

CICS® Transaction Server for OS/390®



Planning for Installation

Release 3

CICS® Transaction Server for OS/390®



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Release 3

Note!

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

Third edition (March 1999)

This edition applies to Release 3 of CICS Transaction Server for OS/390, program number 5655-147, and to all subsequent versions, releases, and modifications until otherwise indicated in new editions. Consult the latest edition of the applicable IBM system bibliography for current information on this product.

This book is based on the *Planning for Installation* book for CICS Transaction Server for OS/390 Release 2, GC33-1789-01. Changes from that edition are marked by vertical lines to the left of the changes.

The CICS Transaction Server for OS/390 Release 2 edition remains applicable and current for users of CICS Transaction Server for OS/390 Release 2, and may be ordered using its order number, GC33-1789-01.

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About this book

This book describes CICS® Transaction Server for OS/390® (CICS TS) and takes you through the necessary planning and installing steps. It:

- Describes the content of CICS TS and the two delivery methods—ServerPac and CBPDO
- Explains the method of installing CICS TS (with either ServerPac or CBPDO), and provides references to the required sources of information. In this book, “installing” means loading the code into the libraries in preparation for the migration and customizing tasks.
- Lists the hardware and software you must have to run the CICS TS product elements and exploit the function provided by CICS TS.

The book assumes that you are upgrading to CICS TS levels of all the product elements in the Server.

Planning the migration to CICS TS requires that you understand the function provided by the CICS TS product set. You can learn about the function in the various product libraries of the individual elements that comprise the product set.

Always check the product libraries (for example, in the *CICS Transaction Server for OS/390 Migration Guide*) for changes that might affect CICS TS elements.

Who should use this book

This book is intended for experienced CICS system programmers who are planning to migrate to CICS TS. By “experienced”, we mean that a system programmer’s experience consists of installing and managing CICS and some or all of the other elements in the CICS TS product set.

How to use this book

Read through the sections of this book that tell you about:

- The products and hardware you need to support the function that comes with CICS TS.
- The pointers to migration and installation information that is in the product libraries that you receive with CICS TS.

Once you have identified the actions you need to take to complete your migration, write a plan describing the steps your installation will take. Include your estimate of how much time each step requires and who will do it.

Notes on terminology

CICS refers to Customer Information Control System, an element of the CICS Transaction Server.

CICSplex® SM refers to CICSplex System Manager, an element of CICS Transaction server.

The term **CICS TS Release 3 region** is used to refer to a CICS region running under CICS TS Release 3, in contrast, for example, to a CICS/ESA® 4.1 region.

MVS™ is used for the operating system, the Base Control Program (BCP) element of OS/390.

Chapter 1. Introduction

Generally, large online CICS applications run on an MVS operating system together with a collection of other supporting software products, some provided by IBM® and others by independent software vendors (ISVs). Recent functional additions might include distributed CICS software on alternative platforms, enabling you to distribute transaction processing, with CICS on the MVS host acting as a large database server. IBM recognizes that customers traditionally run these products at various release levels—a piecemeal or mix-and-match approach.

CICS Transaction Server, together with other OS/390 Software Servers, is designed to make it easier to install and operate the mix of software you need to run your business.

Overview of CICS Transaction Server

With CICS Transaction Server for OS/390 (CICS TS), IBM integrates CICS with a set of other supporting software, offering you a single product in their place. No longer are you required to order new levels of some products but not of others; instead, you order an entire set of software, integrated into one licensed product.

CICS TS is a member of the OS/390 family of MVS-based software servers, and is separately orderable as a single part number.

Within CICS TS, the levels of all products reflect the level of the CICS TS product itself. Even the word “product” has new meaning; for this reason the products that make up the base of CICS TS are called **elements**. CICS TS marks a significant change from the former piecemeal approach to the way you order and install CICS and its related software.

Getting all the elements in CICS TS installed and running is the subject of this book. Because the elements and features of CICS TS are integrated into a single package with compatible service levels, it is expected that you will migrate all elements and features of CICS TS at the same time.

Packaging

The packaging of CICS TS into a number of elements is similar to the packaging of OS/390. For its operating system environment, CICS TS requires OS/390, Release 5. As you prepare to install CICS TS, keep in mind that you gain the benefits of a comprehensively tested environment when you install CICS TS.

In summary, the concept of CICS TS is to integrate a range of transaction server functions into a single product that delivers the function previously provided by a number of individual IBM software products. CICS TS consists of several base elements. The intent is that IBM ships, and you run, all elements at the single release level that IBM has subjected to comprehensive system testing.

Migrating from one release of CICS TS to the next is relatively simple, and the transition from your current systems to CICS TS should also be straightforward.

CICS Transaction Server elements and features

CICS Transaction Server consists of base elements that deliver essential transaction server functions. When you order CICS TS, you receive all the base elements, described in Table 1 on page 5.

Two methods of installing CICS TS come free with your license:

1. A system replace method called ServerPac
2. The Custom-Built Product Delivery Option (CBPDO).

Exclusive and non-exclusive elements and features

Some elements and features contain new function that is available only within CICS TS. This book labels such an element or feature **exclusive**: new function is exclusive to CICS TS. If an element or feature is exclusive, you receive new function only through CICS TS. That is, while prior levels continue to be available, future functional enhancements occur only within CICS Transaction Server.

Other elements, however, exist both within CICS TS and also as separately orderable products. These are **non-exclusive**.

IBM's direction is to make functional enhancements only within CICS TS.

What you receive with CICS Transaction Server

Because the elements of CICS Transaction Server are integrated into a single package, you are expected to install the entire product.

You can install CICS TS using one of several IBM packages. Two of these packages are available at no additional charge when you license CICS TS: (1) ServerPac, the system replace deliverable, or (2) CBPDO.

There is no stand-alone product tape for CICS TS, and there is no Custom Built Installation Process Offering (CBIPO).

Because of the overall ease of installing, **IBM recommends** that you choose ServerPac, if possible.

- **If you order the ServerPac offering**, you receive:
 - A series of tapes, each in IEBCOPY dump-by-dataset format (not a physical volume dump) containing a complete generated CICS Transaction Server system. This consists of distribution and target libraries, consolidated software inventory (CSI) and other SMP/E libraries already generated. CICS TS elements and their service are integrated into distribution and target libraries. IBM has IPLed the system and executed all installation verification programs (IVPs) prior to shipment.
 - A CustomPac dialog, accessed through ISPF, that produces jobs that unload the tape to DASD. Through the dialog, you can name the data sets and place them in the catalogs you specify. The following accompanying documentation tells you how to use the dialog:
 - *ServerPac: Installing Your Order* (customized for each customer order)
 - *IBM ServerPac for OS/390: Using the Installation Dialog*, SC28-1244
 - All unintegrated service, available on a service tape.

- Sample jobs to assist with the installation of CICS Transaction Server product and service.

Through the dialog, you can:

- Name the data sets and place them on the volumes and in the catalogs you choose
- Save configuration data for the next install, easing your move to the next release of CICS TS
- Run tailored post-installation verification jobs.
- **If you order CBPDO**, you receive one logically stacked SMP/E RELFILE tape that contains all the base elements, excluding the CICS Universal Clients and CICS Transaction Gateway. Depending on your customer profile, you receive uninstalled service. You also receive:
 - Sample jobs to help you install CICS TS and service.
 - *Custom-Built Offerings Plan/Install*, SC23-0352; the CBPDO Memo to Users Extension; CICS Transaction Server *Program Directory*, GC33-1200, and program materials that describe your CBPDO order.

|
|
The CICS Universal Clients and CICS Transaction Gateway are supplied on a CD-ROM.

Figure 1 on page 4 illustrates the content differences between the ServerPac method and the CBPDO method of installing CICS Transaction Server.

