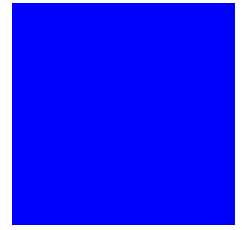


IBM



CIMS Mainframe Data Collector and Chargeback System

Installation and Upgrade Guide

Version 12.2.1

Note • Before using this information and the product it supports, read the information in *Appendix A, Notices*.

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Preface

This guide provides a comprehensive set of procedures and references for installing and upgrading CIMS Mainframe Data Collector and Chargeback System.

Who Should Read This Guide

This guide is for system administrators responsible for installing and upgrading CIMS Mainframe Data Collector and Chargeback System.

Readers should be familiar with the following:

- z/OS® operating system
- Interactive System Productivity Facility (ISPF)
- Job code language (JCL)
- Customer Information Control System (CICS®)

What This Guide Contains

The following table describes the chapters in this guide. CIMS Mainframe Data Collector and Chargeback System.

| Ch. No. | Chapter Name | Content Description |
|---------|--------------------------------------|---|
| 1 | <i>Introduction</i> | Provides general information regarding installing and upgrading CIMS Mainframe Data Collector and Chargeback System. Review this chapter before continuing to the other chapters in this guide. |
| 2 | <i>New Installation Instructions</i> | Provides procedures for installing and implementing CIMS for a new installation. |
| 3 | <i>Upgrade Instructions</i> | Provides procedures for upgrading an already existing installation of CIMS. |
| 4 | <i>CIMSMONY Upgrade Instructions</i> | Provides procedures for upgrading from program CIMSBILL to program CIMSMONY. |
| 5 | <i>Installation Flow Charts</i> | Presents additional installation information and installation flow charts. |
| | <i>Index</i> | |

Related Publications

As you use this guide, you might find it helpful to have these additional guides available for reference:

- *CIMS Mainframe Data Collector and Chargeback System User Guide*
- *CIMS CICS Data Collector User Guide*
- *CIMS VM/CMS Data Collector User Guide*

Contacting Customer Support

Before contacting IBM® Tivoli® Software Support with a problem, refer to the IBM Tivoli Software Support site by clicking the **Tivoli** link at the following Web site:

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

If you need additional help, contact software support by using the methods described in the *IBM Software Support Guide* at the following Web site:

<http://techsupport.services.ibm.com/guides/handbook.html>

The *IBM Software Support Guide* provides the following information:

- Registration and eligibility requirements for receiving support.
- Telephone numbers, depending on the country in which you are located.
- A list of information you should gather before contacting technical support.

Conventions Used in This Guide

Some or all of the following conventions are used in this guide:

| Symbol or Type Style | Represents | Example |
|-------------------------|--|---|
| Bold | a new term | ...called a source object . |
| <i>Alternate color</i> | (online only) hotlinked cross-references to other sections in this guide; if you are viewing this guide online in PDF format, you can click the cross-reference to jump directly to its location | ...see <i>Chapter 2, New Installation Instructions</i> . |
| <i>Italic</i> | words that are emphasized | ...the entry <i>after</i> the current entry... |
| | the titles of other documents | <i>CIMS Mainframe Data Collector and Chargeback System User Guide</i> |
| | syntax variables | <code>COPY filename</code> |
| Monospace | directories, file names, command names, computer code | <code>&HIGHLVL.SRCLIB</code> |
| | computer screen text, system responses, command line commands | Copy file? Y/N |
| Monospace bold | what a user types | ...enter RUN APP.EXE in the Application field |
| < > | the name of a key on the keyboard | Press <Enter>. |
| ▶ | choosing a command from a cascading menu | File ▶ Import ▶ Object |
| Highlighted Screen Text | used to callout screen text on character-based screen captures. (When viewed online, the screen text will be blue.) | Data set.... Product.... Parmlib... |

Introduction

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Overview

The purpose of this guide is to describe the install process for CIMS Mainframe Data Collector and Chargeback System release 12.2.1 for both new and existing CIMS users. This guide contains important information and should be reviewed before proceeding with the install or upgrade.

About Installing the Most Current Release

If you do not install CIMS Mainframe Data Collector and Chargeback System in a timely manner after receiving the product, a new product release may be available from IBM. Each release is assigned a genlevel that specifies the release date.

To determine the genlevel of your existing installation:

Customize the CIMS.DATFILE JCL member CIMSLEVL and submit it. The output in the CIMSPRNT DD contains the genlevel. The output is similar to the following:

```
V12.2.1                CIMS, The Enterprise ChargeBack System
                        -----
                        Program CIMSLEVL

CIMS Base Install Level = 2006/12/29
```

To determine whether any product updates are available:

IBM periodically rebuilds the install to include all updates that have been made to the product since the initial genlevel was released. If any updates have been added to the genlevel, the CIMS.DATFILE member will include a \$BLDUPDT member that lists all of the updates to the current genlevel.

Installation Sources

You can install or upgrade CIMS Mainframe Data Collector and Chargeback System from the following sources:

- CIMS Product CD
- IBM Web site

For complete installation and upgrade instructions, see [Chapter 2, New Installation Instructions](#) and [Chapter 3, Upgrade Instructions](#).

Note • To ensure that you always have access to the current genlevel of CIMS Mainframe Data Collector and Chargeback System, IBM recommends that you install or upgrade from the IBM Web site.

New Installations

If you are installing CIMS Mainframe Data Collector and Chargeback System for the first time, refer to the following chapters:

- **Chapter 6, README File.** This chapter provides a copy of the `readme` file contained in the self-extracting `cimsmdcc_<genleveldate>.exe` executable located on the CIMS Product CD and IBM Web site. When installing from this executable, all the steps in the `readme` file must be completed before going on to **Step Two: Run CIMSINIT** on page 2-8.
- **Chapter 2, New Installation Instructions.** This chapter contains steps to install the base CIMS Mainframe Data Collector and Chargeback System product. You will run several sample jobs to test out the client and rate files and sample jobs to process SMF data and produce an invoice. After the system is installed, you will then customize it to your shop's standards.
- **Chapter 5, Installation Flow Charts.** This chapter provides a guide to customizing CIMS for your shop.

Upgrades

If you are upgrading to a *new* release of CIMS Mainframe Data Collector and Chargeback System, refer to the following chapters:

- **Chapter 6, README File.** This chapter provides a copy of the `readme` file contained in the self-extracting `cimsmdcc_<genleveldate>.exe` executable located on the CIMS Product CD and IBM Web site. When upgrading from this executable, all the steps in the `readme` file must be completed before going on to **Chapter 3, Upgrade Instructions.**
- **Chapter 3, Upgrade Instructions.** This chapter contains all the information necessary to upgrade to the new release of CIMS. It lists the specific JCL changes, program changes (new control statements, updated control statements, different processing options), and report changes for the upgrade.

If you are upgrading from one `genlevel` to another of the *same* CIMS Mainframe Data Collector and Chargeback System release, perform the steps in the `readme` file contained in the self-extracting `mdccupdt_<genleveldate>.exe` executable located on the CIMS Product CD and IBM Web site. When upgrading from this executable, all the steps in the `readme` file must be completed before reviewing the `DATAFILE` changes described in the *Enhancements/Updates to CIMS Data Collector for Mainframe Systems* document (see **page 1-4** for a description of this document).

For additional information regarding updates and enhancements to CIMS Mainframe Data Collector and Chargeback System, refer to the following documents. You can find these documents on the CIMS Product CD and on the IBM Web site.

- *CIMS Mainframe Data Collector and Chargeback System Release Notes* (file name mfdcrn<genleveldate>.pdf) contains all major changes included in the first genlevel of a new release. Any important program modifications, deletions and additions are discussed. JCL and report changes are also listed.
- *Enhancements/Updates to CIMS Data Collector for Mainframe Systems* (filename updates_ <genleveldate>.pdf) contains all the modifications to the release since the first genlevel. This document is arranged in genlevel order by component (Program updates and CIMS.DATAFILE updates). This document is very useful for determining what changes have been made in a recent genlevel.

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Introduction

CIMS generates invoices, job cost, and resource usage reports immediately following installation.

Installation and implementation of CIMS is straightforward. The basic requirements to install CIMS are as follows:

- Ability to edit and submit a series of batch jobs.
- Access to ONE DAY'S SMF Records. (Types 6 and 30).
- CIMS does not require modifications to user JCL.
- CIMS does not require any special exits or SVC calls.

Simply follow the steps in this chapter.

The basic portion of CIMS is installed after processing all items on the CIMS Setup Menu or by processing CIMSJOB1 through CIMSJOB4.

Installation steps start on [page 2-5](#).

Chapter 5, Installation Flow Charts contains a series of flow charts that are a useful reference during the installation process. Each CIMS program is documented in this manual.

CIMS TSO Screens

CIMS includes a series of TSO screens. These screens make it easier to implement CIMS and to generate reports. The following main menus are provided:

- **Setup Menu.** Builds CIMS Client and Rate Tables and executes various set-up jobs.
- **Interface Menu.** Account code tables and various usage log interfaces.
- **Chargeback Menu.** Sets up and executes the CIMSMONY program.
- **Reporting and Graphics.** Selects and executes CIMS Sample Reports. Generates graphics files for downloading.
- **Data Management.** Builds history files of CIMS input and output records.

To use the screens, access the main menu and then select the appropriate options from Setup, Interface, Chargeback, Reporting and Graphics, and Data Management.

Using the CIMS Screens

To use the CIMS screens, edit member CIMS in data set CIMS.CLIST and change the data set names to match the data set names installed from product CD or IBM Web site (see *Installation Data Sets* on page 2-4).

To start the Screen System

- 1 Add CIMS to your Startup TSO Menu. (Ask your TSO Systems Programmer).
- 2 Edit member CIMS from data set CIMS.CLIST. Enter the appropriate high level nodes before the four CIMS data set names.
- 3 Execute member CIMS from data set CIMS.CLIST.
- 4 Assign the CIMS screens to a PF key.

To assign the CIMS Screens to a Key

- 1 Select TSO ISPF PARMs option from the ISPF Main Menu.
- 2 Select PF KEYS.
- 3 Modify a PF key to contain the following:

```
PF13 ▶ TSO EX '?????????.CIMS.CLIST(CIMS)'
```

????????? is the high level qualifier associated with data set CIMS.CLIST.

- 4 Exit the PF KEY and ISPF PARMs screens and press PF13. The CIMS MAIN MENU appears.

```
-----CIMS Main Menu-----
OPTION  ===>

                CIMS

        THE INTEGRATED CHARGEBACK SYSTEM

1  Setup
2  Interface          5  Data Management
3  Chargeback

                T  TUTORIAL  -  Help

Enter END command to EXIT.
```

Select the appropriate option and begin the CIMS chargeback process.

Installation Data Sets

The CIMS installation file, `cimsmdcc_<genleveldate>.exe`, contains the following files.

| FILE NAME | DESCRIPTION |
|--|--|
| <code>CLIST_<genleveldate>.SEQ</code> | A TSO transmitted sequential data set containing the CLIST library for CIMS. |
| <code>LOADLIB_<genleveldate>.SEQ</code> | A TSO transmitted sequential data set containing some Load modules for CIMS. |
| <code>REPTLIB_<genleveldate>.SEQ</code> | A TSO transmitted sequential data set containing the REPORT library for CIMS. |
| <code>DATAFILE_<genleveldate>.SEQ</code> | A TSO transmitted sequential data set containing the CONTROL library for CIMS. |
| <code>MESSAGES_<genleveldate>.SEQ</code> | A TSO transmitted sequential data set containing the ISPF message library for CIMS. |
| <code>PANELS_<genleveldate>.SEQ</code> | A TSO transmitted sequential data set containing the ISPF panel library for CIMS. |
| <code>OBJECT_<genleveldate>.SEQ</code> | A TSO transmitted sequential data set containing the CIMS object code. |
| <code>LINKJCL_<genleveldate>.SEQ</code> | A TSO transmitted sequential data set containing the link JCL to build the CIMS load modules from the object code. |
| <code>README_<genleveldate>.RTF</code> | This file contains the installation instructions. |
| <code>ALLOC_<genleveldate>.JCL</code> | A sample JCL member that allocates all the temporary install and permanent product libraries. |
| <code>INSTJOB1_<genleveldate>.JCL</code> | A sample JCL member that restores the data sets from the sequential files. |
| <code>FtpCimsFiles.wsf</code> | A Windows® Script file that automates the loading of the .seq files to the mainframe. |
| <code>FtpInstallFiles.wsf</code> | A Windows batch file that invokes the <code>FtpCimsFiles.wsf</code> script. |

You can install CIMS from the CIMS Product CD or the IBM Web site as described in [CIMS Installation](#) on page 2-5

CIMS Installation

Note • To determine whether you have the latest release of CIMS, see [About Installing the Most Current Release](#) on page 1-2.

Installation Overview

The following is an overview of the steps required to install CIMS. These steps are discussed in detail in the following sections.

- 1 Install the partitioned data sets from the CIMS Product CD or the IBM Web site.
- 2 Execute the REXX program CIMSINIT.

- Run CIMSINIT**
- 1) Replace sample jobcard with user jobcard
 - 2) Insert or replace data set name high level qualifiers
 - 3) Insert VOLSER numbers
 - 4) Insert DSCB model names

- 3 Check the level of COBOL LE.

