Before using this information and the product it supports, be sure to read the general information under 7.0, “Notices” on page 23.
# Contents

## 1.0 Introduction
1.0 Introduction

1.1 CICS TS Mobile Extensions Description .................................. 1

1.2 CICS TS Mobile Extensions FMIDs ........................................ 2

## 2.0 Program Materials
2.0 Program Materials

2.1 Basic Machine-Readable Material ..................................... 3

2.2 Optional Machine-Readable Material .................................... 3

2.3 Program Publications .......................................... 3

2.4 Program Source Materials .......................................... 4

2.5 Publications Useful During Installation ............................... 4

## 3.0 Program Support
3.0 Program Support

3.1 Program Services .......................................... 5

3.2 Preventive Service Planning ..................................... 5

3.3 Statement of Support Procedures .................................. 6

## 4.0 Program and Service Level Information
4.0 Program and Service Level Information

4.1 Program Level Information .......................................... 7

4.2 Service Level Information .......................................... 7

## 5.0 Installation Requirements and Considerations
5.0 Installation Requirements and Considerations

5.1 Driving System Requirements ........................................ 9

5.1.1 Machine Requirements ........................................ 9

5.1.2 Programming Requirements .................................... 9

5.2 Target System Requirements ........................................ 10

5.2.1 Machine Requirements ........................................ 10

5.2.2 Programming Requirements .................................... 10

5.2.2.1 Installation Requisites ................................... 10

5.2.2.2 Operational Requisites .................................... 11

5.2.2.3 Toleration/Coexistence Requisites .............................. 11

5.2.2.4 Incompatibility (Negative) Requisites ......................... 12

5.2.3 DASD Storage Requirements ..................................... 12

5.3 FMIDs Deleted ..................................................... 14

5.4 Special Considerations ............................................... 14

5.4.1 SMP/E Considerations .......................................... 14

## 6.0 Installation Instructions
6.0 Installation Instructions

6.1 Installing CICS TS Mobile Extensions ................................ 15

6.1.1 SMP/E Considerations for Installing CICS TS Mobile Extensions 15

6.1.2 SMP/E Options Subentry Values .................................. 15

6.1.3 SMP/E CALLLIBS Processing ................................... 16

6.1.4 Sample Jobs ..................................................... 16

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6.1.5 Allocate SMP/E Target and Distribution Libraries ........................................ 17
6.1.6 The DFHMZFS Job .................................................................................. 18
6.1.7 The DFHMMKD Job .................................................................................. 18
6.1.8 The DFHMSMP Job .................................................................................. 18
6.1.9 Define DDDEF Entries .......................................................................... 19
6.1.10 Perform SMP/E RECEIVE .................................................................... 19
6.1.11 Perform SMP/E APPLY ....................................................................... 19
6.1.12 Perform SMP/E ACCEPT ..................................................................... 20
6.1.13 Run REPORT CROSSZONE .................................................................. 21
6.2 Activating CICS TS Mobile Extensions ...................................................... 21
7.0 Notices ........................................................................................................ 23
7.1 Trademarks .................................................................................................. 24

Reader's Comments .......................................................................................... 27

---

**Figures**

1. Basic Material: Unlicensed ........................................................................ 3
2. Publications Useful During Installation ...................................................... 4
3. PSP Upgrade and Subset ID ........................................................................ 5
4. Component IDs ........................................................................................... 6
5. Driving System Software Requirements .................................................... 10
6. Target System Mandatory Installation Requisites ...................................... 11
7. Target System Mandatory Operational Requisites ..................................... 11
8. Total DASD Space Required by CICS TS Mobile Extensions ..................... 12
9. Storage Requirements for CICS TS Mobile Extensions Target Libraries ...... 13
10. CICS TS Mobile Extensions File System Paths ......................................... 13
11. Storage Requirements for CICS TS Mobile Extensions Distribution Libraries 14
12. SMP/E Options Subentry Values ................................................................. 15
13. Sample Installation Jobs ............................................................................ 16
1.0 Introduction

