SMP/E data sets

For each different high-level qualifier that you have specified for SMP/E zone CSIs, logs, and other SMP/E data sets, you must create an ALIAS definition in the master catalog before the data sets can be used.

6.5.20 Specify the distribution tape device type

Specify the type of device that is to be used to load the CICS TS distribution tape on the TAPEUNIT parameter:

TAPEUNIT devicetype

Specifies the device type to be used to read the distribution tape. Use 3480 for the 3480 tape cartridge, 3400-6 for the 6250 tape, or the unit names in use in your installation.

6.5.21 Specify attributes of the CICS TS system data sets

Specify attributes of the CICS TS system data sets, to be created when you run the post-installation jobs DFHCOMDS and DFHDEFDS³ jobs, on the DSINFO parameter:

DSINFO dsindex volume disktype qualifier

Defines the following attributes of CICS system data sets:

dsindex

Assigns a high-level index to all the data sets defined by the jobs, DFHCOMDS and DFHDEFDS.

The leading character of *dsindex* must be alphabetic. *dsindex* can have one or two levels of index, but each level must be no longer than eight characters. If you specify more than one level of index, the names must be separated by a period (for example, h1qname.IVP420).

³ For more information about the post-installation jobs DFHCOMDS and DFHDEFDS jobs, see the *CICS CICS Transaction Server for OS/390 Installation Guide*.

volume

is the volume identifier of the volume.

disktype

is the UNIT parameter for the volume.

qualifier

is a partial qualifier added to the index for the data sets created by the jobs DFHCOMDS and DFHDEFDS. You can specify a partial qualifier of up to four alphanumeric characters; these characters are appended to the characters CICS to make the qualifier. If you specify a period (.) no qualifier is used.

6.5.22 Specify attributes of any additional target libraries

If you want to create extra copies of the CICS TS target libraries, specify the attributes of those libraries on the following parameters:

AINDEX library_prefix

Assigns a high-level index to the additional set of CICS target libraries copied by a version of the DFHINSTA job.

Notes:

1. The high-level index for the additional SDFHLINK and SDFHLPA libraries is defined by the ALINDEX parameter.
2. The high-level index for the data sets created by the jobs DFHCOMDS and DFHDEFDS is defined by the dsindex operand of the DSINFO parameter.

The AINDEX value must be unique (for example, it must be different from the INDEX value), it must not be longer than 26 characters, and the leading character must be alphabetic. If you specify more than one level of index, the names must be separated by a period (for example, AINDEX CICS13.A.TEST).

ALINDEX library_prefix

Assigns a high-level index to the additional SDFHLPA and SDFHLINK libraries allocated by running a version of the DFHINSTA job.

The *library_prefix* value must not be longer than 26 characters, and the leading character must be alphabetic. If you specify more than one level of index, the names must be separated by a period (for example, ALINDEX SYS1.CICS13.A.TEST).

AZONELOG dsname

Specifies details of the SMP/E log for the additional target zone CSI.

dsname

is the name of the additional target zone log to be used by SMP/E.

AZONECSI cluster

Specifies details of the additional target zone CSI. The CSI data set is created on the volume and unit specified by the ADDTVOL parameter.

cluster

is the VSAM cluster name, minus the qualifier **.CSI**.

AZONE zonename

Specifies the name of the additional target zone, to be used for the set of CICS TS target libraries copied by a version of the DFHINSTA job.

zonename

is the name of the additional target zone to be used by SMP/E. This name must be unique to the target zone. It must not be longer than seven characters, and the leading character must be alphabetic.

ASMPSCDS dsname

Specifies the name of the additional zone SMP/E SCDS data set.

dsname

is the name of the additional zone SMP/E SCDS data set.

ASMPMTS dsname

Specifies the name of the additional zone SMP/E MTS data set.

dsname

is the name of the additional zone SMP/E MTS data set.

ASMPSTS dsname

Specifies the name of the additional zone SMP/E STS data set.

dsname

is the name of the additional zone SMP/E STS data set.

ASMP LTS dsname

Specifies the name of the additional zone SMP/E LTS data set.

dsname

is the name of the additional zone SMP/E LTS data set.

ADDTVOL volume disktype

Specifies the volume and unit type to contain all the additional zone data sets.

volume

is the volume serial identifier of the volume.

disktype

is the UNIT parameter for the volume.

USSDIRA dsname

Specifies the name of the UNIX System Services directory for the Additional Target zone. See job DFHINSTA.

The default is the value of the AINDEX parameter in lowercase.

The UNIX System Services directory path will start `/ussindex/cicsts/ussdira` where `ussindex` is the translated value of the `USSINDEX` parameter, and `ussdira` is the value of the `USSDIRA` parameter.

The default path will be: `/usr/lpp/cicsts/cicsts13.a`

Note: The name of the third UNIX System Services directory after the root directory is always “cicsts”.

6.5.23 Specify the data set name of the SISpload library

Specify the full data set name, up to 44 characters, of the library that contains ISPLINK (SISpload for ISPF Version 4 and above, or ISPLOAD for ISPF version 3 and below).

For example, `SISpload SYS1.USERID.SISpload` changes the SISpload library name to `SYS1.USERID.SISpload`. This library is accessed, as read-only, during the installation of CICS TS.

SISpload dsname

Up to 44 characters.

6.5.24 Specify the data set name of the CSSLIB library

Specify the full data set name, up to 44 characters, of the CSSLIB library.

For example, `CSSLIB SYS1.USERID.CSSLIB` changes the CSSLIB library name to `SYS1.USERID.CSSLIB`. This library is accessed, as read-only, during the installation of CICS TS.

CSSLIB dsname

Up to 44 characters.

6.5.25 Specify the data set name of the SCEECPP library

Specify the full data set name, up to 44 characters, of the SCEECPP library.

For example, `SCEECPP SYS1.USERID.SCEECPP` changes the SCEECPP library name to `SYS1.USERID.SCEECPP`. This library is accessed, as read-only, during the installation of CICS TS.

SCEECPP dsname

Up to 44 characters.

6.5.26 Specify the data set name of the SCEELKED library

Specify the full data set name, up to 44 characters, of the SCEELKED library.

For example, `SCEELKED SYS1.USERID.SCEELKED` changes the SCEELKED library name to `SYS1.USERID.SCEELKED`. This library is accessed, as read-only, during the installation of CICS TS.

SCEELKED dsname

Up to 44 characters.

6.5.27 Specify the data set name of the SCEELKEX library

Specify the full data set name, up to 44 characters, of the SCEELKEX library.

For example, SCEELKEX SYS1.USERID.SCEELKEX changes the SCEELKEX library name to SYS1.USERID.SCEELKEX. This library is accessed, as read-only, during the installation of CICS TS.

SCEELKEX dsname

Up to 44 characters.

6.5.28 Specify the data set name of the SCEEOBJ library

Specify the full data set name, up to 44 characters, of the SCEEOBJ library.

For example, SCEEOBJ SYS1.USERID.SCEEOBJ changes the SCEEOBJ library name to SYS1.USERID.SCEEOBJ. This library is accessed, as read-only, during the installation of CICS TS.

SCEEOBJ dsname

Up to 44 characters.

6.5.29 Specify the data set name of the SCLBSID library

Specify the full data set name, up to 44 characters, of the SCLBSID library.

For example, SCLBSID SYS1.USERID.SCLBSID changes the SCLBSID library name to SYS1.USERID.SCLBSID. This library is accessed, as read-only, during the installation of CICS TS.

SCLBSID dsname

Up to 44 characters.

6.5.30 Specify the member name (JVMNAME) of the SDFHENV data set

Specify the member name of the SDFHENV data set to be used to hold the default JVM environment variables.

JVMNAME member name

Up to 8 characters.

6.5.31 Specify the name of the Java directory

Specify the name of the Java directory for use by CICS JVM application programs.

JAVADIR directory name

This parameter is appended to /usr/lpp/, giving a full path name of /usr/lpp/*javadir*.

6.5.32 Specify the data set name of the SDSNLOAD library

Specify the full data set name, up to 44 characters, of the DB2 SDSNLOAD library. For example, SDSNLOAD SYS1.USERID.SDSNLOAD changes the SDSNLOAD library name to SYS1.USERID.SDSNLOAD. This library is accessed, as read-only, during the installation of CICS TS.

Note: The REXX for CICS element contains some modules that are link-edited against the DB2 load library, SDSNLOAD. If you do not have DB2 installed, the DFHINST6 job fails because SDSNLOAD cannot be allocated to the job. To avoid this, define a dummy SDSNLOAD data set, with LRECL=0 and RECFM=U, and specify the name of this empty data set on the SDSNLOAD parameter.

SDSNLOAD dsname

Up to 44 characters.

6.5.33 Specify the data set name of the SEZARPCL and SEZACMTX libraries

Specify the full data set names, up to 44 characters, of the SEZARPCL and SEZACMTX libraries. For example, SEZARPCL SYS1.USERID.SEZARPCL changes the SEZARPCL library to SYS1.USERID.SEZARPCL and SEZACMTX SYS1.USERID.SEZACMTX changes the SEZACMTX library name to SYS1.USERID.SEZACMTX. These libraries are accessed, as read-only, during the installation of CICS TS.

SEZARPCL dsname

Up to 44 characters.

SEZACMTX dsname

Up to 44 characters.

6.5.34 Specify the data set name of the SCEECICS and SCEERUN libraries

Specify the full data set names, up to 44 characters, of the SCEECICS and SCEERUN libraries. For example, SCEECICS SYS1.USERID.SCEECICS changes the SCEECICS library to SYS1.USERID.SCEECICS and SCEERUN SYS1.USERID.SCEERUN changes the SCEERUN library name to SYS1.USERID.SCEERUN. These libraries are accessed, as read-only, during the installation of CICS TS.

SCEECICS dsname

Up to 44 characters.

SCEERUN dsname

Up to 44 characters.

6.5.35 Specify logstream and logstream structure attributes.

Specify attributes of the CICS TS logstreams and the coupling facility structures that you will use when

you run the post-installation jobs DFHILG1, DFHILG2, DFHILG3 and DFHILG4⁴ jobs, on the LOGGER-INFO parameter:

LOGGER-INFO strsfz logsz shuntsz jnlisz gensz sysname loghlq logmodel

Defines the following attributes of CICS TS system data sets:

strsfz

The last part of the coupling facility structure names, can be any three characters allowed in a structure name. Default 001. Used in DFHILG1, DFHILG2, DFHILG3 and DFHILG4.

logsz

The Avgbufsize for System logstreams in the LOG_DFHLOG_strsfz structure. Default 500. Used in DFHILG1.

shuntsz

The Avgbufsize for shunted system logstreams in the LOG_DFHSUNT_strsfz structure. Default 4096. Used in DFHILG1.

jnlisz

The Avgbufsize for unforced user journal logstreams in the LOG_USERJRNL_strsfz structure. Default 64000. Used in DFHILG1.

gensz

The Avgbufsize for forced user journal logstreams and forward recovery logstreams in the LOG_GENERAL_strsfz structure. Default 2048. Used in DFHILG1.

sysname

The MVS system name used to create model logstreams for DFHLOG and DFHSUNT. Default MVSX. Used in DFHILG1.

loghlq

The first qualifier of the model name for general logs and DFHLGLOG. Used in DFHILG3 and DFHILG4.

logmodel

The second qualifier of the model name for general logs. Used in DFHILG3.

6.6 Create RACF profiles for the CICS TS data sets

Liaise with your Security Administrator to create appropriate RACF profiles for the CICS TS data sets, as described in the *CICS RACF Security Guide*.

At this stage, you need authority to access only the data set qualifiers specified on the TEMPLIB, LIB, and INDEX parameters. (The DFHISTAR job uses a temporary sequential data set, with the high-level

⁴ For more information about the post-installation jobs DFHILG1, DFHILG2, DFHILG3 and DFHILG4 jobs, see the *CICS CICS Transaction Server for OS/390 Installation Guide*.

qualifier specified on the INDEX parameter, to resolve the parameters to be substituted into the jobs being tailored.) However, it is worth coordinating the access authority for all the CICS TS data sets at the same time.

6.7 Run the DFHISTAR job

When you have edited the DFHISTAR job with the values of installation parameters for your CICS TS environment, save it.

When you are ready to tailor the skeleton jobs, submit the DFHISTAR job.

In addition to the OMVS HFS jobs, there are three new members supplied in SDFHINST. These are DFHBXP0, DFHBXP1, and DFHBXPA.

DFHBXP0

This member contains a MOUNT command for inclusion in a BPXPRMxx member of the SYS1.PARMLIB dataset. The MOUNT command applies to the HFS dataset specified in the HFS0DSN parameter of the DFHISTAR job to be mounted at directory `/usr/lpp/cicsts`.

Add this mount command to the BPXPRMxx PARMLIB member after you have run the DFHIHFS0 job.

DFHBXP1

This member contains a MOUNT command for inclusion in a BPXPRMxx member of the SYS1.PARMLIB dataset. The MOUNT command applies to the HFS dataset specified in the HFS1DSN parameter of the DFHISTAR job to be mounted at directory `/usr/lpp/cicsts/ussdir`, where *ussdir* is the name of the directory specified in the *ussdir* parameter in the DFHISTAR job

Add this mount command to the BPXPRMxx PARMLIB member after you have run the DFHIHFS1 job.

DFHBXPA

This member contains a MOUNT command for inclusion in a BPXPRMxx member of the SYS1.PARMLIB dataset. The MOUNT command is for HFS dataset specified in the HFSADSN parameter of the DFHISTAR job to be mounted at directory `/usr/lpp/cicsts/ussdira`, where *ussdira* is the name of the directory specified in the *ussdira* parameter in the DFHISTAR job.

Add this mount command to the BPXPRMxx PARMLIB member after you have run the DFHIHFSa job.

When the DFHISTAR job has run, the jobs listed in Figure 23 on page 49 (apart from the DFHISTAR job) are tailored to your CICS TS environment and added to the library that you specified on the LIB parameter of the DFHISTAR job (by default, the CICSTS13.XDFHINST library). If necessary, the DFHISTAR job creates the library specified on the LIB parameter.

The highest expected return code should be 0.

6.7.1 Check the output from the DFHISTAR job

Check the output from the DFHISTAR job, and if needed, edit and submit the DFHISTAR job again.

The DFHISTAR job produces a job log and, if necessary, an error code:

- The output job log lists the values that were actually used for the parameters of the DFHISTAR job.
- If any error occurs when running the DFHISTAR job, an error code of 4 or 12 is returned. For error code 4, the skeleton jobs are tailored and added to the CICSTS13.XDFHINST library. For error code 12, the skeleton jobs are not tailored or copied. To resolve the cause of either error code, examine the output job log and, if necessary, edit and submit the DFHISTAR job again.

You can run the DFHISTAR job any number of times to alter the attributes of the jobs that it creates.

When running the DFHISTAR job after the first time, you can select specific jobs to be created, by using the SCOPE or SELECT parameter:

SCOPE ALLIBASEIPOST

Specifies whether you want to generate all the CICS TS installation and post-installation jobs, or only the post-installation jobs. When installing CICS TS from the distribution tape, you would normally specify SCOPE ALL (the default). You would normally code the other options, if necessary, during some post-installation tasks, as described in the *CICS CICS Transaction Server for OS/390 Installation Guide*.