CIMS has been compiled using COBOL for z/OS and linked with COBOL LE. The CIMS programs need access to the COBOL LE runtime.

- 4 Install passwords.

Update the CIMSNUMS member of the CIMS.DATASET data set with the passwords provided by IBM.

- 5 Process CIMSJOB1.

This job creates the CIMS Client, Rate, Dictionary, and Status and Statistics VSAM files.

It is *not* necessary to set rates *or* identify clients at this time, just create the VSAM files using the CIMS defaults.

- 6 Process CIMSJOB2. (CIMSDATA and CIMSACCT)

This job processes programs CIMSDATA and CIMSACCT. These programs interface with the z/OS-SMF data set and create the CIMS.CIMSACCT.DAILY batch chargeback file.

7 Process CIMSJOB3. (CIMSMONY)

This job processes program CIMSMONY, which creates:

- Invoices
- Zero cost invoices (Rate Determination)

8 (Optional) Process CIMS Sub-systems.

CIMSDISK, CIMSTAPE, CIMSCICS, CIMSDB2, CIMSUNIV, and so forth.

9 (Optional) Install CIMS CICS-Based online screens.

Screens provide Rate and Client Maintenance, External Transaction Entry, Account Code Validation, and CA/DISPATCH Maildrop Conversion.

Getting Started

The basic portion of CIMS is installed after processing the items on the Setup Menu or CIMSJOB1, CIMSJOB2, CIMSJOB3, and CIMSJOB4.

To support CICS, DB2®, IDMS, IMS, VM/CMS, VSE, DASD Space Chargeback, Tape Storage Accounting, and so on, edit and process the appropriate job control or access the appropriate menu.

Members names are CIMSCICS, CIMSDB2, CIMSDISK, and so on.

For assistance in installing CIMS, contact IBM (see [page ix](#)).

Step One: Install the Partitioned Data Sets from the CIMS Product CD or the IBM Web Site

To Install from the CIMS Product CD or the IBM Web Site

Download the self-extracting file `cimsmdcc_<genleveldate>.exe` and follow the instructions in the `readme` file and then proceed to *Step Two: Run CIMSINIT* on page 2-8. The `readme` file explains the steps involved in installing the partitioned data sets from the zip file. A copy of the `readme` file is in *Chapter 6, README File*.

If you are installing from the CIMS Product CD, the `cimsmdcc_<genleveldate>.exe` file is in the `Mainframe` folder.

If you are installing from the IBM Web site, this file is located on the Legacy CIMS Mainframe Product Downloads page (http://www-1.ibm.com/support/docview.wss?rs=3092&context=SSNHG7&dc=DB520&uid=swg21243001&loc=en_US&cs=utf-8&lang=en).

Scroll through the Legacy CIMS Mainframe Product Downloads page and download the self-extracting file `cimsmdcc_<genleveldate>.exe` for the CIMS Mainframe version that you want.

CIMS Partitioned Data Sets

When the partitioned data sets are successfully installed, the following data sets are created:

| | |
|-----------------------|--|
| ■ CIMS.DATFILE | Sample JCL and Data Files. |
| ■ CIMS.LOAD.MODULES | Executable Programs |
| ■ CIMS.CICS.LOADMODS | CIMS Online Screens |
| ■ CIMS.REPTLIB | Report Writer Library |
| ■ CIMS.MESSAGES | Under Construction |
| ■ CIMS.PANELS | TSO Screen Members |
| ■ CIMS.DATFILE.BACKUP | A copy of CIMS.DATFILE |
| ■ CIMS.CLIST | TSO CLISTs Members |
| ■ CIMS.LINKJCL | LINK JCL to create the Executable Programs |
| ■ CIMS.OBJECT | CIMS Object Code |

Step Two: Run CIMSINIT

Execute the REXX program CIMSINIT. This program is a utility that transforms all the CIMS JCL to your specifications. CIMSINIT inserts job cards, adds high level nodes to all CIMS data sets, changes VOLSER numbers, and specifies DSCB model names.

Note • If you do not process CIMSINIT, you have to change each JCL member manually as you use it.

In TSO, enter the command:

```
TSO EX 'CIMS.DATAFILE(CIMSINIT)'
```

Be sure to include your high level node, if necessary.

CIMSINIT tries to determine the high level node of your installation from the command you entered to start the program. If it is not successful, usually due to operating system settings, it asks you to enter the high level node manually.

If your implementation of TSO/E MVS/REXX does not support the PARSE SOURCE command, you will be prompted to enter the high level qualifier. If this occurs, simply type the high level node(s) used during the download from the product CD or Web site and press <Enter>. CIMSINIT then displays a TSO screen with four sections.

Section 1: Job Card Replacement

```
Job Card Source (Member DSN) ==>  
Number of lines to copy      ==> 2  
Job Name Mask                ==>  
SKIP JOB CARD REPLACEMENT  ==>
```

To bypass the job card replacement, enter a '/' in the SKIP JOB CARD REPLACEMENT field.

To replace job cards

- 1 Enter the DSN of the member to use as the job card template and the number of lines you want copied from that member.
- 2 Enter the job name mask you want to use. Anywhere after the first character, you must enter a sequence of '*' characters to indicate where to insert your job sequence number. The sequence mask is from 2 to 6 characters in length:

| Job Card Mask | Job Names placed in JCL |
|---------------|---------------------------------|
| CIMS**** | CIMS0001, CIMS0002, CIMS0003... |
| P*****Q | P000001Q, P000002Q, P000003Q... |
| CIM**CIM | CIM01CIM, CIM02CIM, CIM03CIM... |

These job sequence numbers are assigned sequentially to avoid duplicate job names as the job card is being inserted into each CIMS JCL member. You can change the Job name later at your discretion.

Section 2: High Level Qualifier Insertion/Replacement

Action (<I>insert or <R>replace) ==> I
 Target String (to Replace or Precede) ==> CIMS.
 High Level Qualifier ==> TEST1234.
 Replacement String (Replace only) ==>
 SKIP HLQ REPLACEMENT ==>

To bypass the HLQ replacement, enter a '/' into the "SKIP HLQ REPLACEMENT" field.

HLQ replacement lets you insert or replace high level nodes in these references throughout the CIMS installation.

- The default selections are <I>insert, CIMS., and the high level qualifier being used. Using these settings inserts that HLQ before every occurrence of "CIMS." in every uncommented JCL line.
- If you choose <R>replace, CIMSINIT ignores the HLQ, and *replaces* the target string with whatever is entered in the "Replacement String" field.
- This section (as well as the job card and volume replacements) can be run multiple times as the need arises.

Section 3: Volume Replacement

IDCAMS: VOL(?????) Target ==> ?????? Replace With ==>
 JCL: VOL=SER=????? Target ==> ?????? Replace With ==>
 SKIP VOLUME REPLACEMENT ==>

- To bypass volume replacement, enter a '/' into the "SKIP VOLUME REPLACEMENT" field.
- At various places within the CIMS JCL, volume serial numbers are needed. This utility allows you to replace them all globally. CIMS ships with these volume serial numbers as "?????" throughout the JCL. The default targets are therefore "?????".
- The IDCAMS field replaces all volume serial references in the IDCAMS processes throughout CIMS (such as VOL(?????))
- The JCL field replaces all other VolSer references (such as VOL=SER=?????).

Section 4: Model DSCB Replacement

```
Installation Model DSCB    ==>  
SKIP MODEL DSCB REPLACEMENT ==>
```

To bypass model DSCB replacement, enter a '/' into the "SKIP MODEL DSCB REPLACEMENT" field.

- Most installations require a model DSCB parameter for the proper functioning of Generation Data Groups (GDGs). Enter the DSN of your installation's model in the field.
- The CIMS distribution is sent with all model DSCB references set to "MODELDCB." If your installation does not require the use of this parameter, you can delete it manually from the JCL.

CIMSINIT Statistics

```
Processing...  
262 Files  
0 Exceptions  
JobCard   : 129 Replacements  
HLQ      : 2642 Inserts  
Volume   : 55 Replacements  
ModelDSCB: 226 Replacements  
NORMAL CIMSHLQ COMPLETION  
***
```

Once CIMSINIT has run, you are shown the statistics for that run. If any exceptions are noted, you can find them listed in the HLQEXCEP member of CIMS.DATFILE. These exceptions might or might not be severe enough to cause a JCL error, so you should check HLQEXCEP immediately if any exceptions are reported.

Step Three: Check the Level of COBOL LE

The next step is to check the level of COBOL LE. The CIMS programs must have access to COBOL LE (the language environment for COBOL). To check if it is accessible to the CIMS programs, edit the CIMS.LINKJCL member INSTJOB4 and submit it. If it abends with an 0C4, then COBOL LE is not link listed. If it ends with a return code of 0, the output will show the level of COBOL LE installed.

Step Four: Process CIMSJOB1

The next step is to process CIMSJOB1.

CIMSJOB1 is a member in CIMS.DATFILE.

This job creates four permanent files and four GDGs. These files are required.

| | |
|----------------------|-----------------------------|
| ■ CIMS.CLIENT.VSAM | Client File |
| ■ CIMS.CIMSRATE.VSAM | Rate Table |
| ■ CIMS.DCTN.VSAM | Dictionary File |
| ■ CIMS.SUSPENSE | GDG for CIMSACCT Processing |
| ■ CIMS.CIMSSTAT.VSAM | VSAM History File |
| ■ CIMS.SORTAGR | CIMSEXTR Recovery File |
| ■ CIMS.SORTSUM | CIMSEXTR Recovery File |
| ■ CIMS.SORTOUT | CIMSEXTR Recovery File |

The CIMS Client, Rate, and Dictionary files are created using the sample clients and rates provided.

Member CLIENT contains sample client records. Client Records are documented in the *Client Identification and Budget Reporting—CIMSCLNT and CIMSBDGT* chapter of the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

Members CIMSRATE, CIMSRT01, CIMSRT02 contain sample Rate records. Rate records are documented in the *Computer Center Chargeback Program—CIMSMONY* chapter of the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

Members DCTNxxxx contain the default record definitions for the CIMS Dictionary. For more information about the CIMS Dictionary, refer to the *CIMS Dictionary—CIMSDTV* chapter of the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

CIMSJOB1 Job Control

Refer to member CIMSJOB1 in CIMS.DATFILE for the job control.

Step Five: Process CIMSJOB2

The next step is to process CIMSJOB2.

CIMSJOB2 is a member in CIMS.DATAFILE.

This job interfaces with the z/OS-SMF data set and creates the CIMS accounting file.

- JOB STEP 2A executes program CIMSDATA (refer to the *SMF Interface Program—CIMSDATA* chapter of the *CIMS Mainframe Data Collector and Chargeback System User Guide*).
- JOB STEP 2B executes program CIMSACCT (refer to the *Accounting File Creation Program—CIMSACCT* chapter of the *CIMS Mainframe Data Collector and Chargeback System User Guide*).

Note • It is not necessary to read the CIMSDATA and CIMSACCT chapters in the *CIMS Mainframe Data Collector and Chargeback System User Guide* now. However, IBM strongly recommends that you refer to these chapters before you start changing the default control statements.

A flow chart for each program is contained in *Chapter 5, Installation Flow Charts*.

Note • CIMSJOB2 is the basis for your daily processing.

CIMSJOB2 is the only job required on a daily basis for batch chargeback. Logically, it is processed immediately after the SMF data set is unloaded to disk or tape. When CIMSJOB2 completes, data set CIMS.CIMSACCT.DAILY contains z/OS batch and TSO accounting records, and data set CIMS.SMF.HISTORY contains reformatted SMF records.

SMF Merge

We recommend that you insert a merge between steps CIMS2A and CIMS2B to create a history of data set CIMS.SMF.HISTORY. (See member SMFMERGE in CIMS.DATAFILE). The merge field is seven for one character.

Use a cartridge tape and block the output data set to 32K (BLKSIZE = 32760).

CIMS Merge

A sample SORT/MERGE set of job control that creates a sorted history data set of CIMS accounting records can be found in data set CIMS.DATAFILE member CIMSMERG. This job control should be processed daily after the batch and online CIMS jobs have been executed.

- If CIMSMERG is done on a daily basis, at the end of the month, the CIMS master file is in account code sort sequence.
- You should maintain the history data sets on tape. Leave the daily files on disk for daily reports and set up generation data sets to tape for the history file.