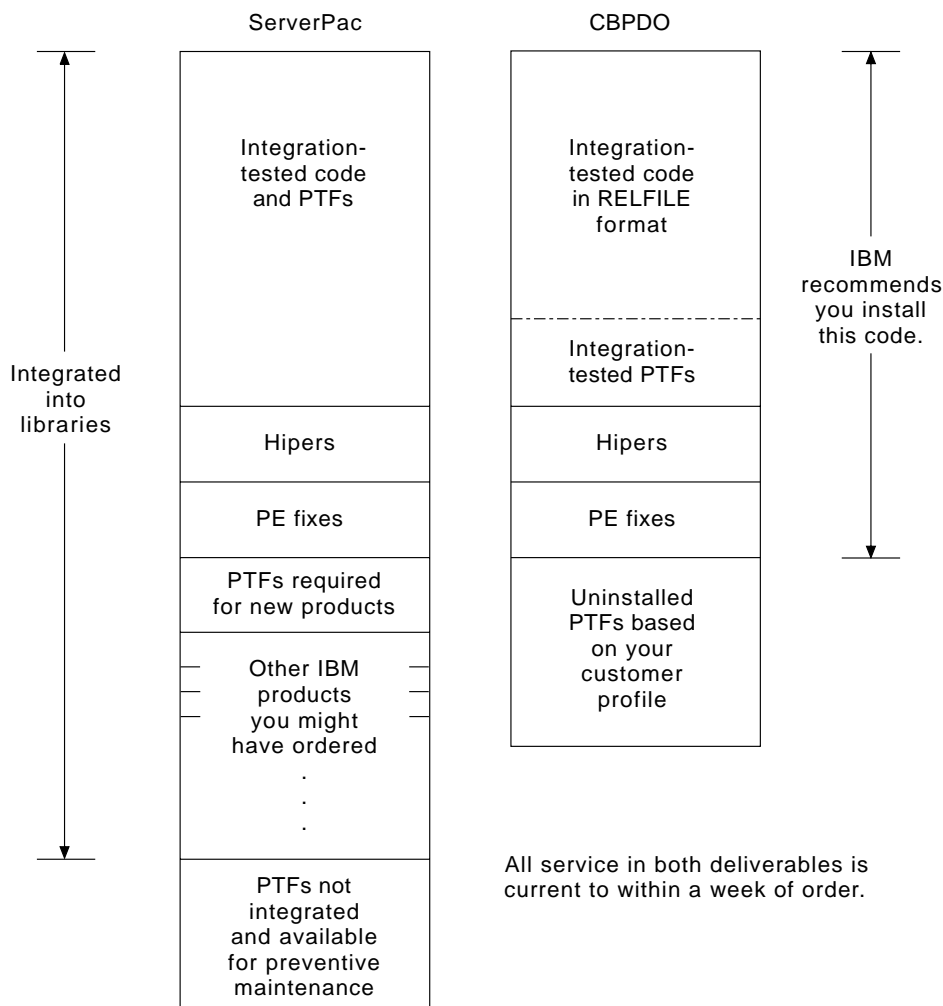


Figure 1. Contents of the ServerPac and the CBPDO Delivery

Documentation

Regardless of whether you use ServerPac or CBPDO, you receive:

- The CICS TS Program Directory and other installation information for the elements, in hardcopy and softcopy.
- A subset of the hardcopy books to help you with installation and migration.

In addition to the above basic entitlement, you can order all the hardcopy editions of the manuals. For details of all the publications available, see “Chapter 4. CICS Transaction Server for OS/390 publications” on page 27.

Summary of elements in CICS Transaction Server

This section lists all the elements and features in CICS Transaction Server for OS/390. Most of the elements are products that have been available for some time; you may already be running some of them.

Table 1 on page 5 lists all elements that are in the CICS Transaction Server base. The table tells you:

Name

The short name of the element used in this book.

Excl.

Whether the element is exclusive. In the **Excl.** column, **Yes** indicates an exclusive element, and **No** indicates a non-exclusive element that is also available as a stand-alone product.

Function Level

The latest CICS TS release in which the element changed (that is, was added to CICS TS or had new function added). For non-exclusive elements, this column also gives the release level of the stand-alone product.

Note: To ensure compatibility with previous releases, the CICS base element maintains its own level (identification) number. Each time new function is added to CICS and shipped with the CICS Transaction Server product, the CICS level number is incremented. The CICS level number no longer implies a specific version and release number, because CICS is no longer a separate product.

The CICS level number in CICS TS is 0530. This number is returned in the RELEASE parameter of the INQUIRE SYSTEM command. The 0530 number also appears in other forms such as 5.3.0 in offline utilities such as statistics and dump formatters to identify the level of utility being used, and as the suffix in module names such as DFHPD530.

Comments

Some general information about the element.

Table 1. List of base elements shipped in CICS Transaction Server

Name of element	Excl.	Function level	Comments
CICS	Yes	CICS TS R3	CICS includes: <ul style="list-style-type: none"> • ONC RPC support • Transaction affinities utility • CICS Web interface • CICS DB2® attachment facility
CICSplex SM	Yes	CICS TS R3	Updated to support new levels of function in CICS. CICSplex SM becomes an exclusive element in CICS TS Release 3. IBM CICSplex System Manager for MVS/ESA™ Version 1 Release 3 continues to be available for customers that are not yet ready to migrate to CICS TS (for example, customer with CICS/ESA Version 4 Release 1 or earlier).
Application Migration Aid	No	CICS TS R1	First available in 1990, this element is still available stand-alone as IBM Customer Information Control System (CICS) program offering, CICS Application Migration Aid, program number 5695-061.
CICS/DDM	No	CICS TS R1	First available in 1986, this element is still available stand-alone as CICS/DDM (MVS) Release 1, Program Number 5665-463.
REXX for CICS	No	CICS TS R2 (REXX for CICS/ESA V1R1)	Separately available as REXX for CICS, program number 5655-B54.

Table 1. List of base elements shipped in CICS Transaction Server (continued)

Name of element	Excl.	Function level	Comments
Tivoli Global Enterprise Manager CICSplex SM Instrumentation	No	CICS TS R3	This feature of Tivoli GEM Version 2 Release 2, program number 5697-GEM, is included with CICS TS to provide a S/390 interface with CICSplex SM.
CICS Universal Clients	No	N/A	<p>The code for the CICS Universal Clients, Version 3.0.2, program number 5648-B42, is shipped on separate media (CD-ROM) with the base material. The CICS Universal Clients are:</p> <ul style="list-style-type: none"> • CICS Universal Client for OS/2 • CICS Universal Client for Windows™ 98 (and Windows 95) • CICS Universal Client for Windows NT™ • CICS Universal Client for AIX • CICS Universal Client for Solaris <p>Note: CICS Universal Clients 3.0.2, which replaces CICS Clients V2.0.2 shipped with CICS TS Release 2, supports only the 32-bit platforms.</p> <p>CICS Clients V2.0.2 continues to be available for 16-bit platform support.</p>
CICS Transaction Gateway	No	N/A	<p>The code for the CICS Transaction Gateway, Version 3.0.2, is shipped on separate media (CD-ROM) with the base material. The CICS Transaction Gateway CDROM contains the following:</p> <ul style="list-style-type: none"> • CICS Transaction Gateway for ® • CICS Transaction Gateway for Windows NT • CICS Transaction Gateway for Windows 98 (and 95) (for application development only) • CICS Transaction Gateway for AIX® • CICS Transaction Gateway for Solaris <p>CICS Transaction Gateway 3.0.2 replaces the function formerly delivered as the CICS Gateway for Java and the CICS Internet Gateway. These continue to be available with CICS Clients Version 2.</p>

Description of contents of CICS Transaction Server

CICS Transaction Server consists of the elements shown in Table 1 on page 5.

CICS

New function is added to CICS follows:

Parallel Sysplex® support

CICS support for Parallel Sysplex is extended by:

- **Global enqueue (ENQ) and dequeue (DEQ).** This new function enables CICS transactions running in the same region, or in different regions within a sysplex, to serialize on a named resource using the existing CICS API.