ALL

Specifies that you want to generate all the CICS TS installation jobs and all the post-installation jobs.

BASE

Specifies that you want to generate only the six installation jobs DFHINST1 through DFHINST6 that you can use to install CICS TS from the distribution tape.

POST

Specifies that you want to generate only the post-installation jobs, that you can use to create the CICS TS data sets, and run the IVPs.

SELECT jobname newname

Specifies the new name for a copy of a post-installation job to be generated when you run the DFHISTAR job. You can specify several SELECT parameters to select several post-installation jobs to be regenerated in one run of the DFHISTAR job. The SELECT parameter overrides the POST parameter; that is, if you use the SELECT parameter in the DFHISTAR job, only those jobs specified by SELECT are generated.

Note: If you are using the SELECT parameter to generate copies of the post-installation jobs for a new CICS TS region, you should also change the DSINFO parameter to specify details of the data sets for the new CICS region.

For example, to create copies of the jobs DFHDEFDS and DFHIVPOL for the CICS TS region CICSINS you could specify the DSINFO and SELECT parameters of the DFHISTAR job:

```
DSINFO userid.CICSTS13 H3P061 3390 INS
SELECT DFHDEFDS INSDEFDS
SELECT DFHIVPOL INSIVPOL
```

If you then run the DFHISTAR job, it would create the INSDEFDS job as a copy of the DFHDEFDS job, and the INSIVPOL job as a copy of the DFHIVPOL job, substituting the values that you specified on DSINFO into the new jobs.

You could then change the DSINFO and SELECT parameters, and run the DFHISTAR job to create other copies of the post-installation jobs for another CICS TS region.

6.8 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. For example, for the installation parameter *DZONECSI dsname NEW* the data set *dsname* is deleted and a new distribution zone CSI called *dsname* is allocated.
2. The CICS TS-supplied installation JCL will install CICS Transaction Server for OS/390 into new target and distribution zones. If you want to install CICS TS into existing target and distribution zones, you must modify the DFHINST3 job.

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

3. If you intend installing CICS TS 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 DFHINST3 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, SC28-1107.

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

6.9 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

After you have run the DFHISTAR job to create the installation jobs, submit those jobs in sequence to install CICS TS. This section describes the CICS TS installation jobs, and gives considerations that may affect how you use them.

The CICS TS jobs are in the CICSTS13.CICS.XDFHINST library as a result of running the DFHISTAR job, which you copied from the distribution tape, as described in 6.4, “Copy RELFILE(2) from the distribution tape” on page 47.

These jobs should be run one at a time. Before you run a job, read the information about it (starting on page 81).

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.

6.9.1.1 Run times of the installation jobs: To give you an idea what run times to expect, we ran the installation jobs on an IBM 9672 RX5 using a single LPAR. The run times were:

Job	Processor Time	Elapsed Time
DFHIHFS0	1 second	5 seconds
DFHIHFS1	1 second	5 seconds
DFHISMKD	3 seconds	30 seconds
DFHINST1	3 seconds	30 seconds
DFHINST2	3 seconds	1 minute
DFHINST3	3 seconds	1 minute
DFHINST4	4 seconds	30 seconds
DFHINST5	1 minute	11 minutes
DFHINST6	31 minutes	51 minutes

These time values are suitable to run the installation jobs on an IBM 9672 RX5 or bigger system. If you have a system smaller than an IBM 9672 RX5, you may need to review these values.

6.9.1.2 The DFHIHFS0 job: This job:

- Creates the HFS specified on the HFS0DSN parameter of the DFHISTAR job
- Creates the `cicsts` directory at `/usr/lpp`
- Mounts the HFS at directory `/usr/lpp/cicsts`
- Changes the permission settings for the `/cicsts` directory to 755.

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 `/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.

6.9.1.3 The DFHIHFS1 job This job:

- Unmounts the HFS at directory `/usr/lpp/cicsts` to allow the job to be rerun, and if necessary forces return code zero.
- Deletes from `/usr/lpp/cicsts` the directory defined by the `ussdir` parameter of the DFHISTAR job. This is to allow the job to rerun, and if necessary forces return code zero.
- Deletes the HFS specified in the HFS1DSN parameter of the DFHISTAR job to allow the job to rerun, and if necessary forces return code zero.
- Creates the HFS specified in the HFS1DSN parameter of the DFHISTAR job.
- Creates the `ussdir` directory at `/usr/lpp/cicsts`, where `ussdir` is the name of the directory specified on the `ussdir` parameter.
- Mounts the HFS at directory `/usr/lpp/cicsts/ussdir`
- Changes the permission settings for the `ussdir` directory to 755.

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 DFHBPXP1 contains a MOUNT command for `/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.

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

This job **must** be run before any of the other installation jobs.

The highest expected return code should be 0.

6.9.1.5 The DFHINST1 job: This job allocates and catalogs CICS TS 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 DFHINST1 job terminates abnormally, examine the job log to determine the cause, correct the problem, then rerun the job.

The highest expected return code should be 0.

6.9.1.6 The DFHINST2 job: This job allocates the CICS TS RELFILE data sets. It is optional, but we recommend that you run it.

- If you run the DFHINST2 job now, you ensure that enough space has been allocated to the RELFILE data sets to allow the DFHINST5 job to complete.
- If you do not run this job, SMP/E allocates the RELFILE data sets in the DFHINST5 job, using values obtained from the DFHINST4 job. If there is not enough space available, you do not find this out until DFHINST5 fails, and in this case time is wasted.

To ensure that the job can be rerun, it deletes (and uncatalogs) the data sets (if they exist) that it allocates later.

Remember, if you choose not to run this job, and are relying on the DSSPACE values in the DFHINST4 job, the supplied defaults are not large enough.

If the DFHINST2 job terminates abnormally, examine the job log to determine the cause, correct the problem, then rerun the job.

The highest expected return code should be 0.

DFHINST3 and DFHINST4 optional jobs.

DFHINST3 is an optional job which should be run if you have decided to allocate new SMP/E zones.

Be aware that the default specified in DFHISTAR is for the allocation of new zones. This is recommended, to ensure that existing releases of CICS TS are not deleted.

DFHINST4 is an optional job which will prime new SMP/E zones created in DFHINST3.

6.9.1.7 The DFHINST3 job: This job allocates the CICS TS SMP/E data sets.

Before you run the DFHINST3 job

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

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

If your existing CSIs do not have a control interval size of 4096 bytes, you must edit the DFHINST3 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, SC28-1107.

To ensure that the job can be rerun, it deletes (and uncatalogs) the data sets (if they exist) that it allocates later.

This job also sets up the global, target, and distribution zones, depending on the parameters that you specified to the DFHINSTAR job, as follows:

1. If you specified NEW for GZONE, the global zone is deleted and redefined.
2. The distribution zone is deleted and redefined.
3. The target zone is deleted and redefined.
4. Member GIMZPOOL from SYS1.MACLIB is REPROed into the zones redefined in the previous steps.
5. If you specified OLD for GZONE, the entries for the DZONE and TZONE names are removed from the global zone.

If the DFHINST3 job terminates abnormally, examine the job log to find the cause, correct the problem, then rerun the job.

The highest expected return code should be 0.

6.9.1.8 The DFHINST4 job: This job primes the global zone, target zone, and distribution zone.

Before you run the DFHINST4 job

If you did not run the DFHINST2 job, increase the DSSPACE values in the DFHINST4 job, before submitting it.

If the DFHINST4 job terminates abnormally, examine the job log to determine the cause, correct the problem, then repeat all jobs, beginning with DFHINST1. This avoids SMP/E space problems, and consequent X37 abends, during reruns of these SMP/E jobs.

The highest expected return code should be 0, if you install in to New Zones and 8 if you are insatalling in to Existing Zones.

6.9.1.9 The DFHINST5 job: This job RECEIVES the CICS TS software from the distribution tape into the RELFILE data sets created by the DFHINST2 job. It is the only installation job (apart from the initial IEBCOPY job) that requires the distribution tape to be mounted.

If the DFHINST5 job terminates abnormally, examine the job log to determine the cause, correct the problem, then repeat all jobs, beginning with DFHINST1. This avoids SMP/E space problems, and consequent X37 abends, during reruns of these SMP/E jobs.

If you are running OS/390 Release 5 or Release 6 you may expect a maximum return code of 4 with the following message:

GIM50050W

Receive processing for sysmod (fmid) encountered the description operand on the header MCS. This operand is ignored since it is supported only by OS/390 Release 7 SMP/E, of higher.

If you are running OS/390 Release 7 you should expect a return code of 0.

6.9.1.10 The DFHINST6 job: This job performs the SMP/E APPLY and ACCEPT functions needed to install CICS TS into the target and distribution libraries respectively.

Before you run the DFHINST6 job

- Ensure the DB2 SDSNLOAD library is available for this job. Without SDSNLOAD, DFHINST6 fails; see 6.5.32, "Specify the data set name of the SDSNLOAD library" on page 75

If you run DFHINST6 with an empty SDSNLOAD library, the APPLY step completes with return code 4, and the return code from the binder is 8. The REXX for CICS modules, CICS SQL and CICDB2, which interface with DB2, are stored in SCICLOAD without the required DB2 routines and are not usable.

- **DFHINST6 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 DFHINST6 job to do APPLY CHECK, APPLY, ACCEPT CHECK, and ACCEPT functions as four separate jobs.

The DFHINST6 job is the longest running of all the installation jobs (see 6.9.1.1, "Run times of the installation jobs" on page 80), and produces a large amount of printed output. 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 when all is well. (See the “GIM23903W - LINK SUCCESSFUL . . .” message, listed in the report that is output by the apply job.)

You may receive several GIM50050W messages if you are running OS/390 Release 5 or Release 6 - these may safely be ignored.

The binder produces IEW2454W messages during the APPLY stage for unresolved external references while some CICS TS 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 TS load modules.

The following messages will also be displayed and can be ignored: IEW2609W, IEW2416W and IEW2689W.