CIMSJOB2 Explanation—Program CIMSDATA

CIMS2A

This job step executes program CIMSDATA. The data set created by the SMF Dump Facility is read and 4 CIMS data sets are created.

| | | |
|--------|-----------------|--|
| INPUT | DDNAME SMFIN | This is the SMF DUMP data set. |
| INPUT | DDNAME CIMSCNTL | Data set CIMS.DATAFILE (DATAINPT) Contains input control statements. See the Control Statement Table in the <i>SMF Interface Program—CIMSDATA</i> chapter of the <i>CIMS Mainframe Data Collector and Chargeback System User Guide</i> for further information. |
| OUTPUT | DDNAME CIMSSMF | CIMS reformatted SMF data set. Contains each SMF record from the input data set unless limited by a records statement. This data set is designed as a backup data set of reformatted SMF Records. Depending on installation requirements, you might choose to DD DUMMY this data set, or to COMMENT the statement. |
| OUTPUT | DDNAME CIMSACCT | This data set contains selected SMF chargeback records (6, 30, 101, 110). This data set is used as input in step CIMS2B. |
| OUTPUT | DDNAME CIMSCICS | This data set contains CICS records (SMF Type 110) This record is used by the CIMS CICS interface programs. |
| OUTPUT | DDNAME CIMSDB2 | This data set contains DB2 records (SMF Type 101) This record is used by the CIMS DB2 interface programs. |

CIMSJOB2 Explanation—Program CIMSACCT

CIMS2B

This step executes program CIMSACCT. CIMSACCT processes the data set created by program CIMSDATA (DDNAME CIMSACCT) and generates the CIMS batch chargeback data set.

| | | |
|--------|-----------------|---|
| INPUT | DDNAME CIMSDATA | <p>Reformatted SMF records.</p> <p>These records are created by DDNAME CIMSACCT in program CIMSDATA.</p> <p>CIMS Suspense file.</p> <p>The CIMS Suspense file for unmatched job step and print records is appended to DDNAME CIMSDATA.</p> |
| INPUT | DDNAME CIMSCNTL | <p>Control statements.</p> <p>Member ACCTINPT contains CIMS default control statements for CIMSACCT.</p> |
| INPUT | DDNAME CIMSPASS | <p>CIMS product passwords.</p> <p>Passwords are supplied with CIMS.</p> |
| INPUT | DDNAME CIMSTABL | <p>Optional user-supplied table to convert job names and/or job card account codes to a new format. Refer to the <i>Accounting File Creation Program—CIMSACCT</i> chapter of the <i>CIMS Mainframe Data Collector and Chargeback System User Guide</i> for further information.</p> |
| INPUT | DDNAME CIMSDTVS | <p>CIMS Dictionary VSAM file.</p> |
| INPUT | DDNAME CIMSPDS | <p>Control statements.</p> <p>This data set is used by CIMSACCT when PROCESS CIMS SERVER RESOURCE RECORDS control statement is specified. A member, ALIASACC, in this data set contains the control members for the different records.</p> |
| OUTPUT | DDNAME CIMSACCT | <p>CIMS batch chargeback file containing the CIMS 6 and 30 accounting records.</p> <p>This data set is used by CIMS Billing Program CIMSBILL.</p> |
| OUTPUT | DDNAME CIMSACT2 | <p>CIMS batch chargeback file containing the CIMS 79x accounting records.</p> <p>This data set is used by CIMSEXTR and CIMSMONY.</p> |

| | | |
|--------|-----------------|---|
| OUTPUT | DDNAME CIMSUSPN | CIMS Suspense file. This data set contains Step and Print records that have not been matched with a Job Start or Job Stop record. |
| OUTPUT | DDNAME CIMSEXCP | This data set contains records that have <i>not</i> been matched with entries in the CIMSTABL data set. |
| OUTPUT | DDNAME CIMSPRNT | This data set contains the runtime parameters and the results of the run. |
| OUTPUT | DDNAME CIMSMMSG | This data set contains informational messages. |
| OUTPUT | DDNAME CIMSSSEL | CIMS accounting records. This data set contains the records that failed date selection when the PROCESS CIMS MAINTENANCE and NON-SELECTED FILE PROCESSING ON control statements are specified. |
| OUTPUT | DDNAME CIMSUNSP | Unsupported CSR records. This data set contains all CSR records that did not have a definition within CIMSDTV5. |

CIMSJOB2 Job Control

Refer to member CIMSJOB2 in CIMS.DATFILE for the job control.

Step Six: Create Invoices and Reports

After processing CIMSJOB2, you're ready to create invoices and Computer Center Resource reports.

- CIMSJOB3 contains the job control to process program CIMSMONY.
- Billing control statements are contained in member MONYCTL1. Edit these statements to customize CIMS for your installation.
- You can use the CIMS defaults as distributed until you decide on client information, billing rates, and control information.

CIMSJOB3 EXPLANATION

CIMS3A

This step converts the CIMS 79x accounting records into CSR+ records. CIMSMONY supports CSR+ records only.

CIMS3B

This step sorts the data set created by step CIMS3A into account code, job name, and job log number sequence.

CIMS3C

This is the Computer Center Billing System—CIMSMONY.

| | | |
|--------|-----------------|--|
| INPUT | DDNAME CIMSACCT | Integrated chargeback data set. |
| INPUT | DDNAME CIMSCLVS | Client records. |
| INPUT | DDNAME CIMSCNTL | Control statements. |
| INPUT | DDNAME CIMSRTVS | Billing rates. |
| INPUT | DDNAME CIMSCLDR | CIMS calendar file. |
| INPUT | DDNAME CIMSNCPU | CPU normalization statements. |
| INPUT | DDNAME CIMSSCPU | CPU job class and priority surcharge statements. |
| OUTPUT | DDNAME SYSOUT | Messages |
| OUTPUT | DDNAME CIMSPRNT | Processing results. |
| OUTPUT | DDNAME CIMSINVC | Invoices. |
| OUTPUT | DDNAME CIMSMSG | Informational messages. |
| OUTPUT | DDNAME CIMSSUM | Summary records by account. One record per account and billable item—(Rate Code). |
| OUTPUT | DDNAME CIMSDIST | This data set contains summary data. This data can be file transferred to the CIMS Desktop System. |

| | | |
|--------|-----------------|---|
| OUTPUT | DDNAME CIMSIDNT | Identifier data that can be loaded into a Tivoli Usage and Accounting Manager database. This file is produced by CIMSMONY in Server mode. |
| OUTPUT | DDNAME CIMSDETL | Detail data that can be loaded into a Tivoli Usage and Accounting Manager database. This file is produced by CIMSMONY in Server mode. |
| OUTPUT | DDNAME CIMSUMRY | Summary data that can be loaded into a Tivoli Usage and Accounting Manager database. This file is produced by CIMSMONY in Server mode. |

See the *Accounting File Record Descriptions* appendix of the *CIMS Mainframe Data Collector and Chargeback System User Guide* for record descriptions.

CIMSJOB3 Job Control

Refer to member CIMSJOB3 in CIMS.DATFILE for the job control.

Step Seven: Customize for Batch Chargeback

CIMS is now installed and ready to be customized for batch chargeback.

After you are comfortable with the results you are receiving from the CIMS z/OS batch system, you can start integrating data from the wide range of sub-systems that are supported by CIMS.

To integrate a CIMS sub-system

- 1 Edit the appropriate JCL member (for example, CIMSCICS).
- 2 Create an account code conversion table.
- 3 Process the job.
- 4 Merge the output with the input to program CIMSMONY. (CIMSJOB3).
- 5 Process CIMSJOB3 to generate integrated invoices.

Sub-System Member Names (Partial List)

CIMS is consistently enhanced to support new sub-systems.

Following is a partial list of member names for the most commonly used CIMS subsystems.

| SUBSYSTEM MEMBER NAME | DESCRIPTION |
|--------------------------|---|
| CIMSCICS | CICS Support |
| CIMSCMS | VM/CMS |
| CIMSDB2 | DB2 [®] |
| CIMSVSE | VSE Power Account File |
| CIMSDCOL/ CIMSDISK | DASD Space |
| CIMSTAPE | Tape Storage |
| CIMSIMS | IMS |
| CIMSUNIV | ROSCOE, ADABAS/SMF, IDMS/SMF, RJE, WYLBUR, MQSeries [®] , Oracle MEMO, Control-T, BETA, and so on. |

Step Eight: CICS-Based Online Screens

CIMS provides CICS-based online screens for:

- Rate Table Maintenance
- Client/Budget File Maintenance
- Miscellaneous External Transaction Entry
- Recurring External Transaction Entry
- CA/DISPATCH Report Distribution Maildrop Conversion
- Account Code Validation and Correction

These screens are not required for CIMS. However, the online screens enhance the maintainability of the product.

IBM recommends that the CICS screens are installed after you have an understanding of CIMSJOB1-CIMSJOB3.

CICS Online Screens Installation Instructions

Members `CICSTABL` and `CICSVSAM` in data set `CIMS.DATASET` contain information needed to define the CIMS transactions to the target CICS system and to define various VSAM files.

- Member `CICSTABL` contains `DFHFCT`, `DFHPCT` and `DFHPPT` statements. These statements must be altered as required.
- Give this page to your CICS Administrator and he or she should know exactly what to do to install the CIMS CICS screens.
- Member `CICSVSAM` contains define cluster statements for VSAM files used within the CIMS CICS support programs.
- The `DSNAMES` and space requirements should be reviewed with respect to installation standards and expected processing volumes.

Member Lists

The following pages list the various members that are contained in:

- CIMS.CICS.LOADMDS
- CIMS.DATAFILE
- CIMS.REPTLIB

Note • Members might be added to these data sets between genlevel releases. In this situation, the following member lists might not be complete. If needed, refer to the data set for the members.

Contents of CIMS.CICS.LOADMDS

After executing INSTJOB3, the following load modules will be present if installing from the web. They support CICS releases 5.2 and later.

| MEMBER | CICS RELEASE | DESCRIPTION |
|---------|--------------|---|
| CIMMCLN | 5.2+ | Client CICS Screen Map |
| CIMMHLP | 5.2+ | Help CICS Screen Map |
| CIMMDR | 5.2+ | Mail Drop CICS Screen Map |
| CIMMMEN | 5.2+ | Menu CICS Screen Map |
| CIMMIS | 5.2+ | Miscellaneous Transaction CICS Screen Map |
| CIMMRAT | 5.2+ | Rate CICS Screen Map |
| CIMMRCU | 5.2+ | Recurring Transaction CICS Screen Map |
| CIMMREJ | 5.2+ | Reject CICS® Screen Map |

Contents of CIMS.DATAFILE

Refer to member AAAALIST for a complete listing and description of each member in CIMS.DATAFILE.

Contents of CIMS.REPTLIB

Refer to member AALEGEND for a complete listing and description of each member in CIMS.REPTLIB.

Upgrade Instructions

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About Upgrading From CIMS Releases 11.6 or Later

Note • If you are upgrading from a release earlier than 11.6, refer to the *CIMS Mainframe Data Collector and Chargeback System Installation and Upgrade Guide* for release 12.0. The 12.0 guide has the upgrade instructions for releases 11.2–11.5. Review the instructions in the 12.0 guide and perform the applicable steps before continuing to the upgrade instructions in this guide.

This chapter describes the upgrade process from CIMS 11.6 or later to release 12.2. If you are performing a new CIMS installation, refer to *Chapter 2, New Installation Instructions*.

Your current release of CIMS contains customized JCL, control members, and report specifications. A global replacement of these files is not advisable. This chapter provides the detailed information that is needed to make the new changes to the CIMS.DATFILE members without loss of previous customization.

The number of changes required to upgrade to CIMS 12.2 is dependent on the release level that you are upgrading from and the chargeback program that you plan to use: CIMSBILL or CIMSMONY (which was introduced in release 12.0).

Overview of Changes by Release

The following is an overview of the changes that have been made in each CIMS release.

Release 11.6

- The CIMS 79x accounting records were changed.
- The CIMSUNIV 001 record was expanded to include stop date/time values and a 128-byte account code area.
- The CIMS 6 accounting record was expanded to provide better support for the Enhanced Sysout Section.
- The CIMSEXTR program was updated to ensure accurate start and stop dates/times during the aggregation process.

Release 12.0

- Full support for a 128-byte account code field in the CIMS 79x accounting records was added.
- A new chargeback program, CIMSMONY, was added. This program supports the CIMS 79x accounting records. The 79x records are processed by CIMSEXTR, which creates the CSR+ file that is processed by CIMSMONY. For more information about CIMSMONY, refer to *Chapter 4, CIMSMONY Upgrade Instructions*.
- The ability to produce Tivoli Usage and Accounting Manager Ident, Detail, and Summary files was added. These files are produced by CIMSMONY in Server mode and can be loaded into the Tivoli Usage and Accounting Manager database for reporting.
- The Status and Statistics VSAM file was added to support a restart of program CIMSEXTR. This file is required only if you are using CIMSEXTR. CIMSTAT DD was added to all job steps that execute CIMSEXTR.

Release 12.1

- A new program, CIMSWEBS, has been added to support the WebSphere® SMF 120 record.
- Account code conversion table size constraints for non-sorted tables have been removed.
- Generic layout support for CSR record feeds has been added. More than 10 resources can now be tracked by a CIMS 791 record.
- A rate table synchronization routine has been added for Tivoli Usage and Accounting Manager and Mainframe rate tables.
- Extended support for the CA-DISPATCH pseudo 206/6 SMF record has been added.

Release 12.2

- To support CIMS Server for DB2, added sample JCL that can load the DB2 8 (Universal Database for z/OS) database using the IBM BPXBATCH program and the CIMSLoad program.
- Enhanced user-controlled DB2 CPU calculation by adding a new control statement, DUPLICATE CPU CONNECTION TYPES, to identify the DB2 connection system types that should be treated as duplicates. The CPU time reported for these connection system types are tracked in the Duplicate CPU Time field of the DB2 791/994 accounting record.
- Added support for program CIMSDB2 to create a detail record in the DB2RECS DD. The DB2RECS file is optional and is provided so that you can report on data that is not provided in the standard 791 accounting record. The QBAC section of the report will increase by 192 bytes to include three more QBAC sections at 64 bytes each.
- Added a new method for CPU time validation. The SMF 30 record contains the field SMF30TFL that indicates when CPU timer fields are invalid. (The SMF30TFL field and the CPU timer fields are in the Processor Accounting Section). The new control statement SMF30TFL {ON | OFF} specifies whether CIMSACCT uses the data in the SMF30TFL field when processing the SMF 30 record.