- **Coupling facility data tables.** This new function enables user applications, running in different CICS regions that reside in one or more MVS images, within a Parallel Sysplex, to share working data with update integrity.
- **Dynamic routing for DPL and EXEC CICS START requests.** The dynamic routing function is extended to provide mechanisms for dynamically routing transactions started by distributed program link (DPL) requests, and a subset of START commands.

System management

CICS system management is improved by:

- **Resource definition online (RDO) for CICS temporary storage.** RDO support is extended with the addition of the new TSMODEL resource definition type. TSMODELS are now the recommended method for defining TS queue attributes, instead of DFHTST macros.
- **Enhancements to CICS monitoring and statistics.** Many of the changes and new functions introduced in CICS are supported by additional monitoring and statistics data.
- **Autoinstall for consoles.** Autoinstall for terminals is extended to include MVS consoles, making it unnecessary to define MVS consoles to CICS explicitly.

Application support and solution enablement

Additional support is provided for application and solution enablement by:

- **CICS business transaction services (BTS).** This new function provides an application programming interface (API) and support services that simplify the development of complex business transactions. BTS provides a better way of modelling and managing complex business transactions.
- **Open transaction environment (OTE).** This is a major change to the CICS internal architecture, providing an open transaction environment that supports multiple task control blocks (TCBs).
- **Long temporary storage queue names.** This enhancement allows TS queues to have names up to 16-characters long, providing much greater flexibility in user application programs.
- **CICS EXCI enhancement for resource recovery.** This enhancement to EXCI uses MVS recoverable resource management services (RRMS) to enable CICS server program units of work to become part of the MVS unit of recovery associated with the EXCI client program.
- **Object-oriented interface to CICS services for C++.** This new programming interface gives application programs access to the CICS services previously available only through the CICS command-level application programming interface (API).
- **Support for VisualAge® for Java, Enterprise Edition for OS/390.** This new support uses the VisualAge for Java, Enterprise Toolkit for OS/390 (ET/390) to enable Java application programs to run under CICS control, using the normal CICS program execution model, rather than a long-lived Java virtual machine (JVM).
- **Support for the Java Virtual Machine.** This new function enables CICS to run a Java bytecode program under the control of an OS/390 Java Virtual Machine within the CICS address space.

e-business enablement for network computing

CICS support for network computing is enhanced by:

- **3270 Bridge interface enhancements.** This 3270 bridge is enhanced by making it simpler to start the bridge environment and initiate a user transaction. Also, some restrictions on the CICS commands issued by a user transaction are removed.
- **Support for the secure sockets layer (SSL).** This support enables the CICS Web interface to use the secure sockets layer (SSL) protocol for transferring data across the Internet.
- **IIOP inbound to Java applications.** Support is added for the Internet Inter-ORB protocol (IIOP), a standard that can be used to provide communication between object-oriented application programs executing on different processors. It is part of the Common Object Request Broker Architecture (CORBA) specification, supporting distributed objects in a TCP/IP network.
- **CICS Web interface enhancements.** The CICS Web interface is enhanced by a number of major improvements, including: new resource definition types; a new set of API commands to handle HTTP requests and document templates; a new set of SPI commands; and the restructure of the CICS Web interface as a CICS domain providing improved reliability and serviceability.

CICSplex SM

CICS TS CICSplex SM is enhanced to support all the changed and new function in CICS, and can manage these 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 3.3 and later
- 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 3.0

CICS regions that are managed by CICSplex SM can be in any configuration. For example, CICSplex SM can manage multiple, independent, full-function CICS regions just as easily as it can manage multiple, interconnected, CICS regions that function as a CICSplex.

Application Migration Aid

The Application Migration Aid is designed to assist you in converting your CICS applications from the unsupported macro-level API to the command-level API. You can use the migration aid for application programs written in assembler, COBOL, or PL/I.

The migration aid converts the simpler macros in an application program automatically. It partially converts the more complex macros, issuing messages that guide you to complete the conversion.

The migration aid executes as an MVS batch program, running on any IBM MVS/XA™, MVS/ESA, or OS/390 system.

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.

REXX for CICS

REXX is an extremely versatile programming language. Its common programming structure, readability, and free format make it a good language for beginners and general users. REXX is also suitable for more experienced computer professionals because it can be intermixed with commands to host environments, provides powerful functions, and has extensive mathematical capabilities.

REXX for CICS is an interpreted language. The interpretive execution of REXX execs provides the ability to create and run REXX execs without first compiling them. The use of the interpreter provides a very productive development and prototyping environment. It provides fast development cycle times, source level interactive debug, and a native CICS-based development environment, in one integrated package.

Tivoli Global Enterprise Manager CICSplex SM Instrumentation

CICS TS is a Tivoli-Ready product that includes Tivoli Global Enterprise Manager (GEM) CICSplex SM Instrumentation. This is a Tivoli GEM Version 2.2 agent that uses the CICSplex SM API to:

- Gather information about CICS regions that are managed by CICSplex SM.
- Monitor the operational state of the managed CICS regions and display their status
- Provide notification when the state of a managed CICS region changes
- Raise Tivoli events on error conditions
- Exploit real-time analysis (RTA) definitions.

The agent also provides feedback to Tivoli GEM on the state of the agent and the CICSplex SM address spaces (CMAS and CAS).

Using the Tivoli GEM CICSplex SM Instrumentation extends the scope of management services to include other Tivoli applications, such as task automation, event management, and resource monitoring.

The CICS Clients

CICS TS includes the CICS Clients Version 3.0.2, which are for 32-bit platforms only, and introduce CICS Universal Clients on the AIX and Solaris platforms. Clients on these platforms can now communicate directly with the wide range of CICS servers supported by the CICS Universal Clients.

The CICS Universal Clients Version 3.0.2 for AIX and Solaris provide most of the same CICS Universal Client function as provided on the OS/2, Windows NT and Windows 98 platforms. Supported functions include:

- Support for concurrent ECI and EPI
- Provision of ECI and EPI System Management exits
- Support for API tracing
- The ability to link, connect and disconnect concurrently from multiple CICS servers, including connections by a mixture of protocols.

CICS Universal Clients Version 3.0.2 for Windows NT and Windows 98 have moved to industry-standard installation by InstallShield. Benefits include installation in national languages. The CICS Universal Clients for AIX and Solaris are delivered as compressed tar files.

The CICS Transaction Gateway

The CICS Transaction Gateway Version 3.0.2 provides powerful mechanisms for enabling access from the Internet to the transactional capabilities of CICS TS and TXSeries™ servers. The CICS Transaction Gateway uses the latest technologies, both HTTP and Java based, to link the open, object-oriented world of Web browsers on the Internet or an Intranet to the power, flexibility, integrity and robustness of CICS.

The CICS Transaction Gateway enables any internet-connected desktop workstation or network computer to provide access to your business-critical applications on CICS. It runs on the same system as the Web server, and is capable of supporting a large number of concurrent users.

Note: The CICS Transaction Gateway for (including Windows 95 is supported for application development only.

Installing CICS Transaction Server

“Chapter 2. Installing CICS TS” on page 11 tells you about installing the CBPDO delivery version of CICS Transaction Server.

Chapter 2. Installing CICS TS

IBM offers the following methods for installing CICS TS:

- ServerPac
- CBPDO
- IBM customized packages.

The first two of these are entitled offerings, and are the subject of this book, but IBM customized packages are fee-based and are not discussed except for the following summary information. Depending on the country in which you order, you can purchase one of the following customized packages:

- A SystemPac, which tailors CICS TS to your environment, such as DASD layout and naming conventions, based on information provided to IBM.
- SoftwareXcel Installation Express (SIE), which tailors CICS TS to your specification and provides services that perform the actual install for you.
- Other fee-based services and customized offerings.