When you have run the DFHINST6 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 04 -
```

This SMP/E message can be ignored.

You will also see message GIM67301W which can also be ignored.

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

If the DFHINST6 job terminates abnormally, examine the job log to determine the cause, correct the problem, then repeat all the jobs, beginning with DFHINST1. This avoids SMP/E space problems, and consequent X37 abends, during reruns of these SMP/E jobs.

Note: If the DFHINST6 job fails and you are using an existing global zone (that is, you specified the GZONE parameter of the DFHISTAR job with the disposition parameter OLD), you must first REJECT the CICS TS base-level function SYSMOD before rerunning the DFHINST1 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'.

6.9.1.11 The DFHIJVMJ job: This job is provided to create a customized version of member DFHJVMEV from the SDFHENV data set. This dataset contains the JVM environment variables that are needed if you want to run a JVM program in CICS. Information about the JVM environment variables is given in the *CICS System Definition Guide*.

6.9.2 Check the output from the installation jobs

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

CICSTS13.CICS.SDFHAPD1
CICSTS13.CICS.SDFHAPD2
CICSTS13.CICS.SDFHAUTH
CICSTS13.CICS.SDFHCLIB
CICSTS13.CICS.SDFHCOB
CICSTS13.CICS.SDFHC370
CICSTS13.CICS.SDFHENV
CICSTS13.CICS.SDFHEXCI
CICSTS13.CICS.SDFHINST
CICSTS13.CICS.SDFHLANG
CICSTS13.CICS.SDFHLLIB
CICSTS13.CICS.SDFHLOAD
CICSTS13.CICS.SDFHMAC
CICSTS13.CICS.SDFHMLIB
CICSTS13.CICS.SDFHMSGS
CICSTS13.CICS.SDFHPARM
CICSTS13.CICS.SDFHPL1
CICSTS13.CICS.SDFHPLIB
CICSTS13.CICS.SDFHPROC
CICSTS13.CICS.SDFHSAMP
CICSTS13.CICS.SDFHMSRC
CICSTS13.CICS.SDFHDLL1
CICSTS13.CICS.SDFHSDCK
CICSTS13.CICS.SDFJLOAD
CICSTS13.CICS.SDFJLPA
CICSTS13.CICS.SDFJLOD1
SYS1.CICSTS13.CICS.SDFHLINK
SYS1.CICSTS13.CICS.SDFHLP
CICSTS13.AMA.SERCLMD
CICSTS13.DDM.DDMINST
CICSTS13.DDM.DDMLOAD
CICSTS13.CPSM.SEYUINST
CICSTS13.CPSM.SEYUSAMP
CICSTS13.CPSM.SEYUPARM
CICSTS13.CPSM.SEYUMAC
CICSTS13.CPSM.SEYUJCL
CICSTS13.CPSM.SEYUDEF
CICSTS13.CPSM.SEYUOS2
CICSTS13.CPSM.SEYULOAD
CICSTS13.CPSM.SEYUAUTH
CICSTS13.CPSM.SEYUCMOD

CICSTS13.CPSM.SEYUDEF
 CICSTS13.CPSM.SEYUCLIB
 CICSTS13.CPSM.SEYUMLIB
 CICSTS13.CPSM.SEYUPLIB
 CICSTS13.CPSM.SEYUTLIB
 CICSTS13.CPSM.SEYUVDEF
 CICSTS13.CPSM.SEYUPROC
 CICSTS13.CPSM.SEYUC370
 CICSTS13.CPSM.SEYUCOB
 CICSTS13.CPSM.SEYUPL1
 SYS1.CICSTS13.CPSM.SEYULINK
 SYS1.CICSTS13.CPSM.SEYULPA
 CICSTS13.GEM.SIHSSMPC
 CICSTS13.GEM.SIHSCLSC
 CICSTS13.REXX.SCICJCL
 CICSTS13.REXX.SCICLOAD
 CICSTS13.REXX.SCICPNL
 CICSTS13.REXX.SCICDBRM
 CICSTS13.REXX.SCICBOOK
 CICSTS13.REXX.SCICDOC
 CICSTS13.REXX.SCICMDS
 CICSTS13.REXX.SCICEXEC
 CICSTS13.REXX.SCICUSER

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

6.10 What next?

You should next copy the CICS TS procedures into a cataloged procedure library, load any CICS features that you have, and tailor the CICS TS to your needs. For information about copying the CICS TS procedures, and loading the CICS TS features, see the following sections. For information about tailoring CICS TS to your needs, see the *CICS Transaction Server for OS/390 Installation Guide*.

6.10.1 Copy the CICS TS procedures into a procedure library

CICS TS supplies the procedures listed in Figure 26.

<i>Figure 26 (Page 1 of 3). CICS TS-supplied procedures</i>	
Procedure	Description
DFHASMVS	Assembles some CICS TS programs and user-written assembler language programs.
DFHAUPLE	Assembles and link-edits CICS TS control tables, and makes the assembly and link-edit information available to SMP/E.

Figure 26 (Page 2 of 3). CICS TS-supplied procedures

Procedure	Description
DFHEBTAL	Translates, assembles, and link-edits assembler application programs using EXEC DLI commands in a batch environment.
DFHEBTPL	Translates, assembles, and link-edits PL/I application programs using EXEC DLI commands in a batch environment.
DFHEBTVL	Translates, assembles, and link-edits COBOL2 application programs using EXEC DLI commands in a batch environment.
DFHEITAL	Translates, assembles, and link-edits assembler application programs using the command-level interface.
DFHEITDL	Translates, compiles, and link-edits C/370 application programs using the command-level interface.
DFHEITPL	Translates, compiles, and link-edits PL/I application programs using the command-level interface.
DFHEITVL	Translates, compiles, and link-edits VS COBOL II application programs using the command-level interface.
DFHEXTAL	Translates, assembles, and link-edits assembler application programs using the external CICS TS interface.
DFHEXTDL	Translates, compiles, and link-edits C/370 application programs using the external CICS TS interface.
DFHEXTPL	Translates, compiles, and link-edits PL/I application programs using the external CICS TS interface.
DFHEXTVL	Translates, compiles, and link-edits VS COBOL II application programs using the external CICS TS interface.
DFHLNKVS	Link-edits CICS TS programs and application programs.
DFHMAPS	Prepares physical and symbolic maps.
DFHSMPE	Executes SMP/E.
DFHSTART	Starts CICS.
DFHUPDVS	Updates.
DFHYBTPL	Translates, compiles, and link-edits PL/I application programs using EXEC DLI commands in a batch environment under Language Environment/370.
DFHYBTVL	Translates, compiles, and link-edits COBOL application programs using EXEC DLI commands in a batch environment under Language Environment/370.
DFHYITDL	Translates, compiles, and link-edits C/370 application programs using the command-level interface under Language Environment/370.
DFHYITPL	Translates, compiles, and link-edits PL/I application programs using the command-level interface under Language Environment/370.
DFHYITVL	Translates, compiles, and link-edits VS COBOL application programs using the command-level interface under Language Environment/370.

Figure 26 (Page 3 of 3). CICS TS-supplied procedures

Procedure	Description
DFHYXTDL	Translates, compiles, and link-edits C/370 application programs using the external CICS TS interface under Language Environment/370.
DFHYXTPL	Translates, compiles, and link-edits PL/I application programs using the external CICS TS interface under Language Environment/370.
DFHYXTVL	Translates, compiles, and link-edits VS COBOL application programs using the external CICS TS interface under Language Environment/370.
Note: For further information about using the CICS TS-supplied procedures, see: <ul style="list-style-type: none">• The <i>CICS Operations and Utilities Guide</i>, SC33-1685, for information about DFHCRST• The <i>CICS CICS Transaction Server for OS/390 Installation Guide</i>, GC33-1681, for information about DFHSMPE and DFHSTART• The <i>CICS System Definition Guide</i>, SC33-1682, for information about the other procedures.	

The procedures DFHAUPLE, DFHSMPE, and DFHSTART are tailored to your CICS TS environment and stored in the CICSTS13.XDFHINST library when you run the DFHISTAR job. The other procedures are **not** modified by the DFHISTAR job and are copied into the CICSTS13.SDFHPROC library when you run the CICS TS installation jobs.

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 instream 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 TS procedures, it is the versions in the libraries CICSTS13.SDFHINST and CICSTS13.SDFHPROC that will be updated by SMP/E. You must then copy the updated procedures into your procedure library.

3. The default for the symbolic parameter GZONE in the procedures DFHSMPE and DFHAUPLE is taken from the value that you specified by the GZONE parameter of the DFHISTAR job.
4. The default for the ZNAME symbolic parameter in the procedures DFHSMPE and DFHAUPLE is taken from the value that you specified by the TZONE parameter of the DFHISTAR job. For a description of how the ZNAME parameter is used, see the SMP_CNTL DD statement in the *CICS CICS Transaction Server for OS/390 Installation Guide*, GC33-1681.
5. 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.

6.10.2 Create extra sets of CICS TS target libraries (optional)

You can use the CICS TS installation job, DFHISTAR, to generate an optional installation job, DFHINSTA, which you can use to create extra copies of the CICS TS target libraries and UNIX System Services directories.

Some of the benefits of using multiple libraries are:

- **Backing out PTFs and APARs** – if you apply PTFs or APARs to CICS TS and if they fail a fix-test, you can back out the changes with minimum disruption.
- **DASD failure** – multiple libraries protect you against failure of the DASD on which the CICS TS load libraries reside.

Base the decision to use multiple libraries for CICS TS on the following factors:

- Your need for high availability – as already stated, the use of multiple libraries can protect you against CICS TS downtime due to DASD failure or incorrect service (either from IBM-supplied PTFs or your own modifications to your CICS TS region).
- The extra DASD needed – multiple libraries require more disk space.
- Other ways of providing high availability; for example, use of a CICSplex, VTAM persistent sessions, and MVS functions to provide restart of CICS TS regions.
- The added complexity of maintaining multiple sets of CICS TS libraries – two or more sets of CICS TS target libraries, together with the SMP/E procedures needed to support them, increase the complexity of maintenance. You will need to define procedures to ensure that upgrades to the CICS TS libraries are kept under control.
- Alternative solutions – if you have already established a proven process for fix verification and for testing applications developed for your production CICS TS region, you may decide you don't need multiple CICS TS libraries.

You can use the DFHINSTA job, generated by the DFHISTAR job, to create extra sets of CICS TS target libraries fully under the control of SMP/E. Each time you run the DFHINSTA job, you can only generate one extra set of target libraries.

To create an extra sets of target libraries, you should complete the following steps. You can repeat the steps to create more sets of target libraries.

1. Edit the DFHISTAR job to specify values for:

- The ADDTVOL, AINDEX, ASMPSCDS, AZONE, AZONECSI, AZONELOG, and USSDIRA parameters, for the new set of target libraries.
- The INDEX, TZONE, TZONECSI, and TZONELOG parameters, for the primary target libraries you want to copy from. (The TZONE, TZONECSI, and TZONELOG parameters must specify the target zone that contains the CICS TS target libraries defined with the high-level qualifier provided by the INDEX parameter.)
- The DZONE, DZONECSI, and DZONELOG parameters, for the distribution libraries to be associated with the new set of target libraries.
- The SELECT parameter, to specify DFHINSTA (that you want to copy) and the member name you want the generated version of DFHINSTA to be stored as in the CICSTS13.XDFHINST library. For example,

```
SELECT DFHINSTA INSTA111
```

will store the generated version of DFHINSTA into member INSTA111 of the CICSTS13.XDFHINST library when you submit the DFHISTAR job.

Each time you copy DFHINSTA (to create a new set of target libraries), you should specify a new name on the SELECT parameter (to save each copy with a different name in case you need it again in the future).

For further information about editing the DFHISTAR job, and about the parameters of the DFHISTAR job, see 6.5, “Edit the DFHISTAR job” on page 50. The other parameters in the DFHISTAR job should not be changed.

2. Submit the DFHISTAR job

When you run the DFHISTAR job, it saves the generated version of the DFHINSTA job in the CICSTS13.XDFHINST library with the member name specified on the SELECT parameter in the DFHISTAR job. The data set name of the CICSTS13.XDFHINST library is specified in the LIB parameter of the DFHISTAR job.

3. Consider running the DFHIHFSA job

If you want to create an additional SMP/E target zone for HFS, run the DFHIHFSA job before the DFHINSTA job. This job:

- Unmounts the HFS at directory `/usr/lpp/cicsts` to allow the job to rerun, and if necessary forces return code 0.
- Deletes the `ussdira` directory at `/usr/lpp/cicsts`, where `ussdira` is the name of the directory specified on the `ussdira` parameter in the DFHISTAR job. This allows the job to rerun, and if necessary forces return code 0.
- Deletes the HFS specified in the HFSADSN parameter of the DFHISTAR job to allow the job to rerun, and if necessary forces return code 0.

- Creates the HFS specified in the HFSADSN parameter of the DFHISTAR job
- Creates the *ussdira* directory at */usr/lpp/cicsts*, where *ussdira* is the name of the directory specified in the *ussdira* parameter in the DFHISTAR job
- Mount the HFS at directory */usr/lpp/cicsts/ussdira*
- Changes the permission settings for the *ussdira* directory to 755

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

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

4. Submit DFHINSTA

The DFHINSTA job (or a copy of it) copies the CICS TS target libraries specified by the INDEX parameter, and creates corresponding CICS TS SMP/E data sets for them. In particular, it allocates a new SMP/E CSI data set for the extra target zone.

So that DFHINSTA job can be run more than once, step 1 deletes previous copies of the data sets to be created. Step 3 deletes the SMP/E CSI data set. Step 6 removes the ZONEINDEX entry for the extra target zone.

The first time the DFHINSTA job is run, Step 6 will give the following messages:

```
GIM35701E ** ZINDEX SUBENTRY azone WAS NOT DELETED BECAUSE
           IT DOES NOT EXIST.
GIM25601I   THE SPECIFIED ENTRY WAS NOT UPDATED BECAUSE OF
           AN ERROR DURING UCLIN PROCESSING.
```

You can ignore these messages the first time the job is run.

6.10.3 Load the CICS TS source material (optional)

You can use the sample job, DFHOPSRC, to load the optional CICS TS source from the distribution tape. The DFHOPSRC job is generated in the CICSTS13.XDFHINST library when you run the DFHISTAR job.

The DFHOPSRC job runs the MVS IEBCOPY utility program to load the optional source data sets from tape into a single DASD data set.

For further information about the IEBCOPY program, see the *MVS/ESA Data Administration: Utilities Manual* (SC26-4516).

Note: The DFHOPSRC job loads the tape files to a DASD device of your choice, using a BLKSIZE parameter of 6160. You can specify a different BLKSIZE parameter on the DCB and SPACE statements if you want, in which case the space allocation should be reviewed (It may need to be changed.).

6.10.4 Load other optional features

The sample job, DFHINSTJ, is supplied to be used to load other optional features that may be supplied. CICS TS V1R3 contains no optional features at General Availability time, but the sample job may be used if any optional features are shipped at a later date. The DFHINSTJ job is generated in the CICSTS13.XDFHINST library when you run the DFHISTAR job.

6.11 Activating CICS TS

After you have loaded CICS TS to disk, you should perform the following steps, described in the *CICS CICS Transaction Server for OS/390 Installation Guide*, GC33-1681:

1. (If needed) Apply service
2. Integrate CICS TS with MVS
3. Create CICS TS 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 CICS Transaction Server for OS/390 Installation Guide* also contains information about how to get CICS TS into operational status, as part of the process of verifying the installation.

7.0 Post installation tasks

7.1 CICSplex SM

You can customize the EYUISTAR job to assign your own values to the installation parameters used by the EYUINST EXEC that edits the members or to install CICSplex SM on another MVS image. For details on this task, see *CICS Transaction Server for OS/390 Installation Guide*, GC33-1681.

7.2 REXX post-installation tasks

7.2.1 Step 1—Modify your RDO definitions to add required entries

Job **CICRDOR** (for Runtime Facility) or job **CICSRDOD** (for Development System) in data set CICSTS13.REXX.SCICJCL adds the entries needed by the product. Review 8.1, “Changing supplied CICS transaction codes.” on page 97 in the customizing section if you plan to modify the transaction IDs and also review 8.2, “RFS filepool definitions” on page 98 if you plan to change the REXX file system (RFS) pool names or the number of pools to install. Edit the JCL (ensuring that you uncomment the EXECKEY(CICS) statement) and run the job.

A return code of 4 is acceptable.

7.2.2 Step 2—Create the RFS filepools

Job **CICVSAM** in data set CICSTS13.REXX.SCICJCL defines the clusters needed to create the VSAM data sets needed for the RFS filepools. 8.2, “RFS filepool definitions” on page 98 contains customizing information about RFS filepools.

You receive a condition code of 8 for the delete control statements if the VSAM data sets do not exist. You should receive a condition code of 0 for the define cluster control statements if the job runs correctly.

7.2.3 Step 3—Create DCT definitions needed for IMPORT and EXPORT

Job **CICDCT** in dataset CICSTS13.REXX.SCICJCL can be used to create a DCT table which contains transient data extra partition destinations that are used for REXX/CICS IMPORT and EXPORT commands. See 8.3, “DCT entries needed for IMPORT and EXPORT commands.” on page 98 for customizing information. Edit and run the job.

You receive condition code 0 if the job runs correctly.

7.2.4 Step 4—BIND the CICSQL program to your DB2 plan

Job **CICBIND** in data set CICSTS13.REXX.SCICJCL will bind CICSQL to the correct DB2 plan. Edit and run the job.

You may receive condition code 4 for the job depending upon the level of DB2 being used.

7.2.5 Step 5—Create or modify the RCT

Job **CICRCT** in data set CICSTS13.REXX.SCICJCL creates an RCT that authorizes the transactions to use the DB2 plan. Review 8.4, “ RCT entries used for authorizing transactions to use DB2” on page 99 for more information. Edit and run the job.

You receive condition code 0 if the job runs correctly.

7.2.6 Step 6—Add DD statements to your CICS startup job

You need to add the following DD statements to your CICS startup job. See 8.5, “Special exec data sets used by the REXX Development System” on page 99 for more information.