Installing the New Release in a Test Area

Install the new release of CIMS in a test area. You can install from the CIMS Product CD or IBM Web site.

Installing From the CIMS Product CD

To install from the CIMS Product CD, download the self-extracting file `cimsmdcc_<genleveldate>.exe` from the Mainframe folder. This file contains the files needed to install CIMS and a readme file. Follow the instructions in the readme file to perform the installation. A copy of the readme file is in *Chapter 6, README File*.

Installing From the IBM Web Site

To install from the Web site:

- 1 Enter the following URL in your browser:

http://www-1.ibm.com/support/docview.wss?rs=3092&context=SSNHG7&dc=DB520&uid=swg21243001&loc=en_US&cs=utf-8&lang=en

- 2 Scroll through the Legacy CIMS Mainframe Product Downloads page and download the self-extracting file `cimsmdcc_<genleveldate>.exe` for the CIMS Mainframe version that you want. This file contains the files needed to install CIMS and a readme file. Follow the instructions in the readme file to perform the installation. A copy of the readme file is in *Chapter 6, README File*.

The Legacy CIMS Mainframe Product Downloads page also contains product updates that IBM has made between genlevels. Look for updates listed that have a date after the genlevel and are not included in the a \$BLDUPDT member of the CIMS.DATFILE library. These updates have been added since the genlevel build was created. Download and apply all the updates that are appropriate.

Note • Each genlevel includes the updates that preceded it. When you upgrade to a new genlevel, you do not need to apply updates with an earlier date.

Upgrade Documentation

Information regarding updates and enhancements to CIMS is available in the documentation discussed in *Upgrades* on page 1-3.

Upgrading From Release 11.6

You have the following options when upgrading from 11.6 to CIMS 12.2. Each of these options has different implications as explained in this section.

- **You can upgrade and continue to use CIMSBILL as your chargeback program.**
- **You can upgrade and use CIMSMONY in Invoice mode as your chargeback program.** In Invoice mode, CIMSMONY is similar to CIMSBILL with the exception that CIMSMONY supports CIMS 79x accounting records (which are first processed and reformatted by CIMSEXTR) rather than the CIMS 6, 30, and 991–999 accounting records. The Invoice mode is intended for those users who want to process data and produce an invoice on the mainframe.
- **You can upgrade and run CIMSMONY in Server mode as your chargeback program.** CIMSMONY in Server mode is intended for those users who want to process data on the mainframe and feed the processed data to Tivoli Usage and Accounting Manager for reporting.

Upgrading and Using CIMSBILL

The following provides upgrade information and requirements by release if you are upgrading to CIMS 12.2 and will continue to use CIMSBILL.

- Run ACNVJCL1 in CIMS.DATFILE to upgrade the CIMS Rate file. For more information, see *CIMS Rate File Conversion* on page 3-12.
- Run ACNVJCL2 in CIMS.DATFILE to upgrade the CIMS Client file. For more information, see *CIMS Client File Conversion* on page 3-13.
- Because release 11.5 required that you add the CIMSACT2 DD as a DD DUMMY for each job step that executed CIMSACCT, CIMSCMF2, CIMSDB2, CIMSDISK, CIMSTAPE, CIMSUNIV, and CIMSUN02, you do not have to add the WRITE 791 OFF or WRITE 79X OFF (for CIMSACCT) control statement.
- There are other program enhancements that might affect your installation. Refer to *Upgrade From Release 11.6 Details* on page 3-15.

About Upgrading to CIMSMONY

You can run CIMSMONY in Server or Invoice mode. The mode that you use depends on your processing and reporting requirements. To determine whether you should upgrade to CIMSMONY in Invoice or Server mode, review the following.

You should upgrade to CIMSMONY in Invoice mode if...

You are upgrading from release 11.6, are not creating 79x records for processing by CIMSEXTR, and do not want to interface with Tivoli Usage and Accounting Manager. For more information about upgrading to CIMSMONY in Invoice mode, see [Upgrading and Using CIMSMONY in Invoice Mode](#) on page 3-7.

You should upgrade to CIMSMONY in Server mode if...

You are upgrading from release 11.6 and are currently creating CSR files for output to Tivoli Usage and Accounting Manager (such as creating 79x records that are processed by CIMSEXTR). For more information about upgrading to CIMSMONY in Server mode, see [Upgrading and Using CIMSMONY in Server Mode](#) on page 3-8.

Upgrading and Using CIMSMONY in Invoice Mode

CIMSMONY in Invoice mode is similar to CIMSBILL. However, CIMSMONY supports CIMS 79x accounting records (which are first processed and reformatted by CIMSEXTR) rather than CIMS 6, 30, and 991–999 accounting records. For the steps required to migrate from CIMSBILL to CIMSMONY in Invoice mode, refer to [Chapter 4, CIMSMONY Upgrade Instructions](#).

To use CIMSMONY, the CIMS interface programs must produce 79x accounting records, CIMSEXTR must be implemented, and the CIMS Dictionary and Status and Statistics VSAM files must be allocated.

The following provides upgrade information and requirements if you are upgrading from 11.6 to CIMS 12.2 and will be using CIMSMONY in Invoice mode.

- Run member CIMSGDG1 in CIMS.DATFILE to create the necessary GDGs for CIMSMONY.
- Run ACNVJCL1 in CIMS.DATFILE to upgrade the CIMS Rate file. For more information, see [CIMS Rate File Conversion](#) on page 3-12.
- Run ACNVJCL2 in CIMS.DATFILE to upgrade the CIMS Client file. For more information, see [CIMS Client File Conversion](#) on page 3-13.
- If you are upgrading from release 11.6 and *did not* implement the CIMS Dictionary in 11.6, run CIMSDTC and CIMSDTLD in CIMS.DATFILE to create and load the CIMS Dictionary VSAM file.
- If you are upgrading from release 11.6 and *did* implement the CIMS Dictionary in 11.6, see [CIMS Dictionary File Conversion](#) on page 3-13 for the steps required to convert the dictionary.
- Run CIMSSTC in CIMS.DATFILE to create the Status and Statistics VSAM file.
- You must add the CIMSACT2 DD and CIMSDTV5 DD to all job steps that execute CIMSACCT, CIMSDB2, CIMSDB2, CIMSCMF2, CIMSTAPE, CIMSUNIV, and CIMSUN02. You can optionally add the WRITE 991|994 OFF control statement or WRITE 79X RECORDS ONLY control statement (as applicable) to turn off the CIMSACCT DD.

The CIMSACT2 DD and CIMSDTV5 DD were required for release 11.6, but if you set them as DD DUMMY, you must re-define them.
- You no longer run the SORT summarization steps after the CIMSDB2, CIMSTAPE, CIMSUNIV, CIMSUN02, and CIMSDB2 processes. You will run CIMSEXTR to aggregate and summarize the records. Refer to the CIMSDB2, CIMSDB2, CIMSTAPE, CIMSUNIV, or appropriate JCL in the CIMS.DATFILE. This should be added as a step to the JCL for each CIMS interface.
- You must edit your CIMSMERG (sort fields changed) and CIMSEOMJCL (DDs and control options have changed). Refer to the CIMSMERG and CIMSEOMJCL in the CIMS.DATFILE.
- The CIMSJOB3 JCL has changed—refer to the CIMSJOB3 JCL in the CIMS.DATFILE. CIMSJOB3 JCL executes CIMSMONY rather than CIMSBILL.

- CIMSCICS is not used with CIMSMONY. CIMSCMF2 produces the CIMS CICS 791 accounting records.
- CIMSCMS, CIMSMVSE, and CIMSIMS2 do not produce CIMS 791 accounting records. The output records from these programs must be run through CIMSACCT to convert them to 791 records.

Upgrading and Using CIMSMONY in Server Mode

The upgrade path to CIMSMONY in Server mode requires the most changes. For the steps required to migrate from CIMSBILL to CIMSMONY in Server mode, refer to [Chapter 4, CIMSMONY Upgrade Instructions](#).

When you run CIMSMONY in Server mode, IBM recommends that you run each feed through the entire processing system daily. For example, to process DB2 data, you would:

- 1 Run CIMSDATA to strip out the DB2 SMF records.
- 2 Run CIMSDDB2 to process the data.
- 3 Run CIMSEXTR to aggregate the CIMS 79x accounting records and produce CSR+ records.
- 4 Run CIMSMONY to produce the Tivoli Usage and Accounting Manager Ident, Detail, and Summary Files.
- 5 Load the files into the Tivoli Usage and Accounting Manager database.

This is a departure from the prior way of running CIMSDDB2 daily, merging the daily file into the monthly file, and running CIMSBILL (or CIMSMONY in Invoice mode) at the end of the month. Therefore, the JCL and the daily job set for the CIMS process has changed.

The following provides upgrade information and requirements if you are upgrading from 11.6 to 12.2 and will be using CIMSMONY in Server mode.

- Run member CIMSGDG1 in CIMS.DATFILE to create the necessary GDGs for CIMSMONY.
- Run ACNVJCL1 in CIMS.DATFILE to upgrade the CIMS Rate file. For more information, see [CIMS Rate File Conversion](#) on page 3-12.
- Run ACNVJCL2 in CIMS.DATFILE to upgrade the CIMS Client file. For more information, see [CIMS Client File Conversion](#) on page 3-13.
- If you *did not* implement the CIMS Dictionary in 11.6, run CIMSDTC and CIMSDTLD in CIMS.DATFILE to create and load the CIMS Dictionary VSAM file.
- If you *did* implement the CIMS Dictionary in 11.6, see [CIMS Dictionary File Conversion](#) on page 3-13 for the steps required to convert the dictionary.
- Run CIMSSTC in CIMS.DATFILE to create the Status and Statistics VSAM file.

- You must add the CIMSACT2 DD and CIMSDTV5 DD to all job steps that execute CIMSACCT, CIMSDISK, CIMSDB2, CIMSCMF2, CIMSTAPE, CIMSUNIV, and CIMSUN02. You can optionally add the `WRITE 991|994 OFF` control statement or `WRITE 79X RECORDS ONLY` control statement (as applicable) to turn off the CIMSACCT DD.

The CIMSACT2 DD and CIMSDTV5 DD were required for release 11.6, but if you set them as DD DUMMY, you must re-define them.

- You no longer run the SORT summarization steps after the CIMSDISK, CIMSTAPE, CIMSUNIV, CIMSUN02, and CIMSDB2 processes. You will run CIMSEXTR to aggregate and summarize the records. Refer to the CIMSDB2, CIMSDISK, CIMSTAPE, CIMSUNIV, or appropriate JCL in the CIMS.DATFILE. This should be added as a step to the JCL for each CIMS interface program
- You will run CIMSMONY after each CIMSEXTR summarization job step to produce the Tivoli Usage and Accounting Manager Ident, Detail, and Summary files (refer to the JCL for the interface programs in CIMS.DATFILE for sample steps). This should be added as a step to the JCL for each CIMS interface program.

Tivoli Usage and Accounting Manager Detail and Summary files contain accounting dates, which are very important for processing. For more information about accounting dates, refer to the Computer Center Chargeback Program—CIMSMONY chapter in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

- You need to FTP the Tivoli Usage and Accounting Manager Ident, Detail, and Summary files to the appropriate server to be loaded into the Tivoli Usage and Accounting Manager database. Refer to the interface program JCL in CIMS.DATFILE for sample steps.
- You no longer need CIMSEOM because you no longer need to perform period processing on the mainframe. The period is determined by the reporting in Tivoli Usage and Accounting Manager and by accounting dates set in CIMSMONY.
- You no longer need CIMSMERG. Every feed should be processed directly through CIMSMONY and the output loaded directly into the Tivoli Usage and Accounting Manager database.
- You no longer need CIMSJOB3. The execution of CIMSMONY has been added as a job step to the JCL for each CIMS interface program.
- CIMSCICS is not used with CIMSMONY. CIMSCMF2 produces the CIMS CICS 791 accounting records.
- CIMSCMS, CIMSMVSE, and CIMSIMS2 do not produce CIMS 791 accounting records. The output records from these programs must be run through CIMSACCT to convert them to 791 records.

Aggregation Point Updates

CIMSEXTR aggregates, sorts, and summarizes input records. The selection of aggregation points in these records affects the amount and quality of the data produced by CIMSEXTR.

The following table shows the aggregation points as defined in the default CIMS Dictionary. Default aggregation points were added in CIMS release 12.0 and are indicated by bold type.

If you currently execute CIMSEXTR to create CSR files for Tivoli Usage and Accounting Manager, you need to compare the new default aggregation points with your use of the AGGREGATE and DEFAULT AGGREGATION OFF control statements to incorporate these new aggregation points as needed.