This program directory is intended for system programmers who are responsible for program installation and maintenance. It contains information about the material and procedures associated with the installation of CICS Transaction Server Feature Pack for Mobile Extensions 1.0. This publication refers to CICS Transaction Server Feature Pack for Mobile Extensions 1.0 as CICS TS Mobile Extensions.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic program materials and documentation for CICS TS Mobile Extensions.
- 3.0, “Program Support” on page 5 describes the IBM support available for CICS TS Mobile Extensions.
- 4.0, “Program and Service Level Information” on page 7 lists the APARs (program level) and PTFs (service level) that have been incorporated into CICS TS Mobile Extensions.
- 5.0, “Installation Requirements and Considerations” on page 9 identifies the resources and considerations that are required for installing and using CICS TS Mobile Extensions.
- 6.0, “Installation Instructions” on page 15 provides detailed installation instructions for CICS TS Mobile Extensions. It also describes the procedures for activating the functions of CICS TS Mobile Extensions, or refers to appropriate publications.

Before installing CICS TS Mobile Extensions, read the CBPDO Memo To Users and the CBPDO Memo To Users Extension that are supplied with this program in softcopy format and this Program Directory; then keep them for future reference. Section 3.2, “Preventive Service Planning” on page 5 tells you how to find any updates to the information and procedures in this Program Directory.

CICS TS Mobile Extensions is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The Program Directory that is provided in softcopy format on the CBPDO tape is identical to the hardcopy format if one was included with your order. All service and HOLDDATA for CICS TS Mobile Extensions are included on the CBPDO tape.

Do not use this program directory if you install CICS TS Mobile Extensions with a SystemPac or ServerPac. When you use one of those offerings, use the jobs and documentation supplied with the offering. The offering will point you to specific sections of this program directory as needed.

1.1 CICS TS Mobile Extensions Description

The CICS TS Mobile Extensions builds on the service-oriented architecture (SOA) capabilities in CICS to work with JavaScript Object Notation (JSON). Using the feature pack you can expose CICS applications as web services with JSON payloads, create new RESTful applications, invoke existing JSON applications, and transform JSON from any source to and from application data.

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The CICS Transaction Server Feature Pack for Mobile Extensions 1.0 requires CICS TS for z/OS Version 4.2 or CICS TS for z/OS Version 5.1.

Using the feature pack gives the following benefits:

- You can enable CICS applications to be called as request-response style web services with a JSON payload
- You can host new RESTful JSON applications in CICS
- You can transform JSON from any source to structured application data
- You can invoke web services hosted externally using JSON
- You can broaden the reach of your mobile applications to include CICS data
- IBM Worklight can be used to communicate with existing CICS programs using JSON

### 1.2 CICS TS Mobile Extensions FMIDs

CICS TS Mobile Extensions consists of the following FMIDs:

HCIF51C
2.0 Program Materials

An IBM program is identified by a program number. The program number for CICS TS Mobile Extensions is 5655-Y48.

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

The program announcement material describes the features supported by CICS TS Mobile Extensions. Ask your IBM representative for this information if you have not already received a copy. Also, visit http://www.ibm.com/common/ssi/cgi-bin/ssialias?infotype=AN&subtype=CA&htmlfid=897/ENUS213-177.

2.1 Basic Machine-Readable Material

The distribution medium for this program is physical media or downloadable files. This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, “Installation Instructions” on page 15 for more information about how to install the program.

You can find information about the physical media for the basic machine-readable materials for CICS TS Mobile Extensions in the CBPDO Memo To Users Extension.

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for CICS TS Mobile Extensions.

2.3 Program Publications

The following sections identify the basic publications for CICS TS Mobile Extensions.