Both the ServerPac and CBPDO methods of delivering CICS TS come with a set of documentation that you use when you install the product. To help you plan ahead, this chapter gives you a preview of some of this information, such as the information contained in the *Program Directory*, which is shipped regardless of the delivery method you choose.

Note: The *Program Directory* is available in hardcopy only with the product—it is not separately orderable as a normal publication. A softcopy version is available on the CICS TS CD-ROM product kit, and also on the Transaction Processing and Data Collection Kit, SK2T-0730. The *Program Directory* is also available on the CBPDO and ServerPac tapes.

This chapter also helps you with other planning steps you must take:

- Ensuring you have the required hardware and software to install and run CICS TS; see “Requirements for CICS TS”.
- Ensuring you have enough DASD storage space for CICS TS; see “DASD storage requirements for CICS TS” on page 13.
- Outlining the install steps for CBPDO; see “Installing CBPDO” on page 13

Requirements for CICS TS

A major part of your planning effort involves looking at the software and hardware required for the system that you are installing:

Hardware requirements

Whether you choose the CBPDO method or the ServerPac method, the hardware requirement is the same. You need a hardware configuration that runs the required levels of MVS, provided the configuration has a terminal and a tape device capable of reading one of the following types of tape on which CICS TS is supplied:

- 6250 bpi 9-track reels
- 3480 cartridges
- 4MM DAT cartridges

Software requirements

The system software requirements for installing CICS TS using the ServerPac method or the CBPDO method is the same except for the addition of SMP/E for CBPDO. See “Software requirements for installing CICS TS” for details.

Software requirements for installing CICS TS

The products shown in Table 2 must be installed on the system you use to install both the ServerPac and the CBPDO.

Table 2. Program products required on the installing system for ServerPac and CBPDO

Program Product	Minimum Level
OS/390 (5647-A01)	<p>Version 2 Release 5.</p> <p>OS/390 includes the following elements that are required for installing CICS TS:</p> <ul style="list-style-type: none">• Interactive System Productivity Facility (ISPF)• Time Sharing Option/Extended (TSO/E)• DFSMSdfp• Language Environment• Two components of eNetwork Communications Server: SNA and IP (previously VTAM® and TCP/IP).• OS/390 Unix system services (see “HFS and PDSE requirements” for more information. <p>If you are installing CICS TS using the CBPDO method, you also need:</p> <ul style="list-style-type: none">• System Modification Program/Extended (SMP/E)• High Level Assembler/MVS & VM & VSE.

Note: See the *CICS Transaction Server for OS/390 Program Directory* for information about the service required on OS/390 Release 5 to ensure that CICS TS installs correctly.

HFS and PDSE requirements

Some components of CICS TS are installed in PDSE data sets and HFS files. These are FMIDs JCI53LD and JCI53LE, which together install the CICS support for:

- VisualAge for Java™, Enterprise Edition for OS/390
- IIOP inbound to Java applications

For FMID JCI53LD, which contains the HFS-dependent code, the OMVS address space must be active in full-function mode, otherwise the install of this function fails. In the set of installation jobs, there are some new initial jobs to create the HFS files and the directories shown in Figure 2 on page 13. You run these jobs before any of the normal DFHINSTn jobs. Note that the user ID running these jobs requires superuser authority.

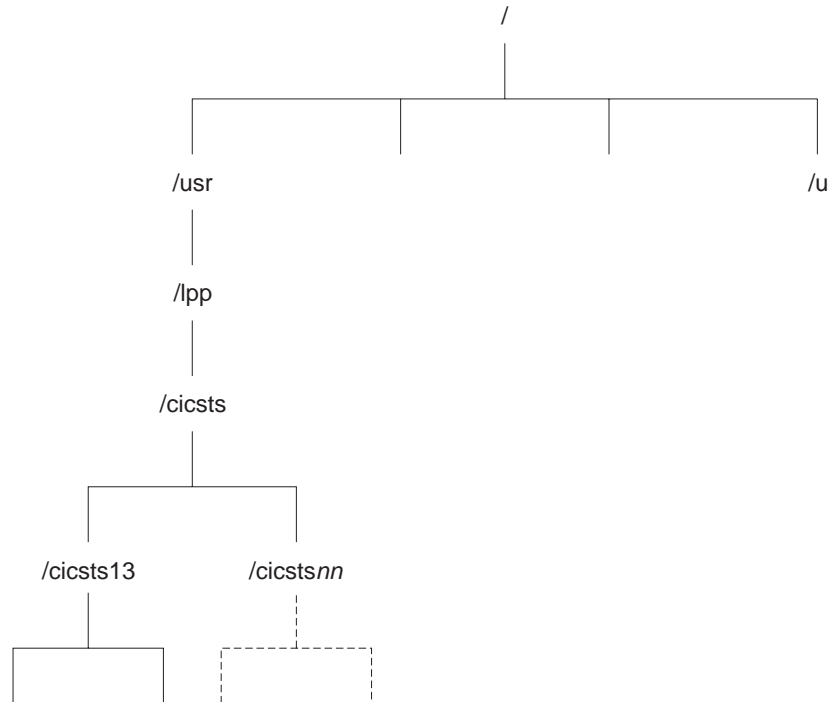


Figure 2. The HFS directory structure for CICS java and IIOF files

Note: If you normally maintain additional SMP/E target zone libraries for the purpose of applying service, you can also create additional directories at the /cicsts13 level to create the HFS equivalent. See the DFHIHFSA job for more information.

DASD storage requirements for CICS TS

The amount of storage required for all the **target** and **distribution** data sets is detailed in the space table in the *CICS Transaction Server for OS/390: Program Directory*.

Installing CBPDO

You install all the elements from the CICS TS CBPDO using a single installation process. The CBPDO *Memo to Users Extension* contains information about the CBPDO you ordered, and the features and service it includes. It also contains CBPDO installation information.

The first planning task is to read the *Memo to Users Extension* thoroughly before starting any of the install tasks. If you are a new user of CBPDO, you should also read the IBM publication, *MVS Custom-Built Offerings Planning and Installation*, SC23-0352.

The *CICS Transaction Server for OS/390: Program Directory* gives a sample IEBCOPY job that you can customize to copy RELFILE(2) from the CICS TS CBPDO tape. (You will need to modify the LABEL=3 parameter to reference the file number of RELFILE(2) as supplied on the CBPDO tape.) When you have copied RELFILE(2) to DASD, you generate a single set of install jobs using the CICS TS

job generator, DFHISTAR. This generates the following set of customized install jobs, based on the parameters you specify to DFHISTAR:

- DFHIHFS0, DFHIHFS1, DFHIHFSA, and DFHISMKD, the HFS-related jobs
- DFHINST1 through DFHINST6

The *CICS Transaction Server for OS/390: Program Directory* describes all the parameters that you can specify to customize the install jobs, and explains the jobs that are generated.

One of the most significant parameters you are asked to specify is the high-level qualifier for the data sets into which the jobs install the product. CICS TS comprises a number of elements that are installed in a single process by the DFHINST n jobs. To ensure the element libraries are easily identified, DFHISTAR adds an element qualifier to the data set names. Using the default high-level qualifier CICSTS13, the names generated by DFHISTAR take the following form:

CICS CICSTS13.CICS.ddname

CICSPlex SM
 CICSTS13.CPSM.ddname

Application Migration Aid
 CICSTS13.AMA.ddname

CICS/DDM
 CICSTS13.DDM.ddname

REXX for CICS
 CICSTS12.REXX.ddname

To enable you to customize the HFS-related jobs, the following parameters are provided in the DFHISTAR job:

HFS0DSN

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

This parameter is used by job DFHIHFS0.

HFS1DSN

The data set name of the HFS to be mounted at directory /usr/lpp/cicsts/ussdir, where ussdir is a variable you specify in DFHISTAR. If you omit the ussdir parameter it defaults to the value (in lower case) of the TINDEX parameter, which in turn defaults to CICSTS13. The default data set name is OMVS.USR.LPP.CICSTS.CICSTS13.