For more information about defining and using aggregation points, refer to the Extract and Aggregation Program—CIMSEXTR chapter in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

| Record Type | Default Aggregation Points |
|-------------|--|
| 791 – CICS | <ol style="list-style-type: none"> 1. CIMSACCT=Account code 2. CIMSSDT=Start date 3. CIMSSHFT=Shift code 4. CICSUSER=User ID 5. CIMSSUBS=Application ID 6. CIMSSID=System ID 7. CICSTRNS=Transaction ID |
| 791 – DASD | <ol style="list-style-type: none"> 1. CIMSACCT=Account code 2. CIMSSDT=Start Date 3. DASDACT1=DSN Node 1 4. DASDACT2=DSN Node 2 5. CIMSSID=System ID |
| 791 – DB2 | <ol style="list-style-type: none"> 1. CIMSACCT=Account code 2. CIMSSDT=Start date 3. CIMSSHFT=Shift code 4. DB2PLAN=Plan name 5. DB2AUTH=Authorization ID 6. CIMSSUBS=DB2 System ID 7. CIMSSID=System ID |
| 791 – TAPE | <ol style="list-style-type: none"> 1. CIMSACCT=Account code 2. CIMSSDT=Start Date 3. TAPEACT1=DSN Node 1 4. TAPEACT2=DSN Node 2 5. CIMSSUBS=Work ID 6. CIMSSID=System ID |

| Record Type | Default Aggregation Points |
|--------------|---|
| 791 – Others | <ol style="list-style-type: none"> 1. CIMSACCT= Account code 2. CIMSSDT= Date 3. CIMSSHFT= Shift 4. CIMSSUBS= Subsystem name 5. CIMSSID=System ID |
| 792 | <ol style="list-style-type: none"> 1. CIMSACCT= Account Code 2. CIMSSDT= Job start date 3. CIMSSHFT= Shift code 4. CIMSJBNM= Jobname 5. CIMSSUBS= Work ID 6. CIMSSID=System ID 7. R792JBPR=Job Priority 8. R792JBCL=Job Class |
| 793 | <ol style="list-style-type: none"> 1. CIMSACCT= Account Code 2. CIMSSDT= Writer start date 3. CIMSJBNM= Jobname 4. R793FORM=Form ID 5. R793RTEC=Route Code (L=Local, R=Remote) 6. CIMSSUBS=Subsystem ID 7. CIMSSID=System ID |
| 799 | <ol style="list-style-type: none"> 1. CIMSACCT= Account Code 2. CIMSSDT= Start date 3. CIMSSHFT= Shift code 4. CIMSRATE= Rate code 5. CIMSSUBS=Subsystem ID 6. CIMSSID=System ID |

Data Conversion

If you are upgrading from release 11.6, you need to convert the CIMS Rate and CIMS Client VSAM files.

CIMS Rate File Conversion

The CIMS Rate file has been changed to include a new rate flag for CPU normalization, nine shift codes, a comments field, and a termination and effective date. The termination and effective date are for future use. You must convert your CIMS Rate file for 12.2.

Member ACNVJCL1 in CIMS.DATFILE contains sample JCL to convert the CIMS Rate file.

Note • You must use your current licensed version of Report Writer to execute the ACNVJCL1 and ACNVJCL2 processes.

CIMS Rate File Conversion for CIMSMONY

If you are going to use the chargeback program, CIMSMONY, there are two additional steps that you might need to complete to fully convert the CIMS Rate file after running ACNVJCL1. *These steps are not needed if you are going to continue to use CIMSBILL.*

- 1 In release 11.6, the rate codes Z009–Z013 could be used for different resources (SIOs or Service Units) depending on the CIMSBILL options specified.

In release 12.0 and later, the Z009–Z013 rate codes are used only for SIOs. New rate codes SMF30SRV, SMF30CSU, SMF30SRB, SMF30IO, and SMF30MSO have been added for the Service Units.

If you are reporting on SIOs in release 11.6, then release 12.2 will correctly report them. If you are using Service Units, then you need to add the SMF30SRV, SMF30CSU, SMF30SRB, SMF30IO, and SMF30MSO rate codes to the CIMS Rate file. Refer to the CIMS RATE member in the CIMS.DATFILE for the rate code definitions.

- 2 With CIMSMONY, there is only one set of CICS rate codes. There is no longer a set of prime rate codes (ZCS*) and non-prime rate codes (ZCX*). The ZCS* rate records have been pre-defined in the CIMS RATE member in CIMS.DATFILE to contain a rate value for shift 1 (prime) and a rate value for shift 2 (non-prime). For more information about using shifts for CIMSMONY, refer to the Computer Center Chargeback Program—CIMSMONY chapter in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

If you are using non-prime CICS rate codes in release 11.6, then you will need to modify the rate records for the ZCS* rate codes to include the non-prime rate.

For example, assume that you had the following CICS non-prime rates defined in release 11.6:

```
RATE,420,ZCX1,00.120,CICS Transaction Minutes (Non-Prime),,1,,2,,
RATE,422,ZCX2,25.000,CICS Cpu Minutes (Non-Prime),,1,,2,,
RATE,424,ZCX3,00.012,CICS Transactions (Non-Prime),F,,,0,,
RATE,426,ZCX4,00.012,CICS Input Messages (Non-Prime),F,,,0,,
RATE,428,ZCX5,00.012,CICS Output Messages (Non-Prime),F,,,0,,
RATE,430,ZCX6,00.012,CICS Messages (Non-Prime),F,,,0,,
RATE,432,ZCX7,00.600,CICS File Access Count (Non-Prime),,M,,,0,,
```

You need to make the following changes to the ZCS* CICS rates:

```
RATE,400,ZCS1,00.180:00.120,CICS Transaction Minutes,,,1,,2,,,1
RATE,402,ZCS2,30.000:25.000,CICS Cpu Minutes,,,1,,2,,,1
RATE,404,ZCS3,00.015:00.012,CICS Transactions,F,,,0,,,1
RATE,406,ZCS4,00.015:00.012,CICS Input Messages,F,,,0,,,1
RATE,408,ZCS5,00.015:00.012,CICS Output Messages,F,,,0,,,1
RATE,410,ZCS6,00.015:00.012,CICS Messages,F,,,0,,,1
RATE,412,ZCS7,00.750:00.600,CICS File Access Count,,M,,,0,,,1
```

The second shift rate value contains the non-prime rate.

CIMS Client File Conversion

The CIMS Client file has been changed to support the 128-byte account code and to store the current close date and load ID in the configuration record. The current close date and load ID are used by CIMSMONY. You must convert your CIMS Client file for 12.2.

Member ACNVJCL2 in CIMS.DATFILE contains sample JCL to convert the CIMS Client file.

Note • You must use your current licensed version of Report Writer to execute the ACNVJCL1 and ACNVJCL2 processes.

CIMS Dictionary File Conversion

There are changes to the CIMS Dictionary VSAM file (CIMSDTV). Run the CIMSDV12 JCL in CIMS.DATFILE to upgrade the dictionary.

Note • You must use your current licensed version of Report Writer to execute the CIMSDV12 JCL.

CIMS Historical Data

Should you convert CIMS data to the CIMS 79x record format?

If you are going to implement CIMSMONY, you need to convert your historical data to the CIMS 79x accounting record format. You need to run CIMSACCT with the CONVERT TO CIMS SERVER control statement. Member CONVERTA in CIMS.DATAFILE contains sample JCL for converting your data.

There have been no changes to the CIMS accounting records since release 11.6. There were minor changes in earlier releases. All CIMS programs handle record changes “on the fly” during processing.

Upgrade From Release 11.6 Checklist

Note • *Upgrade From Release 11.6 Details* on page 3-15 provides more detailed information related to this checklist.

- Install the new release in a test area as described on [page 3-4](#).
- Determine the genlevel of the new release. Make sure it is the most current one. Apply all applicable fixes since the genlevel was made.
- Review program updates and new options. Some updates and new options might change some of your control options.
- Make any necessary CIMS.DATAFILE JCL updates.
- Run ACNVJCL1 in CIMS.DATAFILE to upgrade the CIMS Rate file. For more information, see [CIMS Rate File Conversion](#) on page 3-12.
- Run ACNVJCL2 in CIMS.DATAFILE to upgrade the CIMS Client file. For more information, see [CIMS Client File Conversion](#) on page 3-13.
- Run CIMSDV12 in CIMS.DATAFILE to upgrade your CIMS Dictionary file. For more information, see [CIMS Dictionary File Conversion](#) on page 3-13.
- Run CIMSSTC in CIMS.DATAFILE to create the Status and Statistics file.
- Update the CICS online programs.
- Reapply user exits.

Upgrade From Release 11.6 Details

Program Updates/Changes/Additions

1 CIMS 79x Accounting Records

The CIMS interface programs (CIMSACCT, CIMSCMF2, CIMSDB2, CIMSDISK, CIMSTAPE, CIMSUNIV, and CIMSUN02) have been updated to build both the 79x records and the 6, 30, and 991–999 records by default. New control statements have been added to suppress the output of either the 79x or the 6, 30, and 991–999 records.

The 79x record is further processed by CIMSEXTR. Both the Web-based reporting system, Tivoli Usage and Accounting Manager, and the new chargeback program, CIMSMONY, process output records created by CIMSEXTR.

2 128-Byte Account Code Support

The CIMS 79x accounting records support 128-byte account codes. The `DEFINE FIELD` and `DEFINE MOVEFLD` control statement lengths have been increased from an 8 byte maximum to a 128 byte maximum. All identifiers in the 79x records are available for account code processing.

3 New Chargeback Program

A new chargeback program, CIMSMONY, has been built to support the CIMS 79x accounting records. CIMSMONY can create a mainframe invoice as CIMSBILL does, or it can produce output that can be loaded directly into the Tivoli Usage and Accounting Manager database so that you can create Web-based invoices and other reports.

4 New CIMSWEBBS Program

A new program, CIMSWEBBS, has been added to support the WebSphere SMF 120 records. This program can be used for chargeback and resource accounting of the WebSphere environment.

5 Account Code Conversion Table Size Constraints Removed

Storage constraints have been removed from the CIMS programs. Account code conversion tables are now limited only by the amount of extend private storage (about 2 gigabytes). Extremely large, random account code conversion tables are now supported.

6 Support for Overriding the Default Calculation for Local Time Added

Two new control statements, `SET GMT OFFSET TO SYSTEM` and `SET GMT OFFSET TO nn`, were added to override the default calculation for local time.

7 Enhanced User-Controlled DB2 CPU Calculation

A new control statement, `DUPLICATE CPU CONNECTION TYPES`, was added to identify the DB2 connection system types that should be treated as duplicates. The CPU time reported for these connection system types are tracked in the Duplicate CPU Time field of the DB2 791/994 accounting record.

8 Invalid Timer Flag Fields (SMF30TFL) Support Added

A new method for CPU time validation has been added. The SMF 30 record contains the field `SMF30TFL` that indicates when CPU timer fields are invalid. (The `SMF30TFL` field and the CPU timer fields are in the Processor Accounting Section). The new control statement `SMF30TFL {ON | OFF}` specifies whether `CIMSACCT` uses the data in the `SMF30TFL` field when processing the SMF 30 record.

9 Individual program updates that could cause some processing changes:

- `CIMSACCT`
 - Creates CIMS 79x accounting records and CIMS 6 and 30 accounting records. You can use the `WRITE` control statement to turn off either output.
 - Account code conversion routine updated.
 - Support for the 128-byte account code in CIMS 79x accounting records has been added.
 - The maximum length for the `DEFINE FIELD` and `DEFINE MOVEFLD` control statements is now 128 bytes.
 - All identifiers are available in account code conversion when 79x records are processed using the `PROCESS CIMS MAINTENANCE` control statement.
 - The following control statements have been added:
 - `MOVE PARSED ACCOUNTING DATA`. Moves the parsed z/OS accounting field data into the 792 accounting field instead of the original unparsed SMF 30 accounting section.
 - `PARSE ACCOUNT CODE FIELD`. Specifies how incoming SMF accounting fields will be parsed to form account code.
 - `SMF USER DATA IS SECURITY ID`. Specifies that the SMF user data field in CIMS accounting records is set from the RACF ID.
 - `SMF30TFL {ON | OFF}`. This control statement has been added as a method for validating CPU time using the `SMF30TFL` field of the SMF 30 record.
 - Support for up to 128 bytes from the z/OS job account code has been added.
 - New message format in `CIMSMSG DD`.
 - Updated to support multiple resource types when processing CSR records.
 - IMS-ID has been added to the 791 records as the Subsystem ID when processing IMS 996/997 records.

- The `ON EMPTY OUTPUT FILE SET RC TO` control statement was previously supported only when the `PROCESS CIMS MAINTENANCE` control statement was present. Support for this control statement has been added to the other process option control statements.
- Corrected improper building of the number of transactions field when converting the DB2 994 record to the 791 record.
- CIMSCLNT
 - Supports the new 128-byte account code.
 - Supports the `CurrentCloseDate` option in the configuration record.
 - Supports the database load ID in the configuration record.
- CIMSCMF2
 - Creates the CIMS 791 accounting record and the CIMS 804 accounting record. You can use the `WRITE` control statement to turn off either output.
 - Account code conversion routine updated.
 - Support for the 128-byte account code in CIMS 79x accounting records has been added.
 - The maximum length for the `DEFINE FIELD` and `DEFINE MOVEFLD` control statements is now 128 bytes.
 - With `CIMSMONY`, there is only one set of CICS rate codes. There is no longer a set of prime rate codes (`ZCS*`) and non-prime rate codes (`ZCX*`). The `ZCS*` rate records have been pre-defined in the `CIMSRATE` member in `CIMS.DATFILE` to contain a rate value for shift 1 (prime) and a rate value for shift 2 (non-prime).