Figure 1 identifies the basic unlicensed publications for CICS TS Mobile Extensions. Publications can be accessed at the IBM Publications Center website at http://www.ibm.com/shop/publications/order/

<table>
<thead>
<tr>
<th>Publication Title</th>
<th>Form Number</th>
<th>Media Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>CICS Transaction Server Feature Pack for Mobile Extensions 1.0: Program Directory</td>
<td>Gi13-3322-00</td>
<td>IBM Publications Center</td>
</tr>
</tbody>
</table>

No optional publications are provided for CICS TS Mobile Extensions.
2.4 Program Source Materials

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

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 2 during the installation of CICS TS Mobile Extensions. To order copies, contact your IBM representative or visit the IBM Publications Center at: http://www.ibm.com/shop/publications/order/

---

**Figure 2. Publications Useful During Installation**

<table>
<thead>
<tr>
<th>Publication Title</th>
<th>Form Number</th>
<th>Media Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM SMP/E for z/OS User's Guide</td>
<td>SA22-7773</td>
<td>IBM Publications Center</td>
</tr>
<tr>
<td>IBM SMP/E for z/OS Commands</td>
<td>SA22-7771</td>
<td>IBM Publications Center</td>
</tr>
<tr>
<td>IBM SMP/E for z/OS Reference</td>
<td>SA22-7772</td>
<td>IBM Publications Center</td>
</tr>
<tr>
<td>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</td>
<td>GA22-7770</td>
<td>IBM Publications Center</td>
</tr>
</tbody>
</table>
3.0 Program Support

This section describes the IBM support available for CICS TS Mobile Extensions.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install CICS TS Mobile Extensions, make sure that you have reviewed the current Preventive Service Planning (PSP) information. Review the PSP Bucket for General Information, Installation Documentation, and the Cross Product Dependencies sections. For the Recommended Service section, instead of reviewing the PSP Bucket, it is recommended you use the IBM.ProductInstall-RequiredService fix category in SMP/E to ensure you have all the recommended service installed. Use the FIXCAT(IBM.ProductInstall-RequiredService) operand on the APPLY CHECK command. See 6.1.11, “Perform SMP/E APPLY” on page 19 for a sample APPLY command.

If you obtained CICS TS Mobile Extensions as part of a CBPDO, HOLDDATA is included.

If the CBPDO for CICS TS Mobile Extensions is older than two weeks by the time you install the product materials, you can obtain the latest PSP Bucket information by going to the following website:


You can also use S/390 SoftwareXcel or contact the IBM Support Center to obtain the latest PSP Bucket information.

For program support, access the Software Support Website at http://www.ibm.com/software/support/.

PSP Buckets are identified by UPGRADEs, which specify product levels; and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for CICS TS Mobile Extensions are included in Figure 3.

<table>
<thead>
<tr>
<th>UPGRADE</th>
<th>SUBSET</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CICSF51C</td>
<td>HCIF51C</td>
<td>CICS TS Mobile Extensions</td>
</tr>
</tbody>
</table>

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3.3 Statement of Support Procedures

Report any problems which you feel might be an error in the product materials to your IBM Support Center. You may be asked to gather and submit additional diagnostics to assist the IBM Support Center in their analysis.

Figure 4 on page 6 identifies the component IDs (COMPID) for CICS TS Mobile Extensions.

<table>
<thead>
<tr>
<th>FMID</th>
<th>COMPID</th>
<th>Component Name</th>
<th>RETAIN Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCIF51C</td>
<td>5655Y4800</td>
<td>CICS TS Mobile Extensions</td>
<td>51C</td>
</tr>
</tbody>
</table>
4.0 Program and Service Level Information

This section identifies the program and relevant service levels of CICS TS Mobile Extensions. The program level refers to the APAR fixes that have been incorporated into the program. The service level refers to the PTFs that have been incorporated into the program.

4.1 Program Level Information

No APARs have been incorporated into CICS TS Mobile Extensions.

4.2 Service Level Information

No PTFs against this release of CICS TS Mobile Extensions have been incorporated into the product package.