This parameter is used by job DFHIHFS1.

HFSADSN

The data set name of the HFS to be mounted at directory /usr/lpp/cicsts/ussdira, where ussdira is a variable you also specify in DFHISTAR. If you omit the ussdira parameter it defaults to the value (in lower case) of AINDEX, which in turn defaults to CICSTS13.A. The default data set name is OMVS.USR.LPP.CICSTS.CICSTS13.A.

This parameter is used by job DFHIHFSA.

Running the install jobs

Run the install jobs as follows:

1. Run the HFS-related jobs to create the HFS directories down to the `/cicsts13` level:

DFHIHFS0 (required once only)

This job creates the HFS specified on the `HFS0DSN` parameter and also the `/cicsts` directory at `/usr/lpp`.

This job is required once only, the first time you install CICS TS, and can be skipped in subsequent releases.

Note: When you install a new release of OS/390, directories down to the `/usr/lpp` level are replaced, effectively losing the `/cicsts` and lower directories. Issue the make directory command (`mkdir /usr/lpp/cicsts`) to recreate mount point `/usr/lpp/cicsts` for the HFS defined in `DFHIHFS0` (`OMVS.USR.LPP.CICSTS`). The mount command should already be in the `PARMLIB` member `BPXPRMxx`, copied from the `DFHBPXP0` member of `SDFHINST`.

DFHIHFS1 (required)

This job creates, at `/usr/lpp/cicsts`, the HFS specified on the `HFS1DSN` parameter and also the directory specified on the `ussdir` parameter (default name `/cicsts13`).

DFHIHFSA (optional)

This job creates, at `/usr/lpp/cicsts`, the alternate HFS specified on the `HFSADSN` parameter and also the directory specified on the `ussdira` parameter (default name `/cicsts13.a`).

2. Run `DFHISMKD` to create the directories and HFS under `/usr/lpp/cicsts/cicsts13`, required for FMID JCI530D, to contain the Java and IIOF classes, samples, and so on, that have to reside in HFS.
3. Run the `DFHINST1` through `DFHINST4` jobs as described in the *Program Directory*.
4. Run the CBPDO-supplied SMP/E RECEIVE job, `RCVPDO`, located in the CBPDO RIMLIB dataset (this replaces the `DFHINST5` job described in the *Program Directory*).
5. Run the `DFHINST6` job.

Note: This job must run in the same MVS image in which you ran the `DFHISMKD` job to create the HFS directories. `DFHINST6` uses the CICS TS HFS directories and data sets, and these are accessible only in the MVS in which you created them.

There is more detailed information about all these jobs in the CICS TS *CICS Transaction Server for OS/390 Program Directory*, and also in the comments at the start of each job.

On completion of the installation jobs, you have all the elements installed. Note that there is no provision within the `DFHISTAR` job generator, or in the generated jobs, to exclude an element from the install process. When you run the jobs, SMP/E installs all the elements included on the CICS TS CBPDO tape.

By default, SMP/E installs CICS TS in new SMP/E global, target, and distribution zones. The `DFHINST3` job creates a new CSI data set for each zone. If you want to

vary this default SMP/E configuration, see the *CICS Transaction Server for OS/390 Program Directory* for information about the parameters that control the SMP/E zones and the disposition of the CSI data sets.

Installing ServerPac

A CICS Transaction Server ServerPac consists of a number of tapes, the exact number depending on whether other products are included with the CICS TS Serverpac, and also on the type of tape requested. For example, a ServerPac order can comprise the following:

- A tape that contains related-installation material (RIM) files.
- Three tapes that contain the CICS Transaction Server product, consisting of all the SMP/E CSI data sets, and the target and distribution libraries.
- A service tape.

If you already have printed copies of the ServerPac manuals that you need to install the ServerPac, use these to guide you through the installation process. If you don't have copies, download and print the manuals from the first ServerPac tape. There is a sample job, in member PRTDOC, on the RIM tape, that you can use to print the manuals.

What you need to install the ServerPac

You need the following resources to install the CICS Transaction Server ServerPac:

- A tape drive for reading the tapes.
- A TSO session for running the CustomPac dialog.
- A copy of the *IBM ServerPac for OS/390: Using the Installation Dialog* manual, SC28-1244.
- The *ServerPac: Installing Your Order*, customized for each customer order
- The CustomPac dialog supplied with ServerPac.

First-time user of the CustomPac dialog for ServerPac

If you are installing a ServerPac for the first time, start by installing the CustomPac dialog, as described in the *ServerPac: Using the Installation Dialog* manual in "Chapter 2. Installing and Starting the Dialogs".

When you have installed the dialog, invoke the dialog as directed in the *ServerPac: Using the Installation Dialog* manual under the INVOCATION topic.

Existing user of the CustomPac dialog for ServerPac

If you have installed a ServerPac version of CICS Transaction Server for a previous order, use the dialog already installed. Invoke the CustomPac dialog, either from the ISPF primary options menu, or by invoking the ServerPac CLIST.

As an existing user of the CustomPac dialog, you can begin at the step described in the *ServerPac: Using the Installation Dialog* manual, in "Chapter 2. Receive a New Order".

Summary of the ServerPac installation steps

When you invoke the CustomPac dialog, you are presented with the primary option menu, from which you can:

- Receive the order (option **R**)
- Install the order (option **I**).

Note: The primary menu also enables you to display information about orders.

The following tasks are described, with illustrations of the various panels, in the *ServerPac: Using the Installation Dialog* manual:

Receive the order

This step is described in section “6.0 Receive an Order”.

The “Order Receive” panels enable you enter your CICS TS order information, and complete the job card information needed to generate the order-receive job. The final phase of this step presents you with the generated JCL in an edit session, from which you can submit the job to receive the installation material (RIM) files to your DASD.

Install orders

This step is described in section “7.0 Installation Menu”.

The “Installation Menu” panels enable you to:

- Configure the order control information tables.
- Define values for the installation variables used in skeleton batch jobs.
- Define the names of the SMP/E zones into which you want to install CICS TS.
- Modify data set profiles and DASD allocation for the order.
- Define catalog data set names and the aliases associated with them.
- Define system-specific aliases (where applicable)
- Select and submit the installation jobs
- Save the installation work configuration for use with future CICS TS orders
- Update the order inventory status.

The next step

After you have completed the basic installation process using one of the two methods, the next step is to test the two main elements, CICS and CICSplex SM. In general, this means running the CICS installation verification procedures (IVPs) and the CICSplex SM starter set.

These post-installation steps are discussed in the next chapter.

Chapter 3. Post-installation requirements

The main task after installing CICS TS is to prepare the OS/390 environment so that you can run the CICS and CICSplex SM installation verification procedures (IVPs). These procedures start a CICS test region and the CICSplex SM starter-set of regions. For example, you cannot bring up a CICS TS region unless you install the required CICS modules in the MVS link pack area (LPA) and include others in the MVS linklist.

This chapter outlines the main steps and points you to where you can find more information to help you complete these tasks.

Implementing changes in your OS/390 environment for CICS

If you are an existing CICS user and are planning to migrate to CICS Transaction Server for OS/390 Release 3 in an established OS/390 environment, most of the tasks described here will already have been done. In this case, review the following steps to check whether you need to make any changes. If you are setting up a new OS/390 environment, perhaps on new hardware, you need to ensure that the required support for CICS is in place.

The following is a summary of the steps to follow to enable your OS/390 environment to support CICS:

APF-authorize SDFHAUTH

Define the CICSTS13.CICS.SDFHAUTH library as an APF-authorized library. See “APF-authorizing CICS SDFHAUTH library” on page 20 for details.

Authorize CICS regions userids

Authorize to RACF® each CICS region userid to permit access to the required MVS resources. See “Authorizing CICS region userids to RACF” on page 20 for details.