The control statements `NON-PRIME SHIFT CODE = n` and `NON-PRIME DAY yyyyddd/yyyymddd` have been added to support this change. For more information about these statements, refer to the *CIMS CICS Data Collector User Guide*.

- New message format in `CIMSMMSG DD`.
- The CICS Attach Date and Time in conjunction with the Local Time of Day Adjustment from the SMF record is used to determine the shift code.
- The following control statement has been added to override the Local Time of Day Adjustment in the SMF record. If this control statement is *not* present, the `CIMSCMF2` default is to use the Local Time of Day Adjustment.

```
SET GMT OFFSET TO {nnn | SYSTEM}
```

`nnn`=a numeric value between -23 and +23

`SYSTEM`=CIMS will query the operating system to obtain the Local Time of Day Adjustment

- The control statement `EXCEPTION FILE PROCESSING * OFF` has been added. This control statement is the same as `EXCEPTION FILE PROCESSING OFF` except that it removes the requirement that the account code field must contain asterisks to be written to the exception file.
- CIMSCLMP
- Updated to set a condition code of 16 if a non-standard CICS dictionary was found and the Table Defaults was not turned off.
- The CICS Local Time of Day Adjustment has been added to the output for use in CIMSCLMP2. The Local Time of Day Adjustment is found in the product section of the CICS SMF record.
- The following control statement has been added to override the default return code of 16 when no input records are processed:

```
ON EMPTY INPUT FILE SET RC TO nnnn
```

nnnn=a numeric value from 0 to 9999

- CIMSDATA
- Two new control statements have been added: `DISPATCH` and `WEBSPPHRE`. For more information about these statements, refer to the *CIMS Mainframe Data Collector and Chargeback System User Guide*.
- CIMSDB2
- Creates the CIMS 791 accounting record and the CIMS 991 accounting record. You can use the `WRITE` control statement to turn off either output.
- Account code conversion routine updated.
 - Support for the 128-byte account code in CIMS 79x accounting records has been added.
 - The maximum length for the `DEFINE FIELD` and `DEFINE MOVEFLD` control statements is now 128 bytes.
- The `NON-PRIME SHIFT CODE =` control statement has been added. This statement enables you to change the default non-prime shift, which is set to 4.
- New message format in CIMSMSG DD.
- Enhanced user-controlled DB2 CPU calculation by adding a new control statement, `DUPLICATE CPU CONNECTION TYPES`, to identify the DB2 connection system types that should be treated as duplicates.
- The detail record written to the DB2RECS DD has been expanded to contain eight QBAC sections. Previously, only five QBAC sections were included in the detail record.

- CIMSDISK
 - Creates the CIMS 791 accounting record and the CIMS 991 accounting record. You can use the `WRITE` control statement to turn off either output.
 - Account code conversion routine updated.
 - Support for the 128-byte account code in CIMS 79x accounting records has been added.
 - The maximum length for the `DEFINE FIELD` and `DEFINE MOVEFLD` control statements is now 128 bytes.
 - New message format in `CIMSMMSG DD`.
- CIMSEXTR
 - The new Status and Statistics VSAM file has been built to store statistics and to allow `CIMSEXTR` to be restarted from a valid checkpoint if the previous execution terminated abnormally.
 - Added the ability to produce two new optional outputs: `CSR+` and aggregated 79x records. The `CSR+` record is required by `CIMSMONY`.
 - New default aggregation points have been added for the 79x records (see [page 3-10](#)). The System ID (`CIMSSID`), has been added as a default aggregation point for all records.
 - The following control statements have been added:
 - `DOUBLE QUOTE`. By default, identifier values in output `CSR+` records are enclosed by quotation marks. This control statement changes the double quote character to another character.
 - `DATA REPLACE`. This control statement replaces a specified hexadecimal character in an identifier with another hexadecimal value.
 - `PROCESS VALIDATION`. This control statement has been added to allow processing of records with non-blank delete codes.
- CIMSIMS2
 - `IMS-ID` has been added to the 791 records as the Subsystem ID.
- CIMSMONY
 - This is a new chargeback program. `CIMSMONY` has to main purposes:
 - To provide a mainframe type invoice (such as `CIMSBILL`).
 - To provide files that can be loaded into the Tivoli Usage and Accounting Manager database for Web reporting.

For more information about `CIMSMONY`, refer to the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

- CIMSULT
 - Supports the new CIMSMONY summary record and the CIMSBILL summary record. CIMSULT detects the record version and processes accordingly.
 - Produces CSR+ records. CIMSULT produces CSR+ records if it detects that it is processing summary records from CIMSMONY.
 - By default, identifier values in output CSR+ records are enclosed by quotation marks. The `DOUBLE QUOTE` control statement has been added to optionally change the double quote character to another character.
- CIMSTAPE
 - Creates the CIMS 791 accounting record and the CIMS 991 accounting record. You can use the `WRITE` control statement to turn off either output.
 - Account code conversion routine updated.
 - Support for the 128-byte account code in CIMS 79x accounting records has been added.
 - The maximum length for the `DEFINE FIELD` and `DEFINE MOVEFLD` control statements is now 128 bytes.
 - New message format in CIMSMSG DD.
- CIMSUNIV
 - Creates the CIMS 791 accounting record and the CIMS 991 accounting record. You can use the `WRITE` control statement to turn off either output.
 - Account code conversion routine updated.
 - Support for the 128-byte account code in CIMS 79x accounting records has been added.
 - The maximum length for the `DEFINE FIELD` and `DEFINE MOVEFLD` control statements is now 128 bytes.
 - New message format in CIMSMSG DD.
- CIMSUN01
 - Added support for the `ON EMPTY OUTPUT FILE SET RC TO` control statement.
 - Informational, warning, and error messages are written to the CIMSMSG DD statement. The CIMSMSG DD statement must be added to existing JCL that executes CIMSUN01.
 - Added the control statements `IDMS LOG15 REC` and `IDMS LOG16 REC` to identify the IDMS 15 and 16 Log Record Types.

- CIMSUN02
 - Creates the CIMS 791 accounting record and the CIMS 991 accounting record. You can use the WRITE control statement to turn off either output.
 - Account code conversion routine updated.
 - Support for the 128-byte account code in CIMS 79x accounting records has been added.
 - The maximum length for the DEFINE FIELD and DEFINE MOVEFLD control statements is now 128 bytes.
 - New message format in CIMSMSG DD.

CIMS.DATAFILE Updates/Additions

- 1** The following members were updated to add the new WRITE nnn OFF, WRITE 79X RECORDS ONLY, and/or WRITE 79X RECORD OFF control statements.
 - ACCTINPT, ACCTINP2, ACCTINP3, ACCTINP4, ACCTINP5, ACCTINP8, AS40INP1, AS40INP2, CICSDT06, CMF2INPT, DATACIN1, DATACIN2, DB2INPT, DISKCNTL, DISKINPT, IDMSCNT2, IDMSCNT4, IDMSCNT6, M204CNT2, RMMINPT, TAPEINPT, TL50INPT, TL54INPT, TMSINPT, UNIVINPT, ZADACNTL, ZARAINPT, ZDCBCNTL, ZDCCCNTL, ZFALCNTL, ZRJECNTL, ZROSCNTL, ZWYLCNTL
- 2** The following members were updated to make CIMSACT2 DD the default output (i.e., the CIMS 79x accounting records) instead of the CIMSACCT DD.
 - ATMONJCL, ATMO2JCL, CIMSADA1, CIMSADSM, CIMSCMS, CIMSFALC, CIMSJB2A, CIMSJB2B, CIMSJOB2, CIMSJRJE, CIMSROSC, CIMSRSKA, CIMSRYLB, IDMSJCL1, IDMSJCL2, IDMSJCL3, M204JCL1, SORTDB2, SORTDISK, SORTTAPE, SORTUNIV, SUBAS401 SUBAS402, SUBDATC1, SUBDATC2, SUBEXTR1, SUBMAIN1, SUBMAIN3
- 3** The following members were updated to make CIMSACT2 DD the default output (i.e., the CIMS 79x accounting records) and to add sample steps for executing CIMSEXTR to aggregate the 79x records and optional steps that execute CIMSMONY and/or FTP data to Tivoli Usage and Accounting Manager.
 - CIMSCICS, CIMSDB2, CIMSDISK, CIMSRMM, CIMSTAPE, CIMSTL50, CIMSTL54, CIMSTMS, CIMSUNIV, CIMSZARA, SUBCICS2, SUBDB21
- 4** The CIMSMSG DD statement was added to the following members:
 - BUDJCL1, BUDJCL2, CIMSCLNT, CIMSBDGT, CIMSMULT, CIMSJRJE, CIMSRTLD, CIMSRTRP, CLNTJCL2, CLNTJCL3, IDMSJCL1, IDMSJCL2, IDMSJCL3, M204JCL1
- 5** The following members were updated to correct the sort of the CSR+ records into account code sequence. The CSR+ record header is enclosed in quotation marks and the sort field was off by one byte. The sort parameter that contained SORT FIELDS=(28,128,CH,A,...) was changed to SORT FIELDS=(29,128,CH,A,...).
 - CIMSCICS, CIMSDB2, CIMSDB2L, CIMSDISK, CIMSJOB2, CIMSMULT, CIMSRMM, CIMSTAPE, CIMSTL50, CIMSTL54, CIMSTMS, CIMSJOB3, CIMSUNIV, CIMSWEBS, CIMSZARA, SUBCICS2, SUBDB21

- 6 The DCB information for the DB2RECS DD was modified to handle the larger DB2 detail records. LRECL=3120, BLKSIZE=24960 was changed to LRECL=3312, BLKSIZE=26496 in the CIMSDB2 and SUBDB21 members of CIMS.DATFILE.
- 7 The following members were added for WebSphere processing:
 - CIMSWEBS, FTPWEBS, WEBSACCT, WEBSINPT
- 8 Individual CIMS.DATFILE member updates:
 - ACNVJCL1
 - Updated to convert the 11.2–11.6 CIMS Rate file to the 12.0 layout.
 - ACNVJCL2
 - Updated to convert the 11.2–11.6 CIMS Client file to the 12.0 layout.
 - CALENDAR
 - Added the accounting year to each record. Also added more years.
 - CALNDR13
 - Added the accounting year to each record.
 - CICSASML
 - Added AMODE=24 and RMODE=24 to linker options.
 - CICSVSAM
 - CIMS Client and Rate file record lengths were increased to 1200 and 800, respectively.
 - CIMREC02
 - Updated format of CIMS Client file record.
 - CIMREC03
 - Updated format of CIMS Rate file record.
 - CIMREC14
 - Updated format of CIMSUNIV 001 input record.
 - CIMREC16
 - Updated format of CIMS Rate table.
 - CIMRECMN
 - New member that contains the record passed to the new user exit, CIMSUE16. CIMSUE16 is called from CIMSMONY.
 - CIMSΒETA, DCTNBETA
 - New members for BETA93 interface.

- CIMSCMPL
 - Added AMODE=31 and RMODE=ANY to linker options.
- CIMSDIST
 - The record release ID was changed from 199701 to 199807.
- CIMSDTLD
 - The following DCTNxxxx members were added to the CIMSCNTL DD statement: DCTNR794, DCTNR799, DCTNCTLD, DCTNCTLT, DCTNMQSR.
- CIMSDV12, DCTNV120
 - New members that upgrade the 11.6 CIMS Dictionary to 12.0
- CIMSFTP, CIMSFTPG, FTP#READ, FTPBASE, FTPBASEG, FTPDATE, FTPDATEG, FTPDB2, FTPID, FTPUNIV
 - New members that contain automated FTP JCL and REXX code. These members can be used as templates to build JCL that automates the FTP of data between CIMS Mainframe Data Collector and Chargeback System and Tivoli Usage and Accounting Manager.
- CIMSEOM
 - Steps to support the CIMS 79x accounting records were added.
- CIMSEXTR
 - Addition of the following DD statements to the JCL: CIMSCSR, CIMSCSRP, CIMS79X, CIMSSTAT, SORTSUM, and SORTAGR.
 - Added SORTSUM and SORTSGR DD statements to support new aggregation options.
- CIMSGDG
 - Added allocations for CIMSMONY GDG data sets.
- CIMSJOB1
 - CIMS Client and Rate file record lengths were increased to 1200 and 505, respectively.
 - Added allocation and initial loading of CIMS Dictionary.
- CIMSJOB3
 - The JCL has been totally rewritten. The default chargeback program is now CIMSMONY.
- CIMSJOB5
 - This is a new JCL member that contains the old version of CIMSJOB3 that executes program CIMSBILL.