You must frequently check the CICS TS Mobile Extensions PSP Bucket for HIPER and SPECIAL attention PTFs against all FMIDs that you must install. You can also receive the latest HOLDDATA, then add the FIXCAT(IBM.PRODUCTINSTALL-REQUIREDSERVICE) operand on your APPLY CHECK command. This will allow you to review the recommended and critical service that should be installed with your FMIDs.
5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating CICS TS Mobile Extensions. The following terminology is used:

- **Driving system**: the system on which SMP/E is executed to install the program.
  - The program might have specific operating system or product level requirements for using processes, such as binder or assembly utilities during the installation.

- **Target system**: the system on which the program is configured and run.
  - The program might have specific product level requirements, such as needing access to the library of another product for link-edits. These requirements, either mandatory or optional, might directly affect the element during the installation or in its basic or enhanced operation.

In many cases, you can use a system as both a driving system and a target system. However, you can make a separate IPL-able clone of the running system to use as a target system. The clone must 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.

Use separate driving and target systems in the following situations:

- When you install a new level of a product that is already installed, the new level of the product will replace the old one. By installing the new level onto a separate target system, you can test the new level and keep the old one in production at the same time.

- When you install a product that shares libraries or load modules with other products, the installation can disrupt the other products. By installing the product onto a separate target system, you can assess these impacts without disrupting your production system.

5.1 Driving System Requirements

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

5.1.1 Machine Requirements

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

5.1.2 Programming Requirements
Note: Installation might require migration to new z/OS releases to be service supported.


### Figure 5. Driving System Software Requirements

<table>
<thead>
<tr>
<th>Program Number</th>
<th>Product Name</th>
<th>Minimum VRM</th>
<th>Minimum Service Level will satisfy these APARs</th>
<th>Included in the shipped product?</th>
</tr>
</thead>
<tbody>
<tr>
<td>5655-G44</td>
<td>IBM SMP/E for z/OS</td>
<td>V3.5.0</td>
<td>N/A</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Any one of the following:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5694-A01</td>
<td>z/OS</td>
<td>V01.11 and above</td>
<td>OA32271 OA32611</td>
<td>No</td>
</tr>
<tr>
<td>5694-A01</td>
<td>z/OS</td>
<td>V01.12 and above</td>
<td>OA34311</td>
<td>No</td>
</tr>
<tr>
<td>5694-A01</td>
<td>z/OS</td>
<td>V1.13.0 and above</td>
<td>N/A</td>
<td>No</td>
</tr>
</tbody>
</table>

Note: Installation might require migration to new z/OS releases to be service supported.


### 5.2 Target System Requirements

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

CICS TS Mobile Extensions installs in the CICS (C150) SREL.

#### 5.2.1 Machine Requirements

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

#### 5.2.2 Programming Requirements

**5.2.2.1 Installation Requisites:** Installation requisites identify products that are required by and must be present on the system or products that are not required by but should be present on the system for the successful installation of this product.

Mandatory installation requisites identify products that are required on the system for the successful installation of this product. These products are specified as PREs or REqs.
5.2.2.2 Operational Requisites: Operational requisites are products that are required by and must be present on the system or products that are not required by but should be present on the system for this product to operate all or part of its functions.

Mandatory operational requisites identify products that are required for this product to operate its basic functions. These products are specified as PREs or REQs.

Conditional operational requisites identify products that are not required for this product to operate its basic functions but are required at run time for this product to operate specific functions. These products are specified as IF REQs.

5.2.2.3 Toleration/Coexistence Requisites: Toleration/coexistence requisites identify products that must be present on sharing systems. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD environment at different time intervals.

CICS TS Mobile Extensions has no toleration/coexistence requisites.
5.2.2.4 Incompatibility (Negative) Requisites: Negative requisites identify products that must not be installed on the same system as this product.

CICS TS Mobile Extensions has no negative requisites.

5.2.3 DASD Storage Requirements

CICS TS Mobile Extensions libraries can reside on all supported DASD types.

Figure 8 lists the total space that is required for each type of library.