```
//CICAUTH DD DSN=CICSTS13.REXX.SCICMDS,DISP=SHR
//CICEXEC DD DSN=CICSTS13.REXX.SCICEXEC,DISP=SHR
//CICUSER DD DSN=CICSTS13.REXX.SCICUSER,DISP=SHR
```

7.2.7 Step 7—Modify member CICSTART

Modify member **CICSTART** in data set CICSTS13.REXX.SCICEXEC. See 8.0, “Customization information for REXX” on page 97 for more information.

7.2.8 Step 8—Format the RFS filepools

Bring up the CICS region and sign onto the CICS region with a userid defined as an authorized user. Enter REXX, the default transaction id associated with the CICRXTY exec. You should see the following line at the top of the screen, "Enter a REXX command or EXIT to quit" and a "READ" in the lower right hand corner. The cursor is in the lower left hand corner. You have now entered the supplied exec which allows the execution of REXX and REXX/CICS commands interactively.

You may now prepare the filepools for use by entering the command: 'FILEPOOL FORMAT *pool1*' where pool1 should be substituted by the filepool name you specified in the CICSTART exec.

Note: The command should be entered as shown, including the apostrophes.

The interactive environment will echo each command at the next available line on the screen and any requested output will also be displayed. The FILEPOOL FORMAT command does not display any information. To determine whether the FILEPOOL FORMAT command worked successfully, enter "SAY RC". If a "0" is displayed on the next available line, the FILEPOOL FORMAT command was successful.

Continue this process until all RFS filepools have been formatted. You only have to format the filepool when a new filepool has been defined, or if you delete and redefine the clusters for an existing filepool.

If, in the process of formatting the filepools or interactively executing REXX or REXX/CICS commands and instructions, you fill the screen, a "MORE" indicator will appear at the bottom right hand corner. To clear the screen, press the ENTER key. Any time you want to clear the screen of data, you may press the CLEAR key. To exit from the interactive environment, you may press the PF3 key which simulates the entering of the "EXIT" REXX instruction. You may also enter the "EXIT" instruction yourself.

The interactive environment also provides for recalling previously entered commands. This is done by pressing the RETRIEVE key. The system has a default setting for this key of PF12. This may be customized using the SETSYS RETRIEVE command. Pressing the RETRIEVE key causes the previously entered line to be re-displayed at the input location. You can then modify this area if required and re-execute the instruction by pressing ENTER. Pressing the RETRIEVE key multiple times will continue to bring the next previously entered command to the input area.

7.2.9 Step 9—Verifying the installation

To verify the installation has been successful, three execs have been supplied. From the interactive REXX environment, enter, CALL CICIVP1. The exec will indicate what should occur.

7.2.10 Step 10—Accessing the supplied softcopy documentation

The REXX Development System for CICS/ESA and the REXX Runtime Facility for CICS/ESA Guide and Reference manual is included on the distribution tape in three different softcopy formats.

The supplied data set CICSTS13.REXX.SCICDOC contains two members.

Member CICR3270 contains the manual in LIST3270 format. That is records that are formatted to be 80 characters in length. This member is used as input the the online help facility which is described in Section 8.8.

Member **CICR3820** contains the manual in LIST3820 format. Job **CICBPRNT** in data set CICSTS13.REXX.SCICJCL contains a sample job which may be modified and executed that prints the manual to a device which supports LIST3820 formatted data.

The supplied data set CICSTS13.REXX.SCICBOOK contains one member, CICRBOOK. It contains the manual in BookManager/read format. If you have BookManager installed you may use this data set to view the manual.

8.0 Customization information for REXX

This chapter provides customizing information and should be reviewed prior to performing installing steps 7.2 and above.

8.1 Changing supplied CICS transaction codes.

There are three transaction ids supplied by the product. They are: REXX, EDIT, and FLST.

REXX is the default transaction id and if no additional operands are supplied will cause the supplied exec, CICRXTRY, to be started. This exec allows the user to interactively enter REXX instructions and execute them.

A string entered after REXX separated with blanks will be interpreted as an exec name and operands that will be passed to the named REXX exec. This causes the named exec to execute. When the exec ends, control will be returned to CICS.

EDIT is the transaction id associated with the REXX Development System editor. If no additional operands are supplied the exec, CICEDIT will be started and the file "NONAME" in the user's current RFS directory will be edited. When the edit session is ended, control will be returned to CICS.

EDIT entered with an additional operand separated from the transaction id with a blank will be interpreted as desiring to edit the named file in the user's current directory. When the edit session is ended, control will be returned to CICS.

FLST is the transaction id associated with the REXX Development System file list exec, CICFLST. If no additional operands are supplied, the exec will be started and contents of the user's current RFS directory are displayed. When the FLST session is ended, control will be returned to CICS.

FLST entered with an additional operand separated from the transaction id with a blank will be interpreted as desiring to list the contents of the RFS directory named in the operand. When the FLST session is ended, control will be returned to CICS.

It is possible to change the supplied transaction ids.

The DEFTRNID commands in the member, CICSTART, in data set CICSTS13.REXX.SCICEXEC define these transaction ids and associate them with their execs. If you choose to change the supplied entries make sure you update the RDO definitions to match your changes. If you do change the transaction ids be sure there is a DEFTRNID statement for the CICRXTRY exec. If you do not want users to call the editor or file list execs directly from CICS, you may delete the DEFTRNID commands from CICSTART and also from the RDO definitions and the users will not be allowed access directly from CICS.

If you want to add additional transactions which will call your own execs directly from CICS, all you need to do is add RDO definitions for the transaction ids and add further DEFTRNID commands to your

CICSTART exec, and they will become available to your users when you restart your CICS system. An authorized user may also enter the DEFTRNID command directly to cause immediate availability, but without changing the CICSTART member, these definitions will be lost when CICS is restarted.

8.2 RFS filepool definitions

The supplied member, CICVSAM in CICSTS13.REXX.SCICJCL, creates the VSAM data sets for two RFS filepools. The names for these VSAM data sets may be changed to match your installation standards. If you do change these names make sure to make matching changes to the member, CICRDOD, as well. Since the RDO definitions supplied contain the data set names, DD statements are not needed in the CICS startup job. This technique may be used to add additional files to an RFS pool or additional RFS filepools without restarting your CICS system.

The FILEPOOL DEFINE commands in member, CICSTART in data set CICSTS13.REXX.SCICEXEC have two purposes. The first is to define the names of the supplied filepools. They are: POOL1 and POOL2. You may modify these names to your installation standards. They may be from 1 to 8 characters. They should not contain special characters, ":" or "\". The second purpose is to associate the filepool ids to the FCT definitions for the VSAM data set used for its directory and the first VSAM file used for data storage.

If you require to add additional RFS filepools to your system you need to add RDO definitions and add FILEPOOL DEFINE commands to your CICSTART member. To make these new filepools available for use, you must restart CICS. You may also add filepools while your CICS system is active. You add the RDS definitions for the new files and define them using a batch job. Then an authorized user may enter the FILEPOOL DEFINE command and the FILEPOOL FORMAT command interactively. Be sure you modify CICSTART or your new definitions will be lost when you restart your CICS system. If you intend to allow users to add RFS files to the new filepool you should define the filepool to include a \USERS directory.

8.3 DCT entries needed for IMPORT and EXPORT commands.

The REXX Development System uses dynamic allocation to IMPORT members from a partitioned data set or EXPORT RFS files to partitioned data set. To accomplish this a pool of DCT entries starting with the names CICREX are used. The member, CICDCT in data set CICSTS13.REXX.SCICJCL defines three DCT entries used as input for IMPORT and 3 DCT entries for output for EXPORT. This allows three users to concurrently IMPORT and three users to concurrently EXPORT from and to partitioned data sets. Modify the number of DCT entries to suit your needs, but you should allow for at least one input and one output entry. The DESTID parameter on the TYPE=EXTRA definitions must begin with REX and be suffixed with a valid character. Ensure there are no other applications using destination ids that begin with REX because IMPORT/EXPORT will use them and may cause files to become corrupted.

8.4 RCT entries used for authorizing transactions to use DB2

RCT entries authorize transactions to use specific DB2 plans. The member, CICRCT in data set CICSTS13.REXX.SCICJCL authorizes the transactions, REXX, EDIT, FLST, and DXB0 to use the DB2 plan. The first three transactions are REXX for CICS transactions and the DXB0 transaction is added if you have OfficeVision/MVS (C) and want to use DB2 interface calls which may run under the OV/MVS transaction id. If you choose to modify the supplied transactions for the REXX Development System, you need to modify the RCT definitions also.

If you implement new transactions which use the DB2 interface code then you should also add these definitions to the RCT and restart your CICS region.

8.5 Special exec data sets used by the REXX Development System

There are three data set concatenations which are used by the REXX Development System which have no FCT entries. They are the DD names, CICCMDS, CICEXEC, and CICUSER. These data sets are partitioned data sets and are accessed using MVS facilities. They are described below.

CICCMDS DD name concatenation should start by referencing the data set CICSTS13.REXX.SCICCMDS. This data set contains those execs which implement REXX Development System authorized commands. Only authorized users or execs authorized to use authorized commands may access these execs. If you choose to extend the REXX Development System with your own authorized commands, you should concatenate your data set to this DD name concatenation.

CICEXEC DD name concatenation should start by referencing the data set CICSTS13.REXX.SCICEXEC. This data set contains those execs which are supplied by the REXX Development System that use authorized commands. If you choose to extend the REXX Development System with your own execs which use authorized commands then you should concatenate your data set to this DD name concatenation.

CICUSER DD name concatenation should start by referencing the data set CICSTS13.REXX.SCICUSER. This data set contains those execs which are supplied by the REXX Development System that do not use authorized commands. If you choose to extend the REXX Development System with your own execs which do not use authorized commands then you should concatenate your data set to this DD name concatenation.

The facilities used to access these data set concatenations use CICS WAIT EXTERNAL capabilities to avoid placing the CICS region into a wait.

8.6 Special USER ids and their usage

It is recommended that external security be used in the CICS environment. This is needed because individual user's information is maintained by the REXX Development System by the user's userid designation. Each user should have his own identification and there should not be two users signed on to the REXX Development System with the same userid at the same time. Two users with the same userid operating at the same time could have unusual results.

If a user is not signed on to the CICS region then the special userid of `"*RCUSER"` will be used to access the RLS and RFS facilities.

Authorized users are identified to the REXX Development System through the AUTHUSER command. This command is an authorized command and can only be used by an authorized user or an exec which is authorized to use authorized commands. CICSTART is such an exec because it resides in the CICEXEC DD name concatenation. The member, CICSTART in the supplied data set CICSTS13.REXX.SCICEXEC then should be modified to contain an AUTHUSER statement to identify at least one userid which should be an authorized user. You could also call another exec of your choosing, within the CICEXEC concatenation, which could contain the userids of those users who should be authorized users.

8.7 Other considerations

The member, CICSTART in data set CICSTS13.REXX.SCICEXEC, contains default definitions for the REXX Development System. It is executed when the first user who executes a transaction that uses the CICREXD program after the CICS system has been started. This exec should be updated with any changes in customization if those changes are required to be effective across CICS executions.

The REXX Development System provides the capability to execute execs in either pseudo-conversational or conversational mode. The system default for conversational mode is specified with the SETSYS PSEUDO statement in the member, CICSTART in the data set CICSTS13.REXX.SCICEXEC. The default supplied provides for pseudo-conversational to be used. CICSTART must run in conversational mode because the system has not yet been initialized enough to ensure correct operation.

The CICSTART member also contains EXECLOAD commands which are commented as shipped. EXECLOADing execs will reduce the amount of storage used by the REXX Development System because users will then share the same exec. Also performance may be increased because these execs will not have to be loaded into CICS memory each time they are executed. EXECLOADed execs are used before any other execs. Therefore, if you EXECLOAD an exec `"TEST.EXEC"` and you have an exec in your RFS current directory by the same name, you will not be able to execute your RFS copy. Care should then be used both in the naming of your execs and EXECLOADing them. The authorization associated with the special DD names is maintained when execs are EXECLOADed from those DD name concatenations.

8.8 Online HELP facility

An online HELP facility is provided which may be used as an example of the REXX/CICS panel facility. It provides the means to search and display the LIST3270 manual which is supplied with the product. There are several steps which must be done in order to activate the online help.

Note: If PTF maintenance has been applied that affects datasets for the procedure outlined below, then you should use the target library; otherwise, the distribution library should be used.

First, modify member CICSTART in the data set CICSTS13.REXX.SCICEXEC to reflect the correct RFS filepool and path where the online help files should be placed. The default supplied is "POOL2:\BOOK".

Next copy the supplied data set CICSTS13.REXX.SCICDOC to a data set whose highest level data set qualifier matches the userid of the user who will be executing the CICHPREP exec. The reason for this is the supplied security exit for the REXX/CICS IMPORT and EXPORT commands checks the highest level qualifier and it must match the userid for the user who issues the IMPORT command.

Next copy the supplied data set CICSTS13.REXX.SCICPNL to a data set whose highest level data set qualifier matches the userid of the user who will be executing the CICHPREP exec. This data set contains the panel definitions which are used by the online help. They must be IMPORTed into the RFS filepool and path defined for the online help.

Next sign onto REXX/CICS using the REXX transaction id. If you have changed the default transactions, this is the transaction id associated with the CICRXTRY exec. Issue the command, 'EXEC CICHPREP'. Follow the instructions issued by the exec. This exec will read the LIST3270 format of the manual from the dataset you name, into RFS directory specified in CICSTART. It also splits the manual into multiple files for usage by the online help. Additionally, the panels used by the online help are IMPORTed into the RFS system.

The online HELP facility is now ready for usage.

There are several ways the user may access the online HELP.

Enter 'HELP' on the command line from the interactive environment and a table of contents will be displayed. You also may enter this command from the command line of the REXX/CICS editor or the REXX/CICS filelist facilities.

Entering 'HELP xxxxx' searches the INDEX of the manual for the xxxxx entry. If found you will be taken directly to that section of the manual.

There also is a HELP key defined for the editor and the filelist facility. It is defined in the customizing macros for the editor and the filelist facilities. The supplied default for this key is PF1. You may choose to modify the supplied default by modifying these profiles.

Appendix A. CICS Transaction Server install logic

Figure 27 shows the SMP/E install logic for CICS TS (HCI5300).

```
++FUNCTION (HCI5300) REWORK(1999067) FILES(21)
          RFDSNPFX(IBM) DESCRIPTION(CICS TS 1.3 BASE)
/*
CICS element of CICS Transaction Server for OS/390, 1.3

    Licensed Materials - Property of IBM

    "Restricted Materials of IBM"

    5655-147

    (C) Copyright IBM Corp. 1974, 1999 All rights reserved.

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

++VER (C150)
SUP(
HCI1500,HCI1601,HCI1602,HCI1612,HCI1613,HCI1702,HCI1703,
HCI2103,HCI2113,HCI2212,HCI2312,HCI2320,HCI3321,HCI3330,
JCI3326,JCI3328,JCI3329,JCI3331,JCI3335,JCI3338,HCI4100,
JCI4105,JCI4108,JCI410A,JCI510A,JCI510B,JCI510C,HCI5100,
HCI5200,JCI4104,JCI5104,JCI5204,JCI4109,JCI5109,JCI5209,
JCI4107,JCI5107,JCI5207
)
DELETE(
HCI1500,HCI1601,HCI1602,HCI1612,HCI1613,HCI1702,HCI1703,
HCI2103,HCI2113,HCI2212,HCI2312,HCI2320,HCI3321,HCI3330,
JCI3326,JCI3328,JCI3329,JCI3331,JCI3335,JCI3338,HCI4100,
JCI4105,JCI4108,JCI410A,JCI510A,JCI510B,JCI510C,HCI5100,
HCI5200,JCI4104,JCI5104,JCI5204,JCI4109,JCI5109,JCI5209,
JCI4107,JCI5107,JCI5207
)
.
++JCLIN RELFILE(1) ASM(PGM=ASMA90) LKED(PGM=IEWL) CALLLIBS .
```

Figure 27 (Part 1 of 10). System Modification Program install logic for CICS TS

```

++FUNCTION (JCI5301) REWORK(1999067) FILES(1)
      RFDSNPFX(IBM) DESCRIPTION(CICS TS 1.3 COBOL FEATURE)
/* 'COBOL' feature of the
   CICS element of CICS Transaction Server for OS/390, 1.3

   Licensed Materials - Property of IBM
   "Restricted Materials of IBM"

   5655-147

   (C) Copyright IBM Corp. 1974, 1999 All rights reserved.

   US Government Users Restricted Rights - Use, duplication
   or disclosure restricted by GSA ADP Schedule Contract
   with IBM Corp.
*/ .
++VER (C150)
      FMID(HCI5300)
      SUP(
        JCI4101,
        JCI5101,
        JCI5201
      )
      DELETE(
        JCI4101,
        JCI5101,
        JCI5201
      )
.

```

Figure 27 (Part 2 of 10). System Modification Program install logic for CICS TS

```

++FUNCTION (JCI5302) REWORK(1999067) FILES(1)
      RFDSNPFX(IBM) DESCRIPTION(CICS TS 1.3 PL/1 FEATURE)
/* 'PL/1' feature of the
   CICS element of CICS Transaction Server for OS/390, 1.3

   Licensed Materials - Property of IBM
   "Restricted Materials of IBM"

   5655-147

   (C) Copyright IBM Corp. 1974, 1999 All rights reserved.