- CIMSMEMO, DCTNMEMO
 - New members for Memo interface.
- CIMSMERG
 - New steps have been added to merge the CIMS 79x accounting records.
- CIMSMULT
 - New steps have been added to support proration from CIMSMONY.
- CIMSORCL, DCTNORCL
 - New members for Oracle interface.
- CIMSPRAT
 - New member that contains the JCL for the new proration program, CIMSPRAT. For more information about this program, refer to the *CIMS Mainframe Data Collector and Chargeback System User Guide*.
- CIMSRATE, CIMSRT01, CIMSRT02
 - New CPU flag was added to each CPU rate.
 - Changed the description of rate codes ZTPE@@04, ZTPE@@09, TLMS@@04, TLMS@@05, TLMS@@09, and TLMS@@10.
 - Added rate codes Z032, Z033, SMF30CPT, Z034, Z035, Z036, and ZZ39.
- CIMSRTC�
 - Updated record size for the CIMS Rate file from 200 to 505.
- CIMSRTPR, CIMSRTSC, FTPRATEP, FTPRATES
 - New members to support the mainframe and Tivoli Usage and Accounting Manager rate table synchronization.
- CIMSRTLД
 - Updated record size for the CIMS Rate file from 200 to 505.
- CIMSSTC
 - New member that allocates the new VSAM Statistics file.
- CIMSSTD
 - New member that deletes the new VSAM Statistics file.
- CIMSUSER
 - Added entry points CIMSACUA and CIMSUE16 to support CIMSMONY.
- CLNTJCL1, SUBCLNT2
 - Updated record size for the CIMS Client file from 800 to 1200.

- CMFPTABD
 - Added entries for CICS TS 2.3 to the default dictionary identification and offset table.
- CONVERTA
 - Updated to convert 11.2–11.6 history files into the CMS 79x accounting history file.
- DCTNCADS
 - New member that contains the CA-DISPATCH 793 record layout.
- DCTNDASD
 - Updated the descriptions of server resources (removed KB).
- DCTNR793
 - Added a sample Box ID definition.
- DCTNRZZZZ
 - Updated to show the different resource definitions that are supported.
- EDITJCL
 - New member that contains JCL for the updated CIMSEEDIT program. This program supports the 128-byte account code.
- FTPACCT, FTPCICS, FTPDB2, FTPDISK, FTPTAPE, FTPUNIV
 - Changed the CIMSMONY Summary file download name to BillSummary_<date>.txt.
 - Changed the default directory to Processes.
- FTPBASE, FTPBASEG
 - Updated the default download directories.
- MONYCTL1, MONYCTL2, MONYCTL3
 - New members that contain the CIMSMONY control statements.
- NORMCPU, SURCPU
 - New members that contain sample CPU normalization and job class and priority surcharge statements. These statements are used by CIMSMONY only.
- PRATINPT, PRATPRTB
 - New members that contain the new CIMSPRAT program control statements.
- SUBMRG3, SUBMRG4
 - Added steps to merge CIMSMONY history files.

Update the CIMS Rate and Client Files

There are changes to the CIMS Rate and Client files. You need to upgrade these files as described *CIMS Rate File Conversion* on page 3-12 and *CIMS Client File Conversion* on page 3-13.

Update the CIMS Dictionary VSAM File

There are changes to the CIMS Dictionary VSAM file, which was first introduced in release 11.5. You need to upgrade your CIMS Dictionary as described in *CIMS Dictionary File Conversion* on page 3-13.

Install Passwords

CIMS releases 11.6 through 12.2 use the same passwords. Do not use the new CIMS.DATFILE member during your testing because it contains expired passwords. Use your current CIMS passwords for release 12.2.

Update the CICS Online Programs

If you are using the CIMS data entry screens, you need to update your CICS startup JCL to STEPLIB to the CICS online load modules for testing.

Reapply User Exits

You need to reapply any user exits that you have coded. To find out if you are calling any user exits, check your control file members and look for EXIT starting in column 1. If you find EXIT, then that program is calling a user exit. The CIMSUSER exit has been updated to support DB2 release 6.1.

Exit points have been added to support the chargeback program CIMSMONY. Refer to the *CIMS Mainframe Data Collector and Chargeback System User Guide* for information about the new user exits.

You must re-compile the user exit pointing to the new CIMS.DATFILE where the most current record descriptions are stored. Re-link all of the programs that use your user-updated exit. Use the CIMS.DATFILE JCL member CIMSCMPL to compile and link these programs.

Upgrading From Release 12.0

Data Conversion

If you are upgrading from release 12.0, you need to convert the CIMS Dictionary VSAM file.

CIMS Dictionary File Conversion

Note • You must use your current licensed version of Report Writer to execute the CIMSD122 JCL.

There are changes to the CIMS Dictionary VSAM file (CIMSDTVS). Run the CIMSD122 JCL in CIMS.DATFILE to upgrade the dictionary. A new DB2 791 record will be produced with a version of 02. Any customization to the DB2 791 definition will be converted into the new 02 version.

The CIMSD122 JCL also adds a radix to the IMSDUR field (IMS response time) in the IMS 791 record definition (DCTNIMS).

CIMS Historical Data

Because there were no changes to the 79x records, CIMS historical data does not require conversion.

Upgrade From Release 12.0 Checklist

Note • *Upgrading From Release 12.0 Details* on page 3-28 provides more detailed information related to this checklist.

- Install the new release in a test area as described on [page 3-4](#).
- Determine the genlevel of the new release. Make sure it is the most current one. Apply all applicable fixes since the genlevel was made.
- Review program updates and new options. Some updates and new options might change some of your control options.
- Make any necessary CIMS.DATFILE JCL updates.
- Run CIMSD122 in CIMS.DATFILE to upgrade your CIMS Dictionary file. For more information, (see *CIMS Dictionary File Conversion* on page 3-27).
- Update the CICS online programs.
- Reapply user exits.

Upgrading From Release 12.0 Details

Program Updates/Changes/Additions

1 New CIMSWEBBS Program

A new program, CIMSWEBBS, has been added to support the WebSphere SMF 120 records. This program can be used for chargeback and resource accounting of the WebSphere environment.

2 Account Code Conversion Table Size Constraints Removed

Storage constraints have been removed from the CIMS programs. Account code conversion tables are now limited only by the amount of extend private storage (about 2 gigabytes). Extremely large, random account code conversion tables are now supported.

3 Enhanced User-Controlled DB2 CPU Calculation

A new control statement, `DUPLICATE CPU CONNECTION TYPES`, was added to identify the DB2 connection system types that should be treated as duplicates. The CPU time reported for these connection system types are tracked in the Duplicate CPU Time field of the DB2 791/994 accounting record.

4 Invalid Timer Flag Fields (SMF30TFL) Support Added

A new method for CPU time validation has been added. The SMF 30 record contains the field SMF30TFL that indicates when CPU timer fields are invalid. (The SMF30TFL field and the CPU timer fields are in the Processor Accounting Section). The new control statement `SMF30TFL {ON | OFF}` specifies whether CIMSACCT uses the data in the SMF30TFL field when processing the SMF 30 record.

5 Individual program updates that could cause some processing changes:

- CIMSACCT
 - The control statement `MOVE PARSED ACCOUNTING DATA` has been added. For more information about this statement, refer to the *CIMS Mainframe Data Collector and Chargeback System User Guide*.
 - Updated to support multiple resource types when processing CSR records.
 - IMS-ID has been added to the 791 records as the Subsystem ID when processing IMS 996/997 records.
 - The `ON EMPTY OUTPUT FILE SET RC TO` control statement was previously supported only when the `PROCESS CIMS MAINTENANCE` control statement was present. Support for this control statement has been added to the other process option control statements.
 - Added the control statement `SMF30TFL {ON | OFF}` as a method for validating CPU time using the SMF30TFL field of the SMF 30 record.
 - Corrected improper building of the number of transactions field when converting the DB2 994 record to the 791 record.

- CIMSCMF2
 - The CICS Attach Date and Time in conjunction with the Local Time of Day Adjustment from the SMF record is used to determine the shift code.
 - The following control statement has been added to override the Local Time of Day Adjustment in the SMF record. If this control statement is *not* present, the CIMSCMF2 default is to use the Local Time of Day Adjustment.

```
SET GMT OFFSET TO {nnn | SYSTEM}
```

nnn=a numeric value between -23 and +23

SYSTEM=CIMS will query the operating system to obtain the Local Time of Day Adjustment.

- The control statement EXCEPTION FILE PROCESSING * OFF has been added. This control statement is the same as EXCEPTION FILE PROCESSING OFF except that it removes the requirement that the account code field must contain asterisks to be written to the exception file.

- CIMSCMFP

- Updated to set a condition code of 16 if a non-standard CICS dictionary was found and the Table Defaults was not turned off.
- The CICS Local Time of Day Adjustment has been added to the output for use in CIMSCMF2. The Local Time of Day Adjustment is found in the product section of the CICS SMF record.
- The following control statement has been added to override the default return code of 16 when no input records are processed.

```
ON EMPTY INPUT FILE SET RC TO nnnn
```

nnnn=a numeric value from 0 to 9999

- CIMSDATA

- Two new control statements have been added: DISPATCH and WEBSPPHERE. Refer to the *CIMS Mainframe Data Collector and Chargeback System User Guide* for more information about these statements.

- CIMSDDB2

- Enhanced user-controlled DB2 CPU calculation by adding a new control statement, DUPLICATE CPU CONNECTION TYPES, to identify the DB2 connection system types that should be treated as duplicates.
- The detail record written to the DB2RECS DD has been expanded to contain eight QBAC sections. Previously, only five QBAC sections were included in the detail record.

- CIMSEXTR
 - The following control statements have been added:
 - `DOUBLE QUOTE`. By default, identifier values in output CSR+ records are enclosed by quotation marks. This control statement changes the double quote character to another character.
 - `DATA REPLACE`. This control statement replaces a specified hexadecimal character in an identifier with another hexadecimal value.
 - `PROCESS VALIDATION`. This control statement has been added to allow processing of records with non-blank delete codes.
- CIMSIMS2
 - IMS-ID has been added to the 791 records as the Subsystem ID.
- CIMSMULT
 - By default, identifier values in output CSR+ records are enclosed by quotation marks. The `DOUBLE QUOTE` control statement has been added to optionally change the double quote character to another character.
- CIMSUN01
 - Added support for the `ON EMPTY OUTPUT FILE SET RC TO` control statement.
 - Informational, warning, and error messages are written to the `CIMSMSG DD` statement. The `CIMSMSG DD` statement must be added to existing JCL that executes CIMSUN01.
 - Added the control statements `IDMS LOG15 REC` and `IDMS LOG16 REC` to identify the IDMS 15 and 16 Log Record Types.

CIMS.DATAFILE Updates/Additions

- 1** The `CIMSMSG DD` statement was added to the following members:
 - `CIMSMULT`, `CIMSRJE`, `IDMSJCL1`, `IDMSJCL2`, `IDMSJCL3`, `M204JCL1`
- 2** The following members were updated to correct the sort of the CSR+ records into account code sequence. The CSR+ record header is enclosed in quotation marks and the sort field was off by one byte. The sort parameter that contained `SORT FIELDS=(28,128,CH,A,...)` was changed to `SORT FIELDS=(29,128,CH,A,...)`.
 - `CIMSCICS`, `CIMSDB2`, `CIMSDB2L`, `CIMSDISK`, `CIMSJOB2`, `CIMSMULT`, `CIMSRMM`, `CIMSTAPE`, `CIMSTL50`, `CIMSTL54`, `CIMSTMS`, `CIMSJOB3`, `CIMSUNIV`, `CIMSWEBS`, `CIMSZARA`, `SUBCICS2`, `SUBDB21`
- 3** The DCB information for the `DB2RECS DD` was modified to handle the larger DB2 detail records. `LRECL=3120,BLKSIZE=24960` was changed to `LRECL=3312,BLKSIZE=26496` in the `CIMSDB2` and `SUBDB21` members of `CIMS.DATAFILE`.

4 Individual CIMS.DATFILE member updates:

- CIMSBETA, DCTNBETA
 - New members for BETA93 interface.
- CIMSCMPL
 - Updated to AMODE=31 and RMODE=ANY.
- CIMSMEMO, DCTNMEMO
 - New members for Memo interface.
- CIMSORCL, DCTNORCL
 - New members for Oracle interface.
- CIMSRT01, CIMSRT02
 - Changed the description of rate codes ZTPE@@04, ZTPE@@09, TLMS@@04, TLMS@@05, TLMS@@09, and TLMS@@10.
 - Added rate code ZZ39.
- CIMSRTPR, CIMSRTSC, FTPRATEP, FTPRATES
 - New members to support the mainframe and Tivoli Usage and Accounting Manager rate table synchronization.
- CIMSWEBS, FTPWEBS, WEBSACCT, WEBSINPT
 - New members to support WebSphere processing.
- DCTNCADS
 - New member that contains the CA-DISPATCH 793 record layout.
- DCTNDASD
 - Updated the descriptions of server resources (removed KB).
- DCTNR793
 - Added a sample Box ID definition.
- DCTNRZZZZ
 - Updated to show the different resource definitions that are supported.
- FTPACCT, FTPCICS, FTPDB2, FTPDISK, FTPTAPE, FTPUNIV
 - Changed the CIMSMONY Summary file download name to BillSummary_<date>.txt.
 - Changed the default directory to Processes.
- FTPBASE, FTPBASEG
 - Updated the default download directories.

Update the CICS Online Programs

If you are using the CIMS data entry screens, you need to update your CICS startup JCL to STEPLIB to the CICS online load modules for testing.

Reapply User Exits

You need to reapply any user exits that you have coded. To find out if you are calling any user exits, check your control file members and look for EXIT starting in column 1. If you find EXIT, then that program is calling a user exit. The CIMSUSER exit has been updated to support DB2 release 6.1.