<table>
<thead>
<tr>
<th>Library Type</th>
<th>Total Space Required in 3390 Trks</th>
<th>File System Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>235 Tracks</td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td>225 Tracks</td>
<td></td>
</tr>
<tr>
<td>File System</td>
<td>60 Tracks</td>
<td></td>
</tr>
</tbody>
</table>

Notes:

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

2. Abbreviations used for data set types are shown as follows.

   **U** Unique data set, allocated by this product and used by only this product. This table provides all the required information to determine the correct storage for this data set. You do not need to refer to other tables or program directories for the data set size.

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

   **E** Existing shared data set, used by this product and other products. This data set is not allocated by this product. To determine the correct storage for this data set, add the storage size given in this table to those given in 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 release and reclaim the space that was used by the old release and any service that had been installed. You can determine whether 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 about the names and sizes of the required data sets, see 6.1.5, “Allocate SMP/E Target and Distribution Libraries” on page 17.

3. Abbreviations used for the file system path type are as follows.

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

4. All target and distribution libraries listed have the following attributes:
   - The default name of the data set can be changed.
   - The default block size of the data set can be changed.
   - The data set can be merged with another data set that has equivalent characteristics.
   - The data set can be either a PDS or a PDSE.

5. All target libraries listed have the following attributes:
   - These data sets can be SMS-managed, but they are not required to be SMS-managed.
   - These data sets are not required to reside on the IPL volume.
   - The values in the "Member Type" column are not necessarily the actual SMP/E element types that are identified in the SMPMCS.

The following figures describe the target and distribution libraries and file system paths required to install CICS TS Mobile Extensions. The storage requirements of CICS TS Mobile Extensions must be added to the storage required by other programs that have data in the same library or path.

**Note:** Use the data in these tables to determine which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

<table>
<thead>
<tr>
<th>Library DDNAME</th>
<th>Member Type</th>
<th>Target Volume</th>
<th>Region</th>
<th>Logical Volume</th>
<th>No. of Trks</th>
<th>No. of Blks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDFHMOBI</td>
<td>SAMP</td>
<td>ANY</td>
<td>U</td>
<td>PDS</td>
<td>80</td>
<td>15</td>
</tr>
<tr>
<td>SDFHMOBL</td>
<td>LMOD</td>
<td>ANY</td>
<td>U</td>
<td>PDS</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>SDFHMOBS</td>
<td>SAMP</td>
<td>ANY</td>
<td>U</td>
<td>PDS</td>
<td>80</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DDNAME</th>
<th>Path Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDFHMOBZ</td>
<td>/usr/lpp/cicsts/mobilefp/IBM</td>
</tr>
</tbody>
</table>
### 5.3 FMIDs Deleted

Installing CICS TS Mobile Extensions might result in the deletion of other FMIDs. To see which FMIDs will be deleted, examine the `++VER` statement in the SMPMCS of the product.

If you do not want to delete these FMIDs at this time, install CICS TS Mobile Extensions into separate SMP/E target and distribution zones.

**Note:** These FMIDs are not automatically deleted from the Global Zone. If you want to delete these FMIDs from the Global Zone, use the SMP/E `REJECT NOFMID DELETEFMID` command. See the SMP/E manuals for instructions.

### 5.4 Special Considerations

#### 5.4.1 SMP/E Considerations

IBM recommends that you install CICS TS Mobile Extensions into the same SMP/E zones as CICS TS, including SMPCSI, target, distribution, and zFS data sets. This program directory provides sample jobs and instructions to install CICS TS Mobile Extensions.
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 Mobile Extensions.

Please note the following points:

- If you want to install CICS TS Mobile Extensions 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.
- You can use the sample jobs that are provided to perform part or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries that are required for SMP/E execution have been defined in appropriate zones.
- You can use the SMP/E dialogs instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing CICS TS Mobile Extensions

6.1.1 SMP/E Considerations for Installing CICS TS Mobile Extensions

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of CICS TS Mobile Extensions.