   US Government Users Restricted Rights - Use, duplication
   or disclosure restricted by GSA ADP Schedule Contract
   with IBM Corp.
*/ .
++VER (C150)
      FMID(HCI5300)
      SUP(
        JCI4102,
        JCI5102,
        JCI5202
      )
      DELETE(
        JCI4102,
        JCI5102,
        JCI5202
      )
      .

```

Figure 27 (Part 3 of 10). System Modification Program install logic for CICS TS

```

++FUNCTION (JCI5303) REWORK(1999067) FILES(1)
      RFDSNPFX(IBM) DESCRIPTION(CICS TS 1.3 C FEATURE)
/*
'C' feature of the
  CICS element of CICS Transaction Server for OS/390, 1.3
  Licensed Materials - Property of IBM
  "Restricted Materials of IBM"
  5655-147
  (C) Copyright IBM Corp. 1974, 1999 All rights reserved.
  US Government Users Restricted Rights - Use, duplication
  or disclosure restricted by GSA ADP Schedule Contract
  with IBM Corp.
*/ .
++VER (C150)
  FMID(HCI5300)
  SUP(
    JCI4103,
    JCI5103,
    JCI5203
  )
  DELETE(
    JCI4103,
    JCI5103,
    JCI5203
  )
.

++FUNCTION (JCI530D) REWORK(1999067) FILES(18)
      RFDSNPFX(IBM) DESCRIPTION(CICS TS 1.3 JAVA HPJ VERSION 2)
/*
'JAVA' Compiler V2 feature of the
  CICS element of CICS Transaction Server for OS/390, 1.3
  Licensed Materials - Property of IBM
  "Restricted Materials of IBM"
  5655-147
  (C) Copyright IBM Corp. 1998, 1999 All rights reserved.
  US Government Users Restricted Rights - Use, duplication
  or disclosure restricted by GSA ADP Schedule Contract
  with IBM Corp.
*/ .
++VER (C150)
  FMID(HCI5300)
.
++JCLIN RELFILE(1) ASM(PGM=ASMA90) LKED(PGM=IEWL) CALLLIBS .

```

Figure 27 (Part 4 of 10). System Modification Program install logic for CICS TS

```

++FUNCTION (JCI530E) REWORK(1999067) FILES(3)
  RFDSNPFX(IBM) DESCRIPTION(CICS TS 1.3 JAVA HPJ VERSION 1)
  /* 'JAVA' Compiler V1 feature of the
    CICS element of CICS Transaction Server for OS/390, 1.3

    Licensed Materials - Property of IBM
    "Restricted Materials of IBM"

    5655-147

    (C) Copyright IBM Corp. 1998, 1999 All rights reserved.

    US Government Users Restricted Rights - Use, duplication
    or disclosure restricted by GSA ADP Schedule Contract
    with IBM Corp.
  */ .
++VER (C150)
  FMID(HCI5300) REQ(JCI530D)
  .
++JCLIN RELFILE(1) ASM(PGM=ASMA90) LKED(PGM=IEWL) CALLLIBS .

++FUNCTION (HLR2140) REWORK(1999067) FILES(19)
  RFDSNPFX(IBM) DESCRIPTION(CICSplex SM 1.4 BASE / RMAS)
  /* CPSM element of CICS Transaction Server for OS/390, 1.3

    Licensed Materials - Property of IBM
    "Restricted Materials of IBM"

    5655-147

    (C) Copyright IBM Corp. 1995, 1999 All rights reserved.

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

```

Figure 27 (Part 5 of 10). System Modification Program install logic for CICS TS

```
++VER (C150)
  REQ(JLR2142)
  SUP(
    JLR2111,
    JLR2121,
    JLR2131,
    HLR2110,
    HLR2120,
    HLR2130
  )
  DELETE(
    JLR2111,
    JLR2121,
    JLR2131,
    HLR2110,
    HLR2120,
    HLR2130
  )
.
++JCLIN RELFILE(1) ASM(PGM=ASMA90) LKED(PGM=IEWL) .
```

Figure 27 (Part 6 of 10). System Modification Program install logic for CICS TS

```

++FUNCTION (JLR2142) REWORK(1999067) FILES(2)
      RFDSNPF(IBM) DESCRIPTION(CICSplex SM 1.4 SAS C)
/*
'SASC' feature of the
CPSM element of CICS Transaction Server for OS/390, 1.3

Licensed Materials - Property of IBM

"Restricted Materials of IBM"

5655-147

(C) Copyright IBM Corp. 1995, 1999 All rights reserved.

US Government Users Restricted Rights - Use, duplication
or disclosure restricted by GSA ADP Schedule Contract
with IBM Corp.
*/ .
++VER (C150)
      FMID(HLR2140)
      SUP(
        JLR2112,
        JLR2122,
        JLR2132
      )
      DELETE(
        JLR2112,
        JLR2122,
        JLR2132
      )
      .
++JCLIN RELFILE(1) ASM(PGM=ASMA90) LKED(PGM=IEWL) .

++FUNCTION(HBDD110 ) REWORK(1996211 )
      RFDSNPF(IBM ) FILES(3)
/*
CICS/ESA Application Migration Aid MVS/ESA
Licensed Materials - Property of IBM
5695-061
(C) Copyright IBM Corp. 1974, 1990 All rights reserved.
US Government Users Restricted Rights - Use, duplication
or disclosure restricted by GSA ADP Schedule Contract
with IBM Corp.
*/ .

```

Figure 27 (Part 7 of 10). System Modification Program install logic for CICS TS


```

++VER(C150 ) SUP(AL76633 AL76638 AN01407 AN05502 AN05943
                AN07726 AN11222 AN17739 AN43640 UL91436
                UL91461 UN02235 UN06439 UN08210 UN09482
                UN16165 UN18752 UN47832 ) .
++JCLIN          LKED( PGM=IEWL ) RELFILE(1) .

++FUNCTION(HCC1102 ) REWORK(1996211 )
                RFDSNPFX(IBM ) FILES(3)
/*      CICS/ESA Distributed Data Management
Licensed Materials - Property of IBM
5665-463
(C) Copyright IBM Corp. 1987 All rights reserved.
US Government Users Restricted Rights - Use, duplication
or disclosure restricted by GSA ADP Schedule Contract
with IBM Corp.
*/
.
++VER(C150 ) SUP(
AL08978 AL14487 AL15725 AL20842 AL21453
                AL22072 AL22101 AL22102 AL22104 AL22107
                AL22112 AL22114 AL23406 AL28058 AL30885
                AL61130 AN02334 AN13719 AN22744 AN31032
                UL09727 UL16120 UL17872 UL23513 UL25055
                UL25096 UL25308 UL25725 UL25765 UL25783
                UL25784 UL26722 UL32563 UL35806 UL72216
                UL90124 UN15390 UN15535 UN26265 UN47103
                ) .
++JCLIN          RELFILE(1) .

++FUNCTION(H0B5110 ) FESN(0500671 ) REWORK(1998273 )
                RFDSNPFX(IBM ) FILES(3)
/*      LICENSED MATERIALS-PROPERTY OF IBM
5655-087 (C) COPYRIGHT IBM CORP 1994
ALL RIGHTS RESERVED.
US GOVERNMENT USERS RESTRICTED RIGHTS -
USE, DUPLICATION OR DISCLOSURE RESTRICTED
BY GSA ADP SCHEDULE CONTRACT WITH IBM CORP.
*/
.
++VER(C150 ) REQ(H0Z2110 UW09406 UW13408 UW40689 UW41749 )
                SUP(AW06658 AW10007 AW28584 AW29418 AW29822
                AW30673 UW09408 UW13463 UW40709 UW41922
                UW42476 UW44359 ) .
++JCLIN          CALLLIBS RELFILE(1) .

```

Figure 27 (Part 8 of 10). System Modification Program install logic for CICS TS

```

++FUNCTION(H0Z2110 ) FESN(0501347 ) REWORK(1998273 )
                                RFDSNPFX(IBM      ) FILES(6)

/*
LICENSED MATERIALS-PROPERTY OF IBM
5655-086 (C) COPYRIGHT IBM CORP 1994
5655-087 (C) COPYRIGHT IBM CORP 1994
ALL RIGHTS RESERVED.
US GOVERNMENT USERS RESTRICTED RIGHTS -
USE, DUPLICATION OR DISCLOSURE RESTRICTED
BY GSA ADP SCHEDULE CONTRACT WITH IBM CORP.
*/
.
++VER(C150      ) SUP(AW06629 AW07307 AW08444 AW08619 AW08748
AW09283 AW11976 AW12385 AW13406 AW14594
AW15409 AW16342 AW17540 AW17846 AW18105
AW18315 AW19137 AW19302 AW20020 AW20371
AW20460 AW21197 AW23362 AW23967 AW24588
AW25528 AW28533 AW29407 AW29413 AW29824
AW30899 AW31003 AW33149 AW33552 AW35276
BW08748 CW08748 UW09406 UW10853 UW11323
UW12090 UW13199 UW13408 UW16444 UW16684
UW18841 UW20718 UW21838 UW22732 UW24711
UW24957 UW25574 UW26659 UW27677 UW27924
UW28730 UW28731 UW30739 UW32659 UW33740
UW34392 UW37751 UW40689 UW41749 UW42478
UW42612 UW44475 UW45077 UW49256 UW49692
UW52422 ) .

++IF FMID(H0B5110 )
    REQ(UW09408 UW13463 UW40709 UW41922 UW44359 ) .
++IF FMID(H0B7110 )
    REQ(UW09407 UW13464 UW21837 UW40708 UW41779 UW44474 ) .
++JCLIN
    CALLLIBS RELFILE(1) .

```

Figure 27 (Part 9 of 10). System Modification Program install logic for CICS TS

```

++FUNCTION(H0B7110 ) FESN(0500668 ) REWORK(1998273 )
                                RFDSNPFX(IBM ) FILES(4)
/*
LICENSED MATERIALS-PROPERTY OF IBM
5655-086 (C) COPYRIGHT IBM CORP 1994
ALL RIGHTS RESERVED.
US GOVERNMENT USERS RESTRICTED RIGHTS -
USE, DUPLICATION OR DISCLOSURE RESTRICTED
BY GSA ADP SCHEDULE CONTRACT WITH IBM CORP.
*/
.
++VER(C150 ) REQ(H0Z2110 UW09406 UW13408 UW21838 UW40689
                UW41749 )
                SUP(AW06630 AW07306 AW10006 AW15402 AW20376
                AW28583 AW29402 AW29823 AW30749 UW09407
                UW10852 UW13464 UW21837 UW28941 UW40708
                UW41779 UW42477 UW44474 ) .
++JCLIN                CALLLIBS RELFILE(1) .