Note: It is assumed that the CICS TS libraries you have installed, and other MVS resources, are protected by RACF, or an equivalent external security manager (ESM).

Add SDFHLINK to LNKLST

Include the CICS linklist library, CICSTS13.CICS.SDFHLINK, in the MVS LNKLST concatenation.

Define CICS as a subsystem

Define CICS as an MVS subsystem if you intend using multiregion operation (MRO), CICS shared database, or the CICS console message-handling facility.

Define and install the CICS Type 3 SVC

Define the DFHCSVC module to MVS.

Schedule an IPL to install the CICS SVC routine, DFHCSVC, and other CICS-required modules in the MVS link pack area (LPA).

Review requirement for HPO

Ensure the DFHHPSVC module is included in the MVS nucleus if you are going to use the VTAM high-performance option (HPO), and ensure the HPO SVC is defined as a Type 6 SVC in the appropriate MVS IEASVCxx PARMLIB member.

Define VTAM APPLs for CICS TORs

Define to VTAM each CICS region that requires VTAM support (for example, all

your terminal-owning regions) and also ensure that any VTAM terminal definitions are properly specified for connection to CICS.

Defining VTAM APPL definitions for CICS application-owning regions (AORs) is optional.

Define log streams

Define the minimum logging environment for CICS system logs.

Install ASR exit for SYMREC macro support

Install an MVS ASR exit to enable CICS to use the SYMREC macro call.

Each of these tasks is discussed in more detail in the following sections.

There are also some optional tasks that you may need to perform at a later stage, but these are not essential to the initial install and operation of a basic CICS system. These tasks are connected with facilities such as VSAM record-level sharing, MVS automatic restart management, and MVS performance. These topics are not discussed in this book, but can be found in the *CICS Transaction Server for OS/390 Installation Guide*.

APF-authorizing CICS SDFHAUTH library

Add the CICS SDFHAUTH library to the list of APF-authorized libraries in the appropriate PROGxx (or IEAAPFxx) member in SYS1.PARMLIB. The SDFHAUTH library must be APF-authorized to enable certain CICS modules, such as DFHSIP, to run in supervisor state.

If your list(s) of APF-authorized libraries are specified in the dynamic format (in a PROGxx member), refresh the APF list dynamically using the SETPROG or SET PROG=xx command.

If your list(s) of APF-authorized libraries are specified in the static format (in IEAAPFxx members), schedule an MVS IPL for the APF-authorization to take effect.

For information about maintaining lists of APF-authorized libraries, see the *OS/390 MVS Initialization and Tuning Reference*.

Authorizing CICS region userids to RACF

Ensure each CICS region userid (the userid under which a CICS region runs) has the required authority (READ, UPDATE, CONTROL, or ALTER) to access the various protected resources it needs to use. These include load libraries and other data sets, coupling facility structures, the VTAM ACB, and so on.

The resources for which you need to ensure access are:

Load libraries

The CICS load libraries, CICSTS13.CICS.SDFHAUTH and CICSTS13.CICS.SDFHLOAD. All CICS regions should have READ authorization to these data sets.

VTAM ACB

A VTAMAPPL general resource class profile protects a CICS region's APPLID. Each region userid should have READ authorization to its own VTAMAPPL profile.

SMSVSAM servers

A SUBSYSNM general resource class profile protects an SMSVSAM server. Each CICS region that opens an SMSVSAM control ACB during initialization must have READ authorization to a SUBSYSNM profile named with its own CICS APPLID.

MVS log streams

A LOGSTRM general resource class profile protects an MVS log stream. Each CICS region requires at least UPDATE authorization to its own system log LOGSTRM profile. If you expect a CICS region to create dynamically its log stream, it needs ALTER authority.

Data set services modules ADDRRLVL and ADRMCLVL

A PROGRAM general resource class profile may be used to protect access to the DFSMSdss™ modules, ADDRRLVL and ADRMCLVL. CICS links to these ADR modules during initialization as part of its check on backup-while-open (BWO) support. Ensure CICS has READ access to these modules if they are protected resources in your MVS environment.

CICS category 1 transactions

The general resource class GCICSTRN (or TCICSTRN) protect all transactions, including CICS system transactions. Each CICS region requires READ authorization to the list of category 1 transactions as defined in member DFH\$CAT1 in the CICS SDFHSAMP samples library.

When you have defined the required authorizations for CICS regions in the RACF data base, activate the various resource classes with the RACF SETROPTS command.

See the *CICS Transaction Server for OS/390 Installation Guide* for information on how to define the necessary RACF security authorizations for all these resources.

Adding SDFHLINK to the MVS LNKLST

CICS provides a number of modules that are intended for use from the MVS LNKLST. These are supplied in the SDFHLINK library, and are in two categories:

1. CICS-supplied modules used by non-CICS jobs
2. Modules that must be consistent across several CICS regions.

Add the CICS SDFHLINK library to the MVS LNKLST concatenation. Note that many of the modules in SDFHLINK can only be used from an APF-authorized library, and therefore SDFHLINK also needs to be APF-authorized.

Note: CICS also loads some non-CICS modules, and these should also be made available through a library included in the LNKLST.

See the *CICS Transaction Server for OS/390 Installation Guide* for more information about SDFHLINK and about non-CICS modules used from LNKLST.

Defining CICS as an MVS subsystem

Define CICS as an MVS subsystem in an IEFSSNxx member of SYS1.PARMLIB if you plan to use any of the following CICS facilities:

- Multiregion operation (MRO)
- Shared database
- The console message-handling facility

- MVS workload management.

Defining and installing the CICS Type 3 SVC

Install the CICS TS Release 3 version of the CICS Type 3 SVC module, DFHCSVC, before you attempt to start a CICS region. To make the CICS Type 3 SVC ready for use:

1. Define the CICS SVC as a Type 3 SVC in the appropriate MVS IEASVCxx PARMLIB member. For example, to use the CICS default SVC number, add the following statements to the IEASVCxx:
SVC Parm 216, REPLACE, TYPE(3), EPNAME(DFHCSVC)
2. Include the CICS LPA library, SDFHLPA, in the MVS LPALST concatenation.
3. If you define to MVS an SVC number other than the default (216), specify the SVC number to CICS on the CICSSVC system initialization parameter.

CICS contains a test to verify that it is using the correct release level of the CICS DFHCSVC module. If CICS calls an SVC module using the SVC number specified on the CICSSVC system initialization parameter, and the module is not at the CICS TS Release 3 level, CICS issues message DFHKE0104.

Reviewing the high-performance option

The high-performance option (HPO) is provided for users who want to optimize terminal response times and maximize transaction throughput. This option requires the CICS Type 6 SVC module, DFHHPSVC, to be included in the MVS nucleus. To help you decide on the use of HPO, see the *CICS Performance Guide*. If you decide to use this option, follow the steps described in the *CICS Transaction Server for OS/390 Installation Guide*.

Defining CICS regions as applications to VTAM

Define each CICS terminal-owning region to VTAM as a VTAM application—that is, as a VTAM application program major node (APPL). To do this, add the required APPL definition statements to a member of SYS1.VTAMLST. For example:

```
* APPL definition for CICS region CICSHTH1
*****
CICSHTH1 APPL AUTH=(ACQ,VPACE,PASS),VPACING=0,EAS=5000,PARSESS=YES      X
          SONSCIP=YES
*****
```

Note: Specify the VTAM APPL name to CICS on a CICS APPLID system initialization parameter.

Also ensure that your VTAM terminals are properly defined for connection to CICS. This is particularly important if you intend using the CICS autoinstall function. For those terminals for which you want to use autoinstall, code VTAM LOGON mode table entries that correspond to the model TYPETERM/TERMINAL definitions defined to CICS. You can either code your own autoinstall models, or use the CICS-supplied model definitions that are generated for you when you initialize the CICS system definition data set (CSD).

For programming information about matching VTAM LOGMODE definitions with CICS model definitions, see the *CICS Customization Guide*.