All installation steps must be run from a user ID that is defined to UNIX Systems Services, and has the following attributes:

- UID(0) or READ access or higher to the BPX.SUPERUSER facility class.
- READ access or higher to the BPX.FILEATTR.PROGCTL and BPX.FILEATTR.APF and BPX.FILEATTR.SHARELIB facility classes.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 12. Using values lower than the recommended values can result in failures in the installation. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. See the SMP/E manuals for instructions on updating the global zone.

<table>
<thead>
<tr>
<th>Subentry</th>
<th>Value</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSSPACE</td>
<td>(55,18,24)</td>
<td></td>
</tr>
<tr>
<td>PEMAX</td>
<td>SMP/E Default</td>
<td>IBM recommends using the SMP/E default for PEMAX.</td>
</tr>
</tbody>
</table>
6.1.3 SMP/E CALLLIBS Processing

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

- SCEELKED
- SDFHLOAD

Note: CALLLIBS uses the previous DDDEFs only to resolve the link-edit for CICS TS Mobile Extensions. These data sets are not updated during the installation of CICS TS Mobile Extensions.

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install CICS TS Mobile Extensions:

<table>
<thead>
<tr>
<th>Job Name</th>
<th>Job Type</th>
<th>Description</th>
<th>RELFILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFHMSMP</td>
<td>ZONES</td>
<td>Sample job to set up SMP/E zones (see note below)</td>
<td>IBM.HCIF51C.F2</td>
</tr>
<tr>
<td>DFMRCV</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job</td>
<td>IBM.HCIF51C.F2</td>
</tr>
<tr>
<td>DFMRCVE</td>
<td>RECEIVE</td>
<td>Sample RECEIVE job for electronic/disk input</td>
<td>IBM.HCIF51C.F2</td>
</tr>
<tr>
<td>DFMALOC</td>
<td>ALLOCATE</td>
<td>Sample job to allocate target and distribution libraries</td>
<td>IBM.HCIF51C.F2</td>
</tr>
<tr>
<td>DFMZFS</td>
<td>zFS</td>
<td>Sample job to create zFS and mountpoint for CICS TS Mobile Extensions</td>
<td>IBM.HCIF51C.F2</td>
</tr>
<tr>
<td>DFHMMKD</td>
<td>MKDIR</td>
<td>Sample job to invoke the supplied DFHMMKD EXEC to allocate HFS or zFS paths</td>
<td>IBM.HCIF51C.F2</td>
</tr>
<tr>
<td>DFHDDEF</td>
<td>DDDEF</td>
<td>Sample job to define SMP/E DDDEFs</td>
<td>IBM.HCIF51C.F2</td>
</tr>
<tr>
<td>DFHMAPLY</td>
<td>APPLY</td>
<td>Sample APPLY job</td>
<td>IBM.HCIF51C.F2</td>
</tr>
<tr>
<td>DFHMACPT</td>
<td>ACCEPT</td>
<td>Sample ACCEPT job</td>
<td>IBM.HCIF51C.F2</td>
</tr>
</tbody>
</table>

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.10, “Perform SMP/E RECEIVE” on page 19) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 13 to find the appropriate refile data set.

You can also copy the sample installation jobs from the tape or product files by submitting the following job. Depending on your distribution medium, use either the //TAPEIN or the //FILEIN DD statement and comment out or delete the other statement. Before you submit the job, add a job card and change the lowercase parameters to uppercase values to meet the requirements of your site.

Figure 13. Sample Installation Jobs
//STEP1 EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=* 
//TAPEIN DD DSN=IBM.HCIF51C.F2,UNIT=tunit,
  // VOL=SER=volser,LABEL=(x,SL),
  // DISP=(OLD,KEEP)
//FILEIN DD DSN=IBM.HCIF51C.F2,UNIT=SYSALLDA,DISP=SHR,
  // VOL=SER=filevol
//OUT DD DSN=IBM.HCIF51C.F2,UNIT=SYSALLDA,DISP=SHR,
  // VOL=SER=servol,
//SYSUT3 DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN DD /
  // COPY INDD=xxxxIN,OUTDD=OUT
/*
See the following information to update the statements in the previous sample:

TAPEIN:
  tunit is the unit value that matches the product package.
  volser is the volume serial that matches the product package.
  x is the tape file number that indicates the location of the data set name on the tape.
  See the documentation that is provided by CBPDO for the location of IBM.HCIF51C.F2 on the tape.