++FUNCTION(H0AL200) FESN(0505967) REWORK(1999032) FILES(2)
RFDSNPFX(IBM) /* DATE=02/01/99 TIME=15.44.52 */
/*****/
/* 5697-GEM (C) COPYRIGHT TIVOLI SYSTEMS 1998, 1999 */
/* ALL RIGHTS RESERVED. */
/* US GOVERNMENT USERS RESTRICTED RIGHTS - USE, */
/* DUPLICATION OR DISCLOSURE RESTRICTED BY */
/* GSA ADP SCHEDULE CONTRACT WITH IBM CORPORATION. */
/* LICENSED MATERIALS - PROPERTY OF TIVOLI SYSTEMS */
/*****/
.
++VER(C150)
DELETE(H07N100)
SUP(H07N100)
.

```

Figure 27 (Part 10 of 10). System Modification Program install logic for CICS TS

Appendix B. APAR fixes incorporated in CICS TS

This appendix lists the APAR fixes against CICS TS 1.2, CICS TS 1.1, CICS/ESA 4.1, CICSplex/SM, CICS Distributed Data Management, CICS Application Migration Aid, REXX/Development and REXX/Runtime that have been incorporated into this release.

PN80337	PN80996	PN81562	PN81876
PN80338	PN81051	PN81563	PN81877
PN80415	PN81174	PN81564	PN81878
PN80416	PN81294	PN81565	PN81879
PN80417	PN81295	PN81566	PN81880
PN80419	PN81296	PN81567	PN81956
PN80420	PN81297	PN81568	PN81959
PN80587	PN81298	PN81569	PN81960
PN80588	PN81299	PN81570	PN81961
PN80589	PN81300	PN81571	PN81962
PN80820	PN81301	PN81572	PN81963
PN80821	PN81303	PN81573	PN81964
PN80822	PN81304	PN81574	PN81965
PN80823	PN81305	PN81575	PN81967
PN80824	PN81307	PN81576	PN81968
PN80972	PN81308	PN81577	PN81969
PN80973	PN81309	PN81578	PN81971
PN80974	PN81310	PN81852	PN81972
PN80975	PN81313	PN81853	PN81973
PN80976	PN81314	PN81854	PN81974
PN80977	PN81315	PN81855	PN81975
PN80979	PN81316	PN81856	PN81976
PN80980	PN81317	PN81857	PN81977
PN80981	PN81318	PN81858	PN81978
PN80982	PN81319	PN81859	PN81979
PN80983	PN81320	PN81860	PN81980
PN80984	PN81321	PN81861	PN81981
PN80985	PN81322	PN81862	PN81982
PN80986	PN81323	PN81863	PN82039
PN80987	PN81324	PN81864	PN82040
PN80988	PN81325	PN81865	PN82041
PN80989	PN81554	PN81866	PN82045
PN80990	PN81556	PN81867	PN82048
PN80991	PN81557	PN81868	PN82049
PN80992	PN81558	PN81869	PN82050
PN80993	PN81559	PN81870	PN82051
PN80994	PN81560	PN81871	PN82052
PN80995	PN81561	PN81873	PN82054

PN82057	PN82122	PN82701	PN83234
PN82071	PN82123	PN82703	PN83235
PN82072	PN82124	PN82704	PN83236
PN82073	PN82125	PN82705	PN83237
PN82074	PN82126	PN82706	PN83238
PN82075	PN82127	PN82707	PN83239
PN82076	PN82128	PN82708	PN83240
PN82077	PN82129	PN82709	PN83241
PN82078	PN82130	PN82710	PN83242
PN82080	PN82133	PN82711	PN83244
PN82081	PN82296	PN82712	PN83245
PN82082	PN82396	PN82713	PN83246
PN82083	PN82398	PN82714	PN83247
PN82084	PN82399	PN82716	PN83248
PN82085	PN82470	PN82717	PN83249
PN82086	PN82476	PN82718	PN83250
PN82087	PN82478	PN82719	PN83251
PN82088	PN82479	PN82720	PN83260
PN82089	PN82480	PN82721	PN83261
PN82090	PN82481	PN82722	PN83262
PN82091	PN82482	PN82723	PN83264
PN82092	PN82483	PN82724	PN83267
PN82094	PN82484	PN82725	PN83269
PN82096	PN82485	PN82726	PN83271
PN82097	PN82486	PN82727	PN83272
PN82098	PN82487	PN82728	PN83274
PN82100	PN82490	PN82729	PN83277
PN82101	PN82491	PN82731	PN83279
PN82102	PN82492	PN82784	PN83280
PN82103	PN82493	PN82814	PN83281
PN82105	PN82494	PN82816	PN83282
PN82106	PN82495	PN82822	PN83283
PN82107	PN82496	PN82826	PN83284
PN82108	PN82497	PN82828	PN83285
PN82109	PN82499	PN82857	PN83286
PN82110	PN82501	PN82875	PN83288
PN82111	PN82502	PN82900	PN83289
PN82112	PN82503	PN82937	PN83290
PN82114	PN82504	PN82987	PN83291
PN82116	PN82505	PN82993	PN83292
PN82117	PN82506	PN83143	PN83293
PN82118	PN82507	PN83152	PN83319
PN82119	PN82578	PN83231	PN83327
PN82120	PN82640	PN83232	PN83333
PN82121	PN82700	PN83233	PN83403
			PN83456

PN83548	PN84063	PN84986	PN85771
PN83634	PN84166	PN84987	PN85773
PN83651	PN84230	PN84988	PN85774
PN83688	PN84355	PN84989	PN85776
PN83689	PN84394	PN84990	PN85777
PN83732	PN84449	PN84991	PN85778
PN83733	PN84450	PN84992	PN85779
PN83734	PN84451	PN84993	PN85780
PN83735	PN84452	PN84994	PN85781
PN83736	PN84453	PN84995	PN85782
PN83737	PN84454	PN84996	PN85783
PN83738	PN84455	PN84997	PN85784
PN83739	PN84457	PN84998	PN85785
PN83740	PN84460	PN84999	PN85786
PN83741	PN84464	PN85000	PN85787
PN83742	PN84465	PN85001	PN85788
PN83743	PN84467	PN85002	PN85790
PN83744	PN84468	PN85003	PN85791
PN83746	PN84472	PN85004	PN85792
PN83747	PN84473	PN85005	PN85793
PN83748	PN84474	PN85006	PN85796
PN83749	PN84476	PN85011	PN85797
PN83750	PN84477	PN85041	PN85798
PN83751	PN84478	PN85085	PN85799
PN83752	PN84479	PN85099	PN85801
PN83753	PN84480	PN85125	PN85802
PN83754	PN84482	PN85174	PN85803
PN83755	PN84483	PN85244	PN85804
PN83756	PN84484	PN85286	PN85807
PN83758	PN84485	PN85353	PN85808
PN83759	PN84512	PN85362	PN85809
PN83760	PN84518	PN85364	PN85811
PN83761	PN84596	PN85407	PN85812
PN83762	PN84648	PN85451	PN85843
PN83763	PN84649	PN85457	PN85896
PN83780	PN84651	PN85460	PN85940
PN83794	PN84652	PN85462	PN86011
PN83919	PN84656	PN85464	PN86113
PN84039	PN84684	PN85467	PN86115
PN84041	PN84755	PN85582	PN86168
PN84042	PN84858	PN85621	PN86242
PN84044	PN84884	PN85627	PN86243
PN84051	PN84983	PN85767	PN86244
PN84052	PN84984	PN85768	PN86245
PN84057	PN84985	PN85770	PN86246
			PN86247

PN86249	PN87108	PN88071	PN89498
PN86250	PN87121	PN88087	PN89501
PN86251	PN87229	PN88091	PN89576
PN86252	PN87230	PN88137	PN89595
PN86253	PN87290	PN88141	PN89623
PN86254	PN87291	PN88151	PN89632
PN86255	PN87292	PN88190	PN89676
PN86256	PN87293	PN88191	PN89681
PN86258	PN87294	PN88281	PN89793
PN86259	PN87295	PN88282	PN89794
PN86260	PN87296	PN88321	PN89798
PN86261	PN87298	PN88322	PN89860
PN86262	PN87299	PN88325	PN89907
PN86263	PN87300	PN88367	PN89981
PN86264	PN87301	PN88383	PN89984
PN86265	PN87302	PN88413	PN90034
PN86267	PN87303	PN88414	PN90077
PN86319	PN87304	PN88415	PN90078
PN86356	PN87305	PN88425	PN90083
PN86358	PN87365	PN88456	PN90089
PN86395	PN87385	PN88559	PN90210
PN86459	PN87387	PN88571	PN90373
PN86490	PN87395	PN88612	PN90400
PN86514	PN87436	PN88628	PN90401
PN86521	PN87444	PN88653	PN90402
PN86573	PN87664	PN88654	PN90430
PN86575	PN87712	PN88655	PN90456
PN86608	PN87753	PN88801	PN90466
PN86694	PN87762	PN88811	PN90501
PN86699	PN87899	PN88872	PN90502
PN86779	PN87900	PN88979	PN90503
PN86780	PN87902	PN89033	PN90530
PN86781	PN87932	PN89129	PN90588
PN86782	PN87980	PN89188	PN90644
PN86783	PN87981	PN89199	PN90649
PN86784	PN87982	PN89241	PN90654
PN86785	PN87983	PN89290	PN90716
PN86786	PN87985	PN89293	PN90719
PN86787	PN87987	PN89340	PN90738
PN86795	PN87988	PN89354	PN90739
PN86807	PN87989	PN89373	PN90740
PN86843	PN87990	PN89428	PN90741
PN86910	PN87991	PN89436	PN90742
PN86922	PN87992	PN89472	PN90743
PN87102	PN88037	PN89485	PN90744
			PN90779

PN90788	PN92350	PQ01035	PQ02310
PN90822	PN92374	PQ01065	PQ02323
PN90835	PN92419	PQ01068	PQ02337
PN90836	PN92423	PQ01074	PQ02438
PN90838	PN92473	PQ01082	PQ02447
PN90886	PN92479	PQ01091	PQ02518
PN90984	PN92513	PQ01138	PQ02596
PN91082	PN92579	PQ01179	PQ02633
PN91104	PN92610	PQ01180	PQ02733
PN91114	PN92614	PQ01189	PQ02748
PN91143	PN92675	PQ01191	PQ02763
PN91183	PN92701	PQ01227	PQ02832
PN91233	PN92742	PQ01231	PQ02833
PN91238	PN92821	PQ01232	PQ02891
PN91240	PN92875	PQ01234	PQ02922
PN91251	PN92876	PQ01336	PQ02975
PN91333	PN92887	PQ01378	PQ03072
PN91340	PQ00039	PQ01386	PQ03075
PN91371	PQ00060	PQ01388	PQ03149
PN91430	PQ00067	PQ01420	PQ03158
PN91512	PQ00068	PQ01454	PQ03158
PN91528	PQ00162	PQ01457	PQ03177
PN91550	PQ00192	PQ01505	PQ03178
PN91561	PQ00251	PQ01571	PQ03188
PN91575	PQ00271	PQ01615	PQ03249
PN91594	PQ00299	PQ01723	PQ03313
PN91631	PQ00342	PQ01747	PQ03331
PN91635	PQ00351	PQ01794	PQ03351
PN91668	PQ00408	PQ01827	PQ03359
PN91670	PQ00410	PQ01829	PQ03402
PN91723	PQ00465	PQ01868	PQ03492
PN91821	PQ00480	PQ01878	PQ03494
PN91900	PQ00483	PQ01927	PQ03496
PN91968	PQ00576	PQ01943	PQ03540
PN91984	PQ00577	PQ01991	PQ03547
PN92101	PQ00584	PQ02036	PQ03584
PN92137	PQ00635	PQ02068	PQ03586
PN92144	PQ00665	PQ02131	PQ03718
PN92153	PQ00729	PQ02132	PQ03804
PN92167	PQ00826	PQ02134	PQ03896
PN92211	PQ00860	PQ02140	PQ03898
PN92220	PQ00871	PQ02227	PQ03906
PN92270	PQ00872	PQ02231	PQ03926
PN92322	PQ01021	PQ02268	PQ03957
PN92326	PQ01031	PQ02272	PQ03961
			PQ04010

PQ04066	PQ05934	PQ07885	PQ09183
PQ04098	PQ05936	PQ08160	PQ09183
PQ04099	PQ06008	PQ08160	PQ09184
PQ04173	PQ06154	PQ08206	PQ09184
PQ04247	PQ06161	PQ08206	PQ09185
PQ04248	PQ06190	PQ08476	PQ09185
PQ04294	PQ06218	PQ08476	PQ09186
PQ04296	PQ06241	PQ08537	PQ09186
PQ04316	PQ06245	PQ08537	PQ09187
PQ04320	PQ06254	PQ08595	PQ09187
PQ04334	PQ06258	PQ08595	PQ09188
PQ04338	PQ06339	PQ08730	PQ09188
PQ04360	PQ06358	PQ08730	PQ09189
PQ04365	PQ06413	PQ08749	PQ09189
PQ04367	PQ06475	PQ08749	PQ09190
PQ04372	PQ06477	PQ09027	PQ09190
PQ04406	PQ06519	PQ09027	PQ09191
PQ04543	PQ06689	PQ09028	PQ09191
PQ04548	PQ06726	PQ09028	PQ09192
PQ04575	PQ06756	PQ09051	PQ09192
PQ04628	PQ06805	PQ09051	PQ09194
PQ04639	PQ06836	PQ09068	PQ09194
PQ04698	PQ06843	PQ09068	PQ09235
PQ04787	PQ06883	PQ09080	PQ09235
PQ04870	PQ06905	PQ09080	PQ09258
PQ04970	PQ06905	PQ09103	PQ09258
PQ04997	PQ06931	PQ09103	PQ09293
PQ04998	PQ06931	PQ09121	PQ09293
PQ05081	PQ06941	PQ09121	PQ09306
PQ05099	PQ07045	PQ09124	PQ09306
PQ05169	PQ07077	PQ09124	PQ09330
PQ05170	PQ07148	PQ09138	PQ09330
PQ05181	PQ07208	PQ09138	PQ09335
PQ05354	PQ07215	PQ09140	PQ09335
PQ05364	PQ07230	PQ09140	PQ09336
PQ05513	PQ07392	PQ09150	PQ09336
PQ05516	PQ07514	PQ09150	PQ09337
PQ05526	PQ07672	PQ09176	PQ09337
PQ05533	PQ07672	PQ09176	PQ09338
PQ05568	PQ07730	PQ09177	PQ09338
PQ05588	PQ07774	PQ09177	PQ09339
PQ05744	PQ07774	PQ09178	PQ09339
PQ05754	PQ07884	PQ09178	PQ09340
PQ05829	PQ07884	PQ09181	PQ09340
PQ05872	PQ07885	PQ09181	PQ09341
			PQ09341

PQ09342	PQ09623	PQ09958	PQ10236
PQ09342	PQ09625	PQ09958	PQ10237
PQ09344	PQ09625	PQ09959	PQ10237
PQ09344	PQ09662	PQ09959	PQ10261
PQ09347	PQ09662	PQ09960	PQ10261
PQ09347	PQ09663	PQ09960	PQ10286
PQ09348	PQ09663	PQ09968	PQ10286
PQ09348	PQ09664	PQ09968	PQ10293
PQ09351	PQ09664	PQ09969	PQ10293
PQ09351	PQ09665	PQ09969	PQ10365
PQ09469	PQ09665	PQ09971	PQ10365
PQ09469	PQ09667	PQ09971	PQ10373
PQ09477	PQ09667	PQ09995	PQ10373
PQ09477	PQ09668	PQ09995	PQ10481
PQ09506	PQ09668	PQ10000	PQ10481
PQ09506	PQ09679	PQ10000	PQ10518
PQ09552	PQ09679	PQ10054	PQ10518
PQ09552	PQ09680	PQ10054	PQ10564
PQ09553	PQ09680	PQ10061	PQ10564
PQ09553	PQ09725	PQ10061	PQ10570
PQ09554	PQ09725	PQ10115	PQ10570
PQ09554	PQ09813	PQ10115	PQ10578
PQ09557	PQ09813	PQ10149	PQ10578
PQ09557	PQ09850	PQ10149	PQ10580
PQ09558	PQ09850	PQ10150	PQ10580
PQ09558	PQ09930	PQ10150	PQ10581
PQ09560	PQ09930	PQ10151	PQ10581
PQ09560	PQ09949	PQ10151	PQ10582
PQ09561	PQ09949	PQ10152	PQ10582
PQ09561	PQ09950	PQ10152	PQ10583
PQ09562	PQ09950	PQ10153	PQ10583
PQ09562	PQ09951	PQ10153	PQ10584
PQ09568	PQ09951	PQ10154	PQ10584
PQ09568	PQ09952	PQ10154	PQ10717
PQ09611	PQ09952	PQ10155	PQ10717
PQ09611	PQ09953	PQ10155	PQ10722
PQ09612	PQ09953	PQ10156	PQ10722
PQ09612	PQ09954	PQ10156	PQ10885
PQ09613	PQ09954	PQ10157	PQ10885
PQ09613	PQ09955	PQ10157	PQ10889
PQ09615	PQ09955	PQ10160	PQ10889
PQ09615	PQ09956	PQ10160	PQ10930
PQ09620	PQ09956	PQ10229	PQ10930
PQ09620	PQ09957	PQ10229	PQ10933
PQ09623	PQ09957	PQ10236	PQ10933
			PQ10960

PQ10960	PQ11762	PQ12327	PQ12787
PQ10962	PQ11762	PQ12334	PQ12787
PQ10962	PQ11766	PQ12334	PQ12871
PQ10994	PQ11766	PQ12340	PQ12871
PQ10994	PQ11811	PQ12340	PQ12891
PQ11000	PQ11811	PQ12378	PQ12891
PQ11000	PQ11845	PQ12378	PQ12898
PQ11016	PQ11845	PQ12386	PQ12898
PQ11016	PQ11862	PQ12386	PQ12927
PQ11032	PQ11862	PQ12417	PQ12927
PQ11032	PQ11866	PQ12417	PQ12949
PQ11080	PQ11866	PQ12448	PQ12949
PQ11080	PQ11928	PQ12448	PQ12982
PQ11166	PQ11928	PQ12448	PQ12982
PQ11166	PQ11974	PQ12448	PQ12985
PQ11189	PQ11974	PQ12471	PQ12985
PQ11189	PQ11979	PQ12471	PQ13011
PQ11259	PQ11979	PQ12501	PQ13011
PQ11259	PQ12015	PQ12501	PQ13012
PQ11262	PQ12015	PQ12549	PQ13012
PQ11262	PQ12018	PQ12549	PQ13053
PQ11263	PQ12018	PQ12563	PQ13053
PQ11263	PQ12070	PQ12563	PQ13100
PQ11280	PQ12070	PQ12579	PQ13100
PQ11280	PQ12077	PQ12579	PQ13125
PQ11350	PQ12077	PQ12579	PQ13125
PQ11350	PQ12101	PQ12579	PQ13131
PQ11361	PQ12101	PQ12616	PQ13131
PQ11361	PQ12118	PQ12616	PQ13136
PQ11377	PQ12118	PQ12641	PQ13136
PQ11377	PQ12119	PQ12641	PQ13141
PQ11443	PQ12119	PQ12651	PQ13141
PQ11443	PQ12121	PQ12651	PQ13148
PQ11536	PQ12121	PQ12651	PQ13148
PQ11536	PQ12151	PQ12651	PQ13159
PQ11543	PQ12151	PQ12666	PQ13159
PQ11543	PQ12154	PQ12666	PQ13192
PQ11620	PQ12154	PQ12706	PQ13192
PQ11620	PQ12168	PQ12706	PQ13226
PQ11663	PQ12168	PQ12754	PQ13226
PQ11663	PQ12232	PQ12754	PQ13270
PQ11718	PQ12232	PQ12757	PQ13270
PQ11718	PQ12322	PQ12757	PQ13271
PQ11748	PQ12322	PQ12770	PQ13271
PQ11748	PQ12327	PQ12770	PQ13275
			PQ13275

PQ13285	PQ14168	PQ14753	PQ15412
PQ13285	PQ14245	PQ14753	PQ15544
PQ13317	PQ14245	PQ14771	PQ15544
PQ13317	PQ14248	PQ14771	PQ15588
PQ13345	PQ14248	PQ14796	PQ15588
PQ13345	PQ14275	PQ14796	PQ15606
PQ13363	PQ14275	PQ14846	PQ15606
PQ13363	PQ14276	PQ14846	PQ15739
PQ13364	PQ14276	PQ14848	PQ15739
PQ13364	PQ14277	PQ14848	PQ15741
PQ13435	PQ14277	PQ14860	PQ15741
PQ13435	PQ14310	PQ14860	PQ15747
PQ13465	PQ14310	PQ14877	PQ15747
PQ13465	PQ14335	PQ14877	PQ15762
PQ13492	PQ14335	PQ14907	PQ15762
PQ13492	PQ14337	PQ14907	PQ15774
PQ13514	PQ14337	PQ14914	PQ15774
PQ13514	PQ14354	PQ14914	PQ15775
PQ13555	PQ14354	PQ14921	PQ15775
PQ13555	PQ14421	PQ14921	PQ15798
PQ13556	PQ14421	PQ14922	PQ15798
PQ13556	PQ14432	PQ14922	PQ15841
PQ13600	PQ14432	PQ14945	PQ15841
PQ13600	PQ14442	PQ14945	PQ15845
PQ13608	PQ14442	PQ14978	PQ15845
PQ13608	PQ14479	PQ14978	PQ15878
PQ13640	PQ14479	PQ15043	PQ15878
PQ13640	PQ14491	PQ15043	PQ15888
PQ13647	PQ14491	PQ15044	PQ15888
PQ13647	PQ14545	PQ15044	PQ15909
PQ13695	PQ14545	PQ15046	PQ15909
PQ13695	PQ14553	PQ15046	PQ15937
PQ13792	PQ14553	PQ15076	PQ15937
PQ13792	PQ14583	PQ15076	PQ15971
PQ13877	PQ14583	PQ15158	PQ15971
PQ13877	PQ14626	PQ15158	PQ16006
PQ13949	PQ14626	PQ15164	PQ16006
PQ13949	PQ14627	PQ15164	PQ16007
PQ13956	PQ14627	PQ15188	PQ16007
PQ13956	PQ14629	PQ15188	PQ16095
PQ14063	PQ14629	PQ15244	PQ16095
PQ14063	PQ14695	PQ15244	PQ16113
PQ14167	PQ14695	PQ15255	PQ16113
PQ14167	PQ14699	PQ15255	PQ16114
PQ14168	PQ14699	PQ15412	PQ16114
			PQ16116

PQ16116	PQ16930	PQ18030	PQ20879
PQ16176	PQ16930	PQ18030	PQ20880
PQ16176	PQ16967	PQ18102	PQ20881
PQ16180	PQ16967	PQ18102	PQ20882
PQ16180	PQ17009	PQ18167	PQ20883
PQ16262	PQ17009	PQ18167	PQ20884
PQ16262	PQ17029	PQ18385	PQ20886
PQ16289	PQ17029	PQ18385	PQ20887
PQ16289	PQ17092	PQ18449	PQ20888
PQ16291	PQ17092	PQ18449	PQ20890
PQ16291	PQ17106	PQ18512	PQ20894
PQ16292	PQ17106	PQ18512	PQ20895
PQ16292	PQ17112	PQ18513	PQ20896
PQ16350	PQ17112	PQ18513	PQ20897
PQ16350	PQ17121	PQ19276	PQ20899
PQ16433	PQ17121	PQ19276	PQ20900
PQ16433	PQ17125	PQ19498	PQ20901
PQ16467	PQ17125	PQ19923	PQ20902
PQ16467	PQ17218	PQ20002	PQ20903
PQ16476	PQ17218	PQ20099	PQ20904
PQ16476	PQ17224	PQ20625	PQ20905
PQ16483	PQ17224	PQ20726	PQ20914
PQ16483	PQ17277	PQ20752	PQ20915
PQ16541	PQ17277	PQ20795	PQ20916
PQ16541	PQ17398	PQ20798	PQ20941
PQ16620	PQ17398	PQ20799	PQ20943
PQ16620	PQ17417	PQ20800	PQ20963
PQ16637	PQ17441	PQ20801	PQ21007
PQ16637	PQ17441	PQ20802	PQ21098
PQ16698	PQ17451	PQ20803	PQ21114
PQ16698	PQ17451	PQ20804	PQ21180
PQ16728	PQ17562	PQ20806	PQ21192
PQ16728	PQ17562	PQ20811	PQ21266
PQ16760	PQ17570	PQ20813	PQ21283
PQ16760	PQ17570	PQ20833	PQ21324
PQ16790	PQ17665	PQ20836	PQ21332
PQ16790	PQ17665	PQ20840	PQ21360
PQ16820	PQ17688	PQ20841	PQ21365
PQ16820	PQ17688	PQ20842	PQ21471
PQ16831	PQ17702	PQ20843	PQ21475
PQ16831	PQ17702	PQ20848	PQ21513
PQ16832	PQ17868	PQ20849	PQ21622
PQ16832	PQ17868	PQ20876	PQ21624
PQ16898	PQ17870	PQ20877	PQ21627
PQ16898	PQ17870	PQ20878	PQ21629
			PQ21638

PQ21667	PQ21894	PQ22287	PQ22560
PQ21668	PQ21941	PQ22288	PQ22563
PQ21688	PQ21978	PQ22289	PQ22723
PQ21698	PQ22095	PQ22387	PQ22821
PQ21741	PQ22117	PQ22447	PQ23010
PQ21794	PQ22132	PQ22531	PQ23053
PQ21878	PQ22204	PQ22549	

CICSplex SM APARs:

PN76571	PN81047	PN88148	PQ00572
PN78259	PN81410	PN88181	PQ00629
PN78693	PN81487	PN88596	PQ00692
PN78702	PN81583	PN88703	PQ00737
PN78706	PN81656	PN88728	PQ00831
PN78709	PN81764	PN89301	PQ00832
PN78754	PN81822	PN89526	PQ00883
PN78810	PN81823	PN89644	PQ01072
PN78838	PN81882	PN89809	PQ01577
PN78856	PN81984	PN89855	PQ01588
PN78869	PN82332	PN89856	PQ01624
PN78871	PN82386	PN89864	PQ01658
PN78905	PN82656	PN90017	PQ01706
PN78978	PN82658	PN90219	PQ02092
PN79086	PN82663	PN90228	PQ02343
PN79204	PN82664	PN90514	PQ02520
PN79225	PN82697	PN90715	PQ02522
PN79240	PN83065	PN90754	PQ02524
PN79248	PN83128	PN90759	PQ02952
PN79297	PN83198	PN90863	PQ03117
PN79298	PN83224	PN90971	PQ03251
PN79305	PN83353	PN90985	PQ03477
PN79335	PN83795	PN91334	PQ03517
PN79408	PN83867	PN91386	PQ03925
PN79635	PN83975	PN91419	PQ04050
PN79672	PN84045	PN91539	PQ04051
PN79677	PN84165	PN91560	PQ04340
PN79691	PN84372	PN91624	PQ04522
PN79711	PN84389	PN91628	PQ04528
PN79739	PN84670	PN91986	PQ04823
PN79844	PN84722	PN92221	PQ04903
PN79850	PN85310	PN92541	PQ05133
PN79885	PN85658	PN92552	PQ05219
PN79963	PN85874	PN92598	PQ05291
PN79988	PN86518	PN92638	PQ05291
PN80006	PN86654	PN92643	PQ06093
PN80060	PN87049	PN92673	PQ06853
PN80097	PN87379	PN92690	PQ07157
PN80258	PN87422	PN92700	PQ07211
PN80361	PN87717	PN92718	PQ07211
PN80455	PN87731	PN92784	PQ07406
PN80562	PN88058	PN92824	PQ07765
PN80737	PN88138	PQ00374	PQ07765
PN80971	PN88143	PQ00402	PQ08420

PQ08420	PQ11250	PQ13511	PQ15608
PQ08693	PQ11250	PQ13598	PQ15608
PQ08693	PQ11281	PQ13598	PQ15675
PQ08728	PQ11281	PQ13648	PQ15675
PQ08728	PQ11307	PQ13648	PQ15675
PQ08812	PQ11307	PQ13848	PQ15675
PQ08812	PQ11318	PQ13848	PQ15793
PQ08838	PQ11318	PQ13882	PQ15793
PQ08838	PQ11460	PQ13882	PQ15962
PQ09047	PQ11460	PQ13893	PQ15962
PQ09047	PQ11502	PQ13893	PQ16112
PQ09329	PQ11502	PQ14195	PQ16112
PQ09329	PQ11767	PQ14195	PQ16136
PQ09331	PQ11767	PQ14197	PQ16136
PQ09331	PQ11835	PQ14197	PQ16267
PQ09448	PQ11835	PQ14281	PQ16267
PQ09448	PQ12161	PQ14281	PQ16276
PQ09453	PQ12161	PQ14319	PQ16276
PQ09453	PQ12215	PQ14319	PQ16413
PQ09718	PQ12215	PQ14392	PQ16413
PQ09718	PQ12336	PQ14392	PQ16586
PQ09803	PQ12336	PQ14480	PQ16586
PQ09803	PQ12482	PQ14480	PQ16689
PQ09908	PQ12482	PQ14546	PQ16689
PQ09908	PQ12548	PQ14546	PQ16731
PQ09909	PQ12548	PQ14733	PQ16731
PQ09909	PQ12569	PQ14733	PQ17219
PQ09912	PQ12569	PQ14757	PQ17219
PQ09912	PQ12695	PQ14757	PQ17381
PQ09921	PQ12695	PQ14764	PQ17381
PQ09921	PQ12832	PQ14764	PQ17596
PQ10225	PQ12832	PQ14915	PQ17596
PQ10225	PQ13036	PQ14915	PQ17747
PQ10605	PQ13036	PQ14947	PQ17860
PQ10605	PQ13176	PQ14947	PQ17860
PQ10694	PQ13176	PQ14968	PQ17966
PQ10694	PQ13228	PQ14968	PQ17966
PQ10767	PQ13228	PQ15068	PQ18022
PQ10767	PQ13281	PQ15068	PQ18022
PQ10776	PQ13281	PQ15180	PQ18426
PQ10776	PQ13399	PQ15180	PQ18426
PQ11209	PQ13399	PQ15422	PQ18773
PQ11209	PQ13471	PQ15422	PQ18773
PQ11236	PQ13471	PQ15558	PQ18784
PQ11236	PQ13511	PQ15558	PQ18784
			PQ18885

PQ18885	PQ19953	PQ20975	PQ21800
PQ18956	PQ20315	PQ21143	PQ21999
PQ19301	PQ20415	PQ21143	PQ22099
PQ19302	PQ20539	PQ21216	PQ22442
PQ19302	PQ20539	PQ21474	PQ22524
PQ19302	PQ20577	PQ21526	PQ22524
PQ19499	PQ20702	PQ21637	PQ22525
PQ19602	PQ20706	PQ21740	PQ22877
PQ19731	PQ20939	PQ21798	PQ23140

CICS Distributed Data Management APARs:

PL08978	PL22072	PL22112	PL61130
PL14487	PL22101	PL22114	PN02334
PL15725	PL22102	PL23406	PN13719
PL20842	PL22104	PL28058	PN22744
PL21453	PL22107	PL30885	PN31032

CICS Application Migration Aid APARs:

PL76633	PN05502	PN07726	PN17739
PL76638	PN05943	PN11222	PN43640
PN01407			

CICS REXXDEV APARs:

OW06630	OW09283	OW13406	OW20371
OW08619	OW10006	OW16342	OW28583
OW08748	OW12385	OW20020	

CICS REXXRUN APARs:

OW06658	OW09283	OW13406	OW20371
OW08619	OW10007	OW16342	OW28584
OW08748	OW12385	OW20020	

Appendix C. A summary of CICS Transaction Server for OS/390 contents

This appendix contains:

- A summary of the CICS TS load libraries
- A summary of the sample control tables.

C.1 The CICS TS load libraries

The base CICS TS product is installed into the load libraries CICSTS13.CICS.SDFHAUTH, CICSTS13.CICS.SDFHEXCI, CICSTS13.CICS.SDFHLLIB, CICSTS13.CICS.SDFHLOAD, CICSTS13.CICS.SDFHPARM, CICSTS13.CICS.SDFHDLL1, SYS1.CICSTS13.CICS.SDFHLINK, SYS1.CICSTS13.CICS.SDFHLPA, SYS1.CICSTS13.CPSM.SEYULINK, SYS1.CICSTS13.CPSM.SEYULPA, CICSTS13.CICS.SDFHSDCK, CICSTS13.CICS.SDFJLOAD, CICSTS13.CICS.SDFJLPA, and CICSTS13.CICS.SDFJLOD1. It comprises versions of CICS TS modules, sample tables, and sample application programs.

The contents of these libraries are listed in the following sections.

C.1.1 The CICSTS13.CICS.SDFHAUTH library

The CICSTS13.CICS.SDFHAUTH library contains versions of programs that either must be loaded from the CICS TS APF-authorized library, or require the protection of the CICS TS authorized STEPLIB library before being installed in an MVS system library.

Most modules are LPA-eligible. For information about using LPA-eligible modules, see the *CICS CICS Transaction Server for OS/390 Installation Guide*.

C.1.2 The CICSTS13.CICS.SDFHDLL1 library

The CICSTS13.CICS.SDFHDLL1 library includes those CICS TS modules that are needed by the CICS modules which execute as part of the Internet Connection Secure Server. For more information about this interface, see the *CICS/ESA External CICS Interface Guide*.

C.1.3 The CICSTS13.CICS.SDFHEXCI library

The CICSTS13.CICS.SDFHEXCI library includes those CICS TS modules that are needed by the CICS external CICS interface. For more information about this interface, see the *CICS/ESA External CICS Interface Guide*.

C.1.4 The CICSTS13.CICS.SDFHLLIB library

The CICSTS13.CICS.SDFHLLIB library includes those CICS TS modules that are needed by the message editing utility program. For more information about this utility, see the *CICS Operations and Utilities Guide*.

C.1.5 The CICSTS13.CICS.SDFHLOAD library

The CICSTS13.CICS.SDFHLOAD library includes all CICS TS modules other than those modules provided in the other CICS TS load libraries. It also includes the assembler language versions of the sample application programs, for which information is given in the These programs are described in the *CICS Sample Applications Guide* and the *CICS Application Programming Primer (VS COBOL II)*.

C.1.6 The CICSTS13.CICS.SDFHPARM library

The CICSTS13.CICS.SDFHPARM library contains only DFHIPCSP, the CICS TS IPCS imbed file that provides CICS TS exit control data for inclusion in the IBM-supplied BLSCECT member in the SYS1.PARMLIB library.

C.1.7 The SYS1.CICSTS13.CICS.SDFHLINK library

The SYS1.CICSTS13.CICS.SDFHLINK library contains modules that must be APF-authorized. This library, therefore, **must** be APF-authorized.

C.1.8 The SYS1.CICSTS13.CICS.SDFHLPA library

The SYS1.CICSTS13.CICS.SDFHLPA library contains the modules that must be in the LPA.

The following modules must either be in the LPA or in an APF-authorized library in the MVS linklist:

DFHSSGC
DFHSSWT

For information about using LPA-eligible modules, see the *CICS CICS Transaction Server for OS/390 Installation Guide*, GC33-1681.

C.1.9 The SYS1.CICSTS13.CPSM.SEYULINK library

The SYS1.CICSTS13.CPSM.SEYULINK library contains modules that must be APF-authorized. This library, therefore, **must** be APF authorized.

C.1.10 The SYS1.CICSTS13.CPSM.SEYULPA library

The SYS1.CICSTS13.CPSM.SEYULPA library is currently empty, but can contain LPA eligible modules.

C.1.11 The CICSTS13.CICS.SDFHSDCK library

The CICSTS13.CICS.SDFHSDCK library contains the ICCFCDLL sidedeck.

C.1.12 The CICSTS13.CICS.SDFJLOAD and SDFJLOD1 libraries

The CICSTS13.CICS.SDFJLOAD and SDFJLOD1 libraries contain all CICS Java IIOp modules.

The two PDSE libraries SDFJLOAD and SDFJLOD1 are provided because Release 2 of VisualAge for Java, Enterprise Toolkit for OS/390 is not expected to be run-time compatible with programs compiled using Release 1. (Such release-to-release binary incompatibility will not occur after Release 2 however). This means that CICS needs to provide separate libraries, containing its Java code compiled against both Release 1 and Release 2, to allow you to run your applications compiled against either release of ET/390. The two PDSE libraries SDFJLOAD and SDFJLOD1 map to FMIDs JCI530D and JCI530E respectively.

However, Release 2 of ET/390 was not available at General Availability (March 1999) of CICS Transaction Server for OS/390 Release 3, hence both libraries were compiled against the same release (Release 1) of ET/390. As soon as Release 2 of ET/390 ships, IBM Support will refresh the SDFJLOAD library compiled at Release 2 level. You should then select the library (and hence ET/390 compiler level) compatible with the release of ET/390 that you are using for your application development.

C.1.13 The CICSTS13.CICS.SDFJLPA library

The CICSTS13.CICS.SDFJLPA library is currently empty, but can be used for CICS Java IIOp LPA eligible modules. It is supplied to allow those CICS modules that support the Java / IIOp environment, and that are LPA eligible, being included in the LPA.

DFJCICS, DFJGFAC and DFJIIOP may be considered as good candidates for the LPA in any MVS image where multiple CICS systems are using the Java / IIOp function.

There are no CICS-supplied Java / IIOp modules that must reside in the LPA, hence the library is currently empty.

Note - this library is a partition data set / extended (PDS/E). PDS/Es cannot be loaded into the LPA at MVS IPL time, as MVS Nucleus Initialization Processing does not recognize them. The MVS SETPROG command can be used after an IPL to dynamically add members of a PDS/E into the LPA.

The library is supplied to allow those CICS modules that support the Java / IIOp environment, and that are LPA eligible, to be included in the LPA. DFJCICS, DFJGFAC and DFJIIOP may be considered as good candidates for the LPA in any MVS image where multiple CICS systems are using the Java / IIOp function. There are no CICS-supplied Java / IIOp modules that must reside in the LPA, hence the library is currently empty.

See 5.3.5, "Modules eligible for the MVS link pack area (LPA)" on page 38 for information about restrictions on the use of the SDFJLPA library.

C.2 Sample control tables

The CICS TS-supplied sample tables (listed in Figure 28 on page 129) are supplied as source code and as pre-assembled tables. The source code used to assemble the sample tables is provided in CICSTS13.CICS.ADFHSAMP, and the pre-assembled tables are supplied in the following load libraries:

Load library (HLQ=CICSTS13)	Table
.CICS.SDFHAUTH	DFHCLT1\$ and DFHSIT6\$
.CICS.SDFHLOAD	All other sample tables

The names of the table members in CICSTS13.CICS.ADFHSAMP are the same as those of the pre-assembled tables. You can use these tables as they are, or you can modify them to suit your own needs.

Table	Suffix	Function
Command list table (CLT)	1\$	Provides a sample command list table.
System initialization table (SIT)	6\$	Provides entries for SRT=1\$ and TCT=NO.
System initialization table (SIT)	\$\$	Default system initialization table (SIT)
System recovery table (SRT)	1\$	Default SRT.
Terminal control table (TCT)	5\$	Provides entries for input and output sequential-access method devices, only.

Appendix D. Checklist for the CICS Transaction Server for OS/390 installation

Figure 29 (Page 1 of 2). CICS TS installation checklist

Step	Done?	Description	See page
1		Check that you have received the material that you ordered.	46
2		Check that you have all the installation prerequisites,	47
3		Copy RELFILE(2) from the distribution tape. (Record your name for the TDFHINST library: _____ .)	47
4		Edit the DFHISTAR job in the TDFHINST library	50
4.1		Specify the CICS TS temporary installation libraries	52
4.2		Specify the JOB parameters for installation jobs	52
4.3		Specify the scope of the installation	53
4.4		Specify the type of JES to be used	53
4.5		Specify the utilities to be used	54
4.6		Specify the prefix of CICS TS jobs	54
4.8		Specify the prefix of the CSSLIB library	73
4.9		Specify the prefix of the SISpload library	73
4.10		Specify the indexes of CICS TS data sets	54
4.11		Specify block sizes	56
4.12		Specify the PARMLIB library to be used	57
4.13		Specify the disk unit for work data sets	57
4.14		Specify disk volumes	58
4.15		Allocate the space for CICS TS disk volumes	64
4.16		Specify SMP/E zone attributes	67
4.17		Specify attributes of the temporary SMP/E work data sets	65
4.18		Specify attributes of the permanent SMP/E data sets	66
4.19		Specify the high-level qualifiers for SMP/E data sets	70
4.20		Specify the HFS directories and data sets	55
4.21		Specify the distribution tape device type	70
4.22		Specify attributes of the CICS TS system data sets	70
4.23		Specify attributes of any additional target libraries	71
5		Create RACF profiles for the CICS TS data sets	76
6		Run the DFHISTAR job	77
6.1		Check the output from the DFHISTAR job	78
7		Check that you are ready to run the installation jobs	79
8		Run the installation jobs	79

<i>Figure 29 (Page 2 of 2). CICS TS installation checklist</i>			
Step	Done?	Description	See page
8.1		Check the output from the installation jobs	86
9		Copy the CICS TS procedures into a procedure library	87
10		Create any extra sets of CICS TS target libraries (optional)	90
11		Load the CICS TS optional source material (optional)	92
12		Load the Japanese national language feature (optional)	93

Definition of SMP/E terms

ACCEPT (function of SMP/E). SMP/E control statement that controls the placement (installing) of SYSMODs into the distribution libraries. Processing is similar to that during APPLY except that the distribution zone is updated, not the target zone, and JCLIN data is not processed by ACCEPT.

If the installing is successful, any entries in the SCDS created by APPLY are deleted, as are temporary libraries created by RECEIVE. Therefore, after a SYSMOD is accepted, it can no longer be removed by SMP/E.

APAR (authorized program analysis report).

IBM-supplied fixes of a temporary corrective nature to elements of IBM-supplied function SYSMODs. APAR fixes are called “corrective” service because they are installed to cure problems currently being experienced by an installation. The APAR fix is usually in the form of either a modification to a load module or an update to card-image data. It is intended as a temporary arrangement until a preventive service (PTF) is issued to fix the problem permanently. This PTF will supersede the APAR fix, and indeed specifies this relationship on its ++VER statement.

To get an APAR SYSMOD accepted into the distribution libraries, the APARS keyword must be specified in the ACCEPT control statement, which protects against inadvertent updating of distribution libraries that are to be kept free of temporary fixes.

The ++VER statement in the APAR SYSMOD must specify the FMID of the function that “owns” the elements being updated.