For information about defining model and VTAM terminal definitions to CICS, see the *CICS Resource Definition Guide*.

Defining log streams

CICS automatically connects to its system log stream, unless you define a journal model resource definition to define the log stream as TYPE(DUMMY).

Each CICS region has only one system log, which is implemented as two MVS system logger log streams. These are used by CICS as the primary and secondary system log streams and together these form a single logical log stream. Thus, as a default each CICS region requires a minimum of two log streams.

Initially, you are recommended to define to the MVS system logger some model log streams, and let CICS create the system log streams dynamically. If you plan to use a coupling facility for CICS logging, you will also need to define the log structures required for the log streams. To get you started, however, using DASD-only log streams is quicker and easier to define. Later, when you have more information available, you can plan to define coupling facility log structures with explicit log streams tailored to your requirements.

Define MVS model log streams using the naming convention that enables CICS to create log streams dynamically. Model names should be of the form *mvs_sysid.DFHLOG.MODEL* and *mvs_sysid.DFHSHUNT.MODEL*, where *mvs_sysid* is the system name of the MVS image in which the CICS region runs.

Example: If a CICS region, running in an MVS image with a sysid of MV10, issues a create log stream request for its primary log stream, the system logger requires a model log stream named MV10.DFHLOG.MODEL.

See the *CICS Transaction Server for OS/390 Installation Guide* for information about some sample jobs that show you how to define model log streams and log structures.

Running without a system log

You can define a CICS JOURNALMODEL resource definition with TYPE(DUMMY) to avoid having to define log streams. If you want to run the IVPs with the minimum effort, here's what to do:

- Define JOURNALMODEL resource definitions in the CSD for the primary and secondary system logs, DFHLOG and DFHSHUNT respectively, specifying TYPE(DUMMY); see Figure 3 on page 24 for a sample job.
- Add the CSD group containing your dummy system log journal models to your own group list, and include your group list on the GRPLIST system initialization parameter.

Note that your group list must *follow* the IBM-supplied list, DFHLIST. DFHLIST includes group DFHLGMOD (which contains DFHLOG and DFHSHUNT JOURNALMODEL definitions) but concatenating your list after DFHLIST ensures that your DUMMY definitions replace the IBM definitions.

```

//CSDLGSTR JOB 1,BELL,MSGCLASS=A,MSGLEVEL=(1,1),CLASS=A
//CSDUP EXEC PGM=DFHCSDUP,REGION=1M,PARM='CSD(READWRITE)'
//STEPLIB DD DSN=CICSTS13.CICS.SDFHLOAD,DISP=SHR
//DFHCSD DD DSN=CICSTS13.CICS.CICSH###.DFHCSD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSABOUT DD SYSOUT=*
//SYSABEND DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//SYSIN DD *
*
* DEFINE JOURNAL MODELS FOR CICS LOG STREAMS AS DUMMY
*
DEFINE JOURNALMODEL(DFHLOG) GROUP(LOGTEST)
DESCRIPTION(DEFINE SYSTEM LOG AS DUMMY)
JOURNALNAME(DFHLOG)
TYPE(DUMMY)
*
DEFINE JOURNALMODEL(DFHSHUNT) GROUP(LOGTEST)
DESCRIPTION(DEFINE SYSTEM LOG AS DUMMY)
JOURNALNAME(DFHSHUNT)
TYPE(DUMMY)
/*
//

```

Figure 3. Sample job to define DUMMY JOURNALMODELS for CICS system logs

MVS ASR exit

A CICS program may call the first failure symptoms (FFS) component. This uses the MVS SYMREC macro to write a symptom record to the MVS SYS1.LOGREC dataset.

Install an MVS ASR exit to enable CICS to use the SYMREC macro call, otherwise the FFS call fails. For more information, see the *OS/390 MVS Installation Exits* manual.

Planning for CICSplex SM

CICSplex SM provides both some basic IVPs and a CICSplex SM starter set:

- See the *CICSplex SM Concepts and Planning*, GC33-0786, for details of the CICSplex SM starter set.
- See the *CICS Transaction Server for OS/390 Installation Guide*, GC33-1681 for details of the IVPs.

You are recommended to run the basic IVPs and the CICSplex SM starter set before moving into a test environment.

Planning for CICSplex SM migration

If you are already a CICSplex SM user, plan and complete your migration to CICSplex SM before migrating your CICS regions. CICS TS Release 3 CICSplex SM can manage CICS regions running under the following releases of CICS:

- 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 3.3 and later
- IBM CICS for VSE/ESA Version 2.2 and later
- IBM CICS for OS/2 Version 2.0.1 and Version 3.0
- CICS/MVS Version 2.1.2

For detailed information about migrating to the CICS TS Release 3 level of CICSplex SM, see the *CICS Transaction Server for OS/390 Migration Guide*.

Parallel Sysplex considerations

Although a coupling facility is not required to operate CICS TS, you may want to install CICS TS in a Parallel Sysplex environment. For information about the hardware and software requirements for a Parallel Sysplex, see the *OS/390 Parallel Sysplex Hardware and Software Migration*, GC28-1862.

Chapter 4. CICS Transaction Server for OS/390 publications

This chapter describes the CICS Transaction Server for OS/390 library of publications under these headings:

- “Overview of the library”
- “The hardcopy library”
- “The softcopy library” on page 29
- “Changes to the library” on page 30
- “Determining if a publication is current” on page 32
- “Explanation of order numbers for IBM books” on page 33
- “General information about softcopy books” on page 33
- “Binders for hardcopy books” on page 35

Overview of the library

The CICS Transaction Server for OS/390 library is delivered as:

- Hardcopy books. A set of hardcopy books is provided automatically with the product. Most of the remaining hardcopy books are available in a set, ordered by a single, chargeable order number available to customers when they order the product. Subsequent copies of all these books are available as separate orders, using the order numbers. A few books are available to separate order only. The licensed books are available, to license holders only, through feature numbers. Details of the hardcopy books are given in “The hardcopy library”.
- Softcopy books. The softcopy unlicensed books are on the *Transaction Processing and Data Collection Kit* compact disk in a single bookshelf. There is also a CICS Transaction Server for OS/390 softcopy product kit, which includes the licensed books, available on CD and on tape. Details of the softcopy books are given in “The softcopy library” on page 29.

The hardcopy library

The hardcopy books are available in a number of ways. When you order CICS, make sure that you request all the books you require.

The entitlement set

This entitlement set of books is automatically provided when you order the product:

- *CICS Transaction Server for OS/390 Installation Guide*, GC33-1681
- *CICS Transaction Server for OS/390 Licensed Program Specification*, GC33-1707
- *Memo to Licensees*, GI10-2509 (not separately orderable)
- *CICS Transaction Server for OS/390 Migration Guide*, GC34-5353
- *CICS Transaction Server for OS/390 Program Directory*, GI10-2506 (not separately orderable)
- *CICS Transaction Server for OS/390 Release Guide*, GC34-5352

- *CICS Transaction Server for OS/390: Planning for Installation*, GC33-1789
- *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

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- *CICS Application Programming Guide*, SC33-1687
- *CICS Business Transaction Services*, SC34-5268
- *CICS C++ OO Class Libraries*, SC34-5455
- *CICS DB2 Guide*, SC33-1939
- *CICS Distributed Transaction Programming Guide*, SC33-1691
- *CICS Front End Programming Interface User's Guide*, SC33-1692
- *CICS IMS Database Control Guide*, SC33-1700
- *CICS Intercommunication Guide*, SC33-1695
- *CICS Master Index*, SC33-1704
- *CICS Messages and Codes*, GC33-1694
- *CICS Performance Guide*, SC33-1699
- *CICS Problem Determination Guide*, GC33-1693
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- *CICS Trace Entries*, SC34-5446
- *CICS Transaction Affinities Utility Guide*, SC33-1777
- *CICS User's Handbook*, SX33-6104
- *CICS Family: Communicating from CICS on System/390*, SC33-1697
- *CICS Family: Interproduct Communication*, SC33-0824
- *CICSplex SM Application Programming Guide*, SC34-5457
- *CICSplex SM Application Programming Reference*, SC34-5458
- *CICSplex SM Managing Business Applications*, SC33-1809
- *CICSplex SM Managing Resource Usage*, SC33-1808
- *CICSplex SM Managing Workloads*, SC33-1807