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

OUT:
  jcl-library-name is the name of the output data set where the sample jobs are stored.
  dasdvol is the volume serial of the DASD device where the output data set resides.

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

Customize each of the sample jobs listed in Figure 13 on page 16. Each sample job contains comments with specific instructions for customization.

6.1.5 Allocate SMP/E Target and Distribution Libraries

Customize and run sample job DFHMALOC to allocate the SMP/E target and distribution libraries for CICS TS Mobile Extensions. Refer to the instructions in the sample job for more information.

Make sure the data sets are allocated on the required volumes.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

If you create a new file system for this product, consider updating the BPXPRMxx PARMLIB member to mount the new file system at IPL time. This action can be helpful if an IPL occurs before the installation is completed.
6.1.6 The DFHMZFS Job

The DFHMZFS Job creates a directory (/usr/lpp/cicsts/mobilefp) that is used for the zFS mounts required for CICS TS Mobile Extensions.

This job

- Creates the cicsts/mobilefp directory at /usr/lpp
- Mounts the zFS at directory /usr/lpp/cicsts/mobilefp
- Changes the permission settings for the /usr/lpp/cicsts/mobilefp
directory to:
  - Owner=RWX
  - Group=RWX
  - Other=R-X
(In Octal form: 775)

Notes:

1. DFHMZFS only needs to be run once, but may be re-run.
2. RACF ALTER ACCESS to the zFS data sets must be granted before running this DFHMZFS.
3. The /usr/lpp/cicsts/mobilefp directory contains only directories, each being a mount point.
4. CICS TS Mobile Extensions requires the MOUNT issued by DFHMZFS to access files stored in the zFS, but the MOUNT command is lost when you re-IPL MVS.

The highest expected return code is 0.

6.1.7 The DFHMMKD Job

This job creates the directories in zFS.

The highest expected return code is 0.

6.1.8 The DFHMSMP Job

This job sets up the SMP/E zones.

Note: Only run this job if you are installing CICS TS Mobile Extensions into its own zone.

Edit and submit the sample job DFHMSMP to set up the zones for CICS TS Mobile Extensions. Consult the instructions in the sample job for more information.

The highest expected return code is 0.
6.1.9 Define DDDEF Entries

Customize and run the sample job DFHMDDEF to create SMP/E DDDEFs for target and distribution data sets and directories. Make sure the call library DDDEFs point to the corresponding data sets for your z/OS target system.

Check the job output to verify that all directories have been created.

Expected Return Codes and Messages: You will receive a return code of 0 if this job runs correctly.

6.1.10 Perform SMP/E RECEIVE

If you have obtained CICS TS Mobile Extensions as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the CICS TS Mobile Extensions FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

You can also choose to edit and submit sample job DFHMRCV (tape) or DFHMRCVE (electronic/disk) to perform the SMP/E RECEIVE for CICS TS Mobile Extensions. Consult the instructions in the sample job for more information.

6.1.11 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job DFHMAPLY to perform an SMP/E APPLY CHECK for CICS TS Mobile Extensions. Consult the instructions in the sample job for more information.

HOLDDATA introduces ERROR HOLDs against FMIDs for HIPER APARs. Before the installation, ensure that you have the latest HOLDDATA, which is available through several different portals, including http://service.software.ibm.com/holddata/390holddata.html. Install the FMIDs regardless of the status of unresolved HIPERs. However, do not deploy the software until the unresolved HIPERs are analyzed to determine applicability.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do not bypass the PRE, ID, REQ, and IFREQ on the APPLY CHECK. The SMP/E root cause analysis identifies the cause only of errors and not of warnings (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings, instead of errors).