```
++APAR(AP12345)
++VER(C150) FMID(HCI5300)
```

You should not accept APARs into the distribution library, however, because the relevant PTF will become available in due course as a more permanent form of service.

APPLY (function of SMP/E). SMP/E control statement that applies SYSMODs to the CICS TS target libraries, where they can be tested. If the tests are not satisfactory, you can remove all or selected SYSMODs using the RESTORE function. If the test is successful,

you can use the ACCEPT function to store the elements from the SYSMOD into the distribution libraries.

During JCLIN processing, every affected entry in the target zone is saved in the SCDS, in case the target system libraries and the target zone have to be restored to their original status

CSI (consolidated software inventory). A keyed VSAM data set, logically divided by SMP/E into **zones**. For further information on the CSI and the logical structure of zones, see the *System Modification Program Extended: User's Guide*, SC28-1302.

Distribution zone. Describes the structure and contents of a set of distribution libraries.

Function SYSMOD. An IBM-supplied product that can be installed with SMP/E. CICS Transaction Server for OS/390 is packaged as a function SYSMOD on a distribution tape. This contains distribution libraries and JCLIN data which SMP/E uses to create the target libraries.

FMID (keyword of CICS SYSMODs). Keyword identifying the release and option to which a SYSMOD is applicable. For CICS TS, it is always HCI5300.

Global zone. Logical division of the SMP/E consolidated software inventory (CSI), containing such information as:

- Definitions of all other related zones
- Descriptions of the SYSMODs present in the PTS
- Descriptions of the system utilities to be invoked during SMP/E processing
- DD definition entries for use by dynamic allocation.

JCLIN (function of SMP/E). SMP/E control statement that can be used to update the target zone, using a job stream in a format that is suitable for input to SMP. JCLIN processing can be performed in two ways:

1. Inline at APPLY time, as described earlier
2. As a stand-alone SMP/E function.

The JCLIN job will create or update the following target zone entries:

MOD
MAC
LMOD
ASSEM

load module. In the context of SMP/E, an executable load module in a target library (such as CICSTS13.SDFHLOAD). The standard SMP/E abbreviation for a load module is LMOD.

LOG (history log data set). Sequential data set in which all SMP/E actions are recorded. Each **zone** has its own SMPLOG data set, which you specify on the DZONELOG, GZONELOG, or TZONELOG parameters of the DFHISTAR job.

MTS (macro temporary store). The SMP/E MTS data set is used to hold updated versions of macros that will not be placed in a target system library. They are stored during APPLY processing and deleted by ACCEPT or RESTORE processing.

PTF (program temporary fix). IBM-supplied preventive fixes to elements of IBM-supplied function SYSMODs. PTFs are termed “preventive service” because they are intended for installation by all users to avoid possible problems.

A PTF may contain fixes for several different problems. This means that several APAR fixes reported in RETAIN may all be superseded by the more permanent PTF, which:

- Provides card-image changes for the problems. These changes may be identical to those in the APAR fix.
- Contains object-module replacements for preassembled CICS TS programs.

Every PTF is introduced by a ++PTF header statement, and contains the FMID keyword on its ++VER modification control statement, identifying CICS TS (HCI5300) as the owner of the modules being serviced.

For example:

```
++PTF(UP12345)  
++VER(C150) FMID(HCI5300)
```

PTS (PTF temporary store). SMP/E primary data set used to store temporarily SYSMODs that are in RECEIVE or APPLY status; that is, they have not been rejected or accepted.

RECEIVE (function of SMP/E). SMP/E control statement that initiates processing of a SYSMOD. RECEIVE reads the SYSMODs from the SMPPTFIN data set. Each SYSMOD must have been received before any other function can be executed.

RECEIVE updates the SMPPTS data set and performs syntax checking on input. Before any SYSMOD for CICS TS can be received, the global zone must have been initialized with a global zone entry.

Service SYSMODs can be received into the (PTS) before the function to which it applies has been received, and can be maintained there until the function is received. This allows all service for a product such as CICS TS to be installed with the base product.

REJECT (function of SMP/E). SMP/E control statement that removes SYSMODs from the PTS data set and deletes any temporary libraries that SMP/E may have allocated when the SYSMOD was received (RELFILES). If the SELECT or EXCLUDE option is not coded on the REJECT control statement, all SYSMODs not applied or accepted will be removed from the PTS. This is called a **mass rejection**. All other SYSMOD processing functions (RECEIVE, APPLY, RESTORE, and ACCEPT) can have SELECT or EXCLUDE specified, or may default to mass-processing mode.

SCDS (saved CDS). The data set used to hold old target zone entries that have been modified as a result of inline JCLIN processing in a SYSMOD. These entries are used by RESTORE to re-create target zone entries, if required, and are deleted by ACCEPT processing. Each target zone must have its own unique SCDS data set, and the SCDS must also be used with the related distribution zone.

STS (source temporary store). The SMP/E primary data set, used to hold updated versions of source elements.

SYSMOD (system modification). (1) An IBM-supplied product (function SYSMOD). (2) An IBM-supplied preventive service (PTF). (3) An IBM-supplied corrective service (APAR). (4) A user-supplied modification (USERMOD).

Target zone. Describes the structure and contents of a set of target system libraries.

USERMOD (user modification). User-supplied modifications to elements of IBM-supplied function SYSMODs. USERMODs are similar to APAR fixes, but are supplied by the user and not by IBM. They may be:

- A local fix to bypass a problem until an official IBM fix is available
- A user modification to add or alter function within CICS TS.

The decision to modify CICS TS, either to add or to alter function, should be taken with caution, because it greatly increases the amount of research you must do before installing PTFs, and may also increase the installation time for PTFs. Furthermore, USERMODS will cause difficulty when you want to install future release of CICS TS.

Reader's Comments

Program Directory for CICS TS Version 1 Release 3, Modification Level 0

This section identifies ways in which you can send comments to IBM about this program directory.

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?

- CBIPO
- CBPDO
- CustomPac
- ServerPac
- Independent
- Other

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

- Yes
- No

- From within the U.K., use 01962 870229 use 01962 870229)
- Electronically, use the appropriate network ID:
 - IBM Mail Exchange: GBIBM2Q9 at IBMMAIL
 - IBMLink: HURSLEY(IDRCF)
 - Internet: idrcf@hursley.vnet.ibm.com

Whichever you use, ensure that you include:

- The publication number and title
- The page number or topic to which your comment applies
- Your name and address/telephone number/fax number/network ID.

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 OS/390 Development group):

IBM United Kingdom Laboratories Ltd.
Information Development Department (MP 095)
Hursley Park
Winchester
Hampshire SO21 2JN
United Kingdom

Alternatively, you can send the completed form, or any other comments about this Program Directory to:

International Business Machines Corporation
Attn: Dept ACV-H
1001 WT HARRIS BLVD
CHARLOTTE NC
28257-0001



Program Number: 5655-147 5801
5720
5802
5811
5812
5821
5721
5822
5722

Printed in U.S.A.

G110-2506-35