You must re-compile the user exit pointing to the new CIMS.DATFILE where the most current record descriptions are stored. Re-link all of the programs that use your user-updated exit. Use the CIMS.DATFILE JCL member CIMSCMPL to compile and link these programs.

Upgrading From Release 12.1

Data Conversion

If you are upgrading from release 12.1, you need to convert the CIMS Dictionary VSAM file.

CIMS Dictionary File Conversion

Note • You must use your current licensed version of Report Writer to execute the CIMSD122 JCL.

There are changes to the CIMS Dictionary VSAM file (CIMSDTVS). Run the CIMSD122 JCL in CIMS.DATFILE to upgrade the dictionary. A new DB2 791 record will be produced with a version of 02. Any customization to the DB2 791 definition will be converted into the new 02 version.

The CIMSD122 JCL also adds a radix to the IMSDUR field (IMS response time) in the IMS 791 record definition (DCTNIMS).

CIMS Historical Data

Because there were no changes to the 79x records, CIMS historical data does not require conversion.

Upgrade From Release 12.1 Checklist

Note • *Upgrading From Release 12.1 Details* on page 3-34 provides more detailed information related to this checklist.

- Install the new release in a test area as described on [page 3-4](#).
- Determine the genlevel of the new release. Make sure it is the most current one. Apply all applicable fixes since the genlevel was made.
- Review program updates and new options. Some updates and new options might change some of your control options.
- Make any necessary CIMS.DATFILE JCL updates.
- Run CIMSDV12 in CIMS.DATFILE to upgrade your CIMS Dictionary file. For more information, see *CIMS Dictionary File Conversion*.
- Update the CICS online programs.
- Reapply user exits.

Upgrading From Release 12.1 Details

Program Updates/Changes/Additions

1 Enhanced User-Controlled DB2 CPU Calculation

A new control statement, `DUPLICATE CPU CONNECTION TYPES`, was added to identify the DB2 connection system types that should be treated as duplicates. The CPU time reported for these connection system types are tracked in the Duplicate CPU Time field of the DB2 791/994 accounting record.

2 Invalid Timer Flag Fields (SMF30TFL) Support Added

A new method for CPU time validation has been added. The SMF 30 record contains the field SMF30TFL that indicates when CPU timer fields are invalid. (The SMF30TFL field and the CPU timer fields are in the Processor Accounting Section). The new control statement `SMF30TFL {ON | OFF}` specifies whether CIMSACCT uses the data in the SMF30TFL field when processing the SMF 30 record.

3 Individual program updates that could cause some processing changes:

- CIMSACCT
 - Added the control statement `SMF30TFL {ON | OFF}` as a method for validating CPU time using the SMF30TFL field of the SMF 30 record.
 - Corrected improper building of the number of transactions field when converting the DB2 994 record to the 791 record.
- CIMSCMF2
 - The control statement `EXCEPTION FILE PROCESSING * OFF` has been added. This control statement is the same as `EXCEPTION FILE PROCESSING OFF` except that it removes the requirement that the account code field must contain asterisks to be written to the exception file.
- CIMSDB2
 - Enhanced user-controlled DB2 CPU calculation by adding a new control statement, `DUPLICATE CPU CONNECTION TYPES`, to identify the DB2 connection system types that should be treated as duplicates.
 - The detail record written to the DB2RECS DD has been expanded to contain eight QBAC sections. Previously, only five QBAC sections were included in the detail record.

- CIMSEXTR
 - The following control statements have been added:
 - `DOUBLE QUOTE`. By default, identifier values in output CSR+ records are enclosed by quotation marks. This control statement changes the double quote character to another character.
 - `DATA REPLACE`. This control statement replaces a specified hexadecimal character in an identifier with another hexadecimal value.
 - `PROCESS VALIDATION`. This control statement has been added to allow processing of records with non-blank delete codes.
- CIMSMULT
 - By default, identifier values in output CSR+ records are enclosed by quotation marks. The `DOUBLE QUOTE` control statement has been added to optionally change the double quote character to another character.
- CIMSUN01
 - Added support for the `ON EMPTY OUTPUT FILE SET RC TO` control statement.
 - Informational, warning, and error messages are written to the `CIMSMSG DD` statement. The `CIMSMSG DD` statement must be added to existing JCL that executes CIMSUN01.
 - Added the control statements `IDMS LOG15 REC` and `IDMS LOG16 REC` to identify the IDMS 15 and 16 Log Record Types.

CIMS.DATAFILE Updates/Additions

- 1 The `CIMSMSG DD` statement was added to the following members:
 - CIMSMULT, CIMSJRJE, IDMSJCL1, IDMSJCL2, IDMSJCL3, M204JCL1
- 2 The following members were updated to correct the sort of the CSR+ records into account code sequence. The CSR+ record header is enclosed in quotation marks and the sort field was off by one byte. The sort parameter that contained `SORT FIELDS=(28,128,CH,A,...)` was changed to `SORT FIELDS=(29,128,CH,A,...)`.
 - CIMSCICS, CIMSDB2, CIMSDB2L, CIMSDISK, CIMSJOB2, CIMSMULT, CIMSRMM, CIMSTAPE, CIMSTL50, CIMSTL54, CIMSTMS, CIMSJOB3, CIMSUNIV, CIMSWEBS, CIMSZARA, SUBCICS2, SUBDB21
- 3 The DCB information for the `DB2RECS DD` was modified to handle the larger DB2 detail records. `LRECL=3120, BLKSIZE=24960` was changed to `LRECL=3312, BLKSIZE=26496` in the `CIMSDB2` and `SUBDB21` members of `CIMS.DATAFILE`.
- 4 Individual `CIMS.DATAFILE` member updates:
 - CIMSΒETA, DCTNBETA
 - New members for BETA93 interface.

- CIMSAMPL
 - Updated to AMODE=31 and RMODE=ANY.
- CIMSMEMO, DCTNMEMO
 - New members for Memo interface.
- CIMSORCL, DCTNORCL
 - New members for Oracle interface.
- CIMSRAE, CIMSRT01, CIMSRT02
 - Changed the description of rate codes ZTPE@@04, ZTPE@@09, TLMS@@04, TLMS@@05, TLMS@@09, and TLMS@@10.
 - Added rate code ZZ39.

Update the CICS Online Programs

If you are using the CIMS data entry screens, you need to update your CICS startup JCL to STEPLIB to the CICS online load modules for testing.

Reapply User Exits

You need to reapply any user exits that you have coded. To find out if you are calling any user exits, check your control file members and look for EXIT starting in column 1. If you find EXIT, then that program is calling a user exit. The CIMSUSER exit has been updated to support DB2 release 6.1.

You must re-compile the user exit pointing to the new CIMS.DATFILE where the most current record descriptions are stored. Re-link all of the programs that use your user-updated exit. Use the CIMS.DATFILE JCL member CIMSAMPL to compile and link these programs.

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About This Chapter

This chapter guides you through the process of upgrading from CIMSBILL to CIMSMONY and includes the following information:

- The migration path from CIMSBILL to CIMSMONY.
- The input and output changes from CIMSBILL to CIMSMONY.
- The processing differences between CIMSBILL and CIMSMONY.
- The control statement differences between CIMSBILL and CIMSMONY.
- The changes to other CIMS programs and JCL to support CIMSMONY.

About CIMSMONY

CIMSMONY differs from CIMSBILL in that CIMSMONY supports CIMS 79x accounting records (which are processed and reformatted by CIMSEXTR) rather than CIMS 6, 30, and 991–999 accounting records. In addition, you can run CIMSMONY in different modes, Invoice or Server, depending on the output that you want to produce.

The Invoice mode is intended for those users who want to process 79x records and produce an invoice on the mainframe.

The Server mode is intended for those users who want to feed mainframe data to Tivoli Usage and Accounting Manager to produce Web-based invoices and other reports. CIMSMONY in Server mode produces the Tivoli Usage and Accounting Manager Ident, Detail, and Summary files that are loaded into Tivoli Usage and Accounting Manager.

The default mode is Invoice. To run CIMSMONY in Server mode, use the control statement `PROCESS SERVER MODE` (see [page 4-31](#)). You cannot run both modes at the same time.

Migration Path

The migration path from CIMSBILL to CIMSMONY differs depending on whether you are migrating to CIMSMONY in Invoice mode or Server mode.

To migrate from CIMSBILL to CIMSMONY in Invoice mode, follow the steps in [Invoice Mode Migration Path](#) on page 4-4.

To migrate to CIMSMONY in Server mode, follow the steps in [Server Mode Migration Path](#) on page 4-6.

Invoice Mode Migration Path

Running CIMSMONY in Invoice mode is similar to running CIMSBILL. You will continue to run all of the CIMS interface programs daily, produce a history file, and run the CIMSEOM process against the 79x records at the end of the period. (Refer to the new CIMSEOM JCL in CIMS.DATFILE.) At this point, you will do the following:

- Run CIMSEXTR to produce the CSR+ file.
- Run CIMSMONY to produce an invoice.

To migrate to CIMSMONY in Invoice mode:

- 1 Create the CIMS Dictionary and Status and Statistics VSAM files:
 - a Execute the JCL member CIMSRTC in CIMS.DATFILE to create the CIMS Dictionary file. CIMSRTC allocates the VSAM cluster.
 - b Execute the JCL member CIMSRTLD in CIMS.DATFILE to invoke the Dictionary Utility (also named CIMSRTLD). This utility builds the default dictionary.
 - c Execute the JCL member CIMSSTC in CIMS.DATFILE to create the Status and Statistics file.
- 2 Create the new 79x accounting records (and, optionally, the CIMS 6, 30, and 991–999 accounting records) using either of the following processes:
 - Modify your existing job streams by inserting the appropriate CIMSACT2 DD statements against the first pass of the source data (i.e., the first execution of CIMSACCT against SMF, the CIMSRTLD run against DCOLLECT records, the CIMSRTAPE run against the tape system catalog, etc.).

Starting with CIMS 12.0, the 79x records are produced as the default and the CIMSACT2 DD statements have been defined in the sample JCL. The CIMSACCT DD statement has been changed to DD DUMMY so that the 6, 30, and 991–999 records are not produced by default.

Or

- Execute your existing job streams that create the 6, 30, and 991–999 records. Pass all records through on final CIMSACCT step using the control statement `CONVERT TO CIMS SERVER`.
- 3 After running all of the interface programs other than CIMSACCT (CIMSRTLD, CIMSRTAPE, CIMSRTDB2, CIMSRTUNIV, and CIMSRTUN02), add another step to the jobs to summarize the 791 records using CIMSEXTR.
 - 4 Run the daily CIMSRTM job against the 79x records to add them to the history file. Use the new CIMSRTM JCL in CIMS.DATFILE.

- 5** At the end of the period, run the CIMSEOM process against the 79x records. Use the new CIMSEOM JCL in CIMS.DATFILE.
- 6** Execute CIMSEXTR against the 79x history file created by the CIMSEOM process. CIMSEXTR creates the CSR+ file.
- 7** Execute CIMSMONY using the CSR+ file as input. The records in the CSR+ file must be sorted in account code/start date/end date sequence before being processed by CIMSMONY. To sort the records, you can use an external sort after the records are created by CIMSEXTR or the CIMSMONY control statement SORT.

Server Mode Migration Path

CIMSMONY in Server mode is much different than the current CIMSBILL implementation. This mode is intended strictly for the creation of the Tivoli Usage and Accounting Manager Ident, Detail, and Summary files that are loaded to the Tivoli Usage and Accounting Manager database. CIMSMONY in Server mode does not produce invoices and zero cost reports on the mainframe or the CIMS Desktop file and does not invoke a GL exit.

CIMSMONY in Server mode should be run daily. Because Server mode produces files that are loaded to the Tivoli Usage and Accounting Manager database for reporting, there is no need to wait until the end of the period to run CIMSMONY.

To migrate to CIMSMONY in Server mode:

- 1** Create the CIMS Dictionary and Status and Statistics VSAM files:
 - a** Execute the JCL member CIMS DTC in CIMS.DATFILE to create the CIMS Dictionary file. CIMS DTC allocates the VSAM cluster.
 - b** Execute the JCL member CIMS DTL D in CIMS.DATFILE to invoke the Dictionary Utility (also named CIMS DTL D). This utility builds the default dictionary.
 - c** Execute the JCL member CIMS STC in CIMS.DATFILE to create the Status and Statistics file.
- 2** Create the new CIMS 79x accounting records (and, optionally, the CIMS 6, 30, and 991–999 accounting records) using either of the following processes:
 - Modify your existing job streams by inserting the appropriate CIMSACT2 DD statements against the first pass of the source data (that is, the first execution of CIMSACCT against SMF, the CIMS DISK run against DCOLLECT records, the CIMS TAPE run against the tape system catalog, and so on).

Starting with CIMS 12.0, the 79x records are produced as the default and the CIMSACT2 DD statements have been defined in the sample JCL. The CIMSACCT DD statement has been changed to DD DUMMY so that the 6, 30, and 991–999 records are not produced by default.

Or

 - Execute your existing job streams that create the 6, 30, and 991–999 records. Pass all records through on final CIMSACCT step using the control statement `CONVERT TO CIMS SERVER`.
- 3** After all of the interface programs (CIMSACCT, CIMS DISK, CIMS CMF2, CIMS IMS2, CIMS TAPE, CIMS DB2, CIMS UNIV, and CIMS UNO2), add another step to the jobs