- *CICSplex SM Master Index*, SC33-1812
- *CICSplex SM Messages and Codes*, GC33-0790
- *CICSplex SM Monitor Views Reference*, SC34-5402
- *CICSplex SM Operations Views Reference*, SC33-0789
- *CICSplex SM Problem Determination*, GC33-0791
- *CICSplex SM Resource Tables Reference*, SC33-1220
- *CICSplex SM User Interface Guide*, SC33-0788
- *CICSplex SM View Commands Reference Summary*, SX33-6099
- *CICS Distributed Data Management User's Guide*, SC33-0695
- *CICS Application Migration Aid Guide*, SC33-0768
- *REXX Development System for CICS/ESA and REXX Runtime Facility for CICS/ESA Guide and Reference*, SH21-0482
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<i>CICS Supplementary Data Areas</i>	n/a	8147

Books supporting CICS Clients

These books may be ordered individually by form number:

- *CICS Family: Client/Server Programming*, SC33-1435
- *CICS Family: OO Programming in Basic for CICS Clients*, SC33-1924
- *CICS Family: OO Programming in C++ for CICS Clients*, SC33-1923
- *CICS Transaction Gateway Version 3: Administration*, SC34-544
- *CICS Universal Clients Version 3 for AIX: Administration*, SC34-5348
- *CICS Universal Clients Version 3 for OS/2: Administration*, SC34-5450
- *CICS Universal Clients Version 3 for Solaris: Administration*, SC34-5451
- *CICS Universal Clients Version 3 for Windows: Administration*, SC34-5449

The softcopy library

The CICS Transaction Server for OS/390 Release 3 unlicensed publications are included on the Transaction Processing and Data collection kit, SK2T-0730, on one bookshelf, with the exception of these books:

- *CICS Transaction Server for OS/390 Licensed Program Specification*
- *CICS Master Index*
- *CICSplex SM Master Index*
- *CICSplex SM View Commands Reference Summary*

These books are provided in softcopy format only:

- *CICS Transaction Server for OS/390 Glossary*
- *CICS Clients Messages*
- *CICS Java Support* (provided in HTML format)

Copies of the Transaction Processing and Data collection kit can be ordered in the following ways:

- In the USA, Asia Pacific, Latin America, and Canada, you can specify feature number 7063 on your order to get your first copy, free of charge, shipped with your basic machine-readable material. Subsequent updates will be shipped free of charge.

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- You can order the collection kit through SLSS, by paying an annual subscription charge and ordering SK2T-0730. This will ensure that you automatically receive any updates throughout the year.
- You can order the collection kit through PUBORDER, by paying a one-time fee and ordering SK2T-0730. You will have to order any subsequent editions of the kit explicitly, paying a further fee.

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There is also a licensed product kit, available on CD-ROM and in three tape formats, for a fee, which includes all the CICS Transaction Server for OS/390 Release 3 books on the Transaction Processing and Data collection kit with the addition of the *CICS Data Areas* and *CICS Diagnosis Reference*

Format	Order number	Feature number
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9/6250 magnetic tape	n/a	8174
3480 tape cartridge	n/a	8175
4mm DAT cartridge	n/a	8176

Changes to the library

The CICS and CICSplex SM libraries have retained their existing books, with some changes due to reorganisation, and others due to new function. The changes are described here.

New books

The following new books have been added to the library:

CICS Transaction Server for OS/390 Installation Guide

Amalgamates the former CICS and CICSplex SM installation information.

CICS Transaction Server for OS/390 Licensed Program Specification

Amalgamates the former CICS and CICSplex SM Licensed Program Specifications.

CICS Transaction Server for OS/390 Program Directory

Replaces the previous (separate) CICS and CICSplex SM Program Directories.

CICS Transaction Server for OS/390 Migration Guide

Tells you about the changes that could affect your migration from release 2 to release 3 of CICS Transaction Server for OS/390.

CICS Transaction Server for OS/390 Release Guide

Describes in considerable detail the new function provided by CICS Transaction Server for OS/390 release 3, containing both guidance and basic reference information.

CICS Business Transaction Services

Supports CICS business transaction services (CBTS) (new function in this release).

CICS C++ OO Class Libraries

Provides an object-oriented interface to CICS server functions

CICS External Interfaces Guide

Describes various methods of accessing CICS transaction processing services from outside CICS. The information in this book was formerly included in the *CICS Internet and External Interfaces Guide*.

CICS Internet Guide

Describes the enhanced Web functions available in this release, together with existing information that was formerly included in the *CICS Internet and External Interfaces Guide*.

CICS Java Support

Documents the CICS Java support (new function in this release). This information is supplied in HTML format only.

CICS Trace Entries

Provides the trace information that was formerly available in the *CICS User's Handbook*

CICSplex System Manager Administration

Contains information that was formerly in the *CICSplex SM Setup* book, with the exception of the CICSplex installation information (now in the *CICS Transaction Server for OS/390 Installation Guide*) and the CICSplex migration information (now in the *CICS Transaction Server for OS/390 Migration Guide*)

CICSplex System Manager Application Programming Guide

Provides the guidance information that was formerly in the *CICSplex SM Application Programming Interface* manual.

CICSplex System Manager Application Programming Reference

Provides the reference information that was formerly in the *CICSplex SM Application Programming Interface* manual.

CICSplex System Manager Monitor Views Reference

Describes the monitor views that were previously included in the *CICSplex SM Operations Reference*.

CICSplex System Manager Operations Views Reference

Describes the operations views that were previously included in the *CICSplex SM Operations Reference*.

Discontinued books

The following books, which were part of the CICS Transaction Server for OS/390 Release 2 library, have been discontinued in this release:

- *CICS Installation Guide*
- *CICS Internet and External Interfaces Guide*
- *CICS Licensed Program Specifications*
- *CICS Program Directory*
- *CICSplex SM Application Programming Interface*
- *CICSplex SM Licensed Program Specifications*
- *CICSplex SM Operations Reference*
- *CICSplex SM Program Directory*
- *CICSplex SM Setup*

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For CICS Transaction Server for OS/390 books, these softcopy updates appear regularly on the *Transaction Processing and Data Collection Kit* CD-ROM, SK2T-0730-xx. Each reissue of the collection kit is indicated by an updated order number suffix (the -xx part). For example, collection kit SK2T-0730-15 is more up-to-date than SK2T-0730-14. The date of the collection kit is indicated on the cover.

There is also the CICS Transaction Server for OS/390 Release 3 product kit available on CD-ROM and tape, but it is not guaranteed that the product kit will be updated as regularly as the collection kit. Also, if ordered appropriately, the collection kit is automatically distributed whenever it is updated, whereas the product kit is available for single order only.

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General information about softcopy books

Further to the information specifically about the softcopy library for this release in “The softcopy library” on page 29, here is some general information about online information.

A primary distribution format for CICS information is the online book, viewable at a computer terminal or workstation. Users have found the online book to be both cost-effective and productive. Information is distributed very cheaply on CD-ROM, takes up negligible physical storage space compared with printed books, and can be made available, across a network, to many employees at the same time. For the end users of the information, search facilities lead to increased productivity, and more frequent updates improve currency of information. For system administration,

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Where existing softcopy manuals are reissued on the new disc, they will contain corrections and improvements identified since the last edition. For full information on the contents of the disc, see the booklet that is supplied with the CD-ROM.

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The following binders are suitable for the manuals:

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