Here is a sample to install FMIDs when ++HOLDs for HIPERs exist for the FMIDs that you install:

a. To ensure that all recommended and critical service is installed with the FMIDs, if you have received the latest HOLDDATA, add the FIXCAT operand to the APPLY command as shown below.

```
APPLY S(fmid,fmid,...)
FORFMID(fmid,fmid,...)
SOURCEID(RSU/c5197)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND.
```

Installation Instructions 19
Some HIPER APARs might not have PTFs available yet. You have to analyze the symptom flags to determine if you want to bypass the specific ERROR HOLDs and continue the installation of the FMIDs.

This method requires more initial research, but can provide resolution for all HIPERs that have fixes available and are not in a PE chain. Unresolved PEs or HIPERs might still exist and require the use of BYPASS.

b. To install the FMIDs without regard for the HIPERs, you can add a BYPASS(HOLDCLASS(HIPER)) operand to the APPLY command. In this way, you can install FMIDs even though HIPER ERROR HOLDs against them still exist. Only the HIPER ERROR HOLDs are bypassed. After the FMIDs are installed, run the SMP/E REPORT ERRSYSMODS command to identify missing HIPER maintenance.

```plaintext
APPLY S(fmid,fmid,...) FORFMID(fmid,fmid,...) SOURCEID(RSU/c5197) GROUPEXTEND BYPASS(HOLDCLASS(HIPER)) .
```

This method is the quicker of the two, but requires subsequent review of the REPORT ERRSYSMODS to investigate any HIPERs. If you have received the latest HOLDDATA, you can also choose to run REPORT MISSINGFIX for Fix Category IBM.ProductInstall-RequiredService to investigate missing recommended service.

If you bypass HOLDs during the installation of the FMIDs because PTFs are not yet available, you can be notified when the PTFs are available by using the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink.

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

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

   **Expected Return Codes and Messages from APPLY CHECK:** You will receive a return code of 0 if this job runs correctly.

   **Expected Return Codes and Messages from APPLY:** You will receive a return code of 0 if this job runs correctly.

6.1.12 Perform SMP/E ACCEPT

Edit and submit sample job DFHMACPT to perform an SMP/E ACCEPT CHECK for CICS TS Mobile Extensions. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do not bypass the PRE, ID, REQ, and IFREQ on the ACCEPT CHECK. The SMP/E root cause analysis identifies the cause of only errors but not warnings (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings rather than errors).
Before you use SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. In this way, you can save the entries that are produced from JCLIN in the distribution zone whenever a SYSMOD that contains inline JCLIN is accepted. For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E Commands book for details.

After you take actions that are indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

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

**Expected Return Codes and Messages from ACCEPT CHECK:** You will receive a return code of 0 if this job runs correctly.

If PTFs that contain replacement modules are accepted, SMP/E ACCEPT processing will link-edit or bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder might issue messages that indicate unresolved external references, which will result in a return code of 4 during the ACCEPT phase. You can ignore these messages, because the distribution libraries are not executable and the unresolved external references do not affect the executable system libraries.

**Expected Return Codes and Messages from ACCEPT:** You will receive a return code of 0 if this job runs correctly.

### 6.1.13 Run REPORT CROSSZONE

The SMP/E REPORT CROSSZONE command identifies requisites for products that are installed in separate zones. This command also creates APPLY and ACCEPT commands in the SMPPUNCH data set. You can use the APPLY and ACCEPT commands to install those cross-zone requisites that the SMP/E REPORT CROSSZONE command identifies.

After you install CICS TS Mobile Extensions, it is recommended that you run REPORT CROSSZONE against the new or updated target and distribution zones. REPORT CROSSZONE requires a global zone with ZONEINDEX entries that describe all the target and distribution libraries to be reported on.

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

### 6.2 Activating CICS TS Mobile Extensions

When the installation of the feature pack is complete, you must configure CICS to use the feature pack. For more information, see Configuring CICS to process JSON in the CICS Transaction Server Feature Pack for Mobile Extensions 1.0.
7.0 Notices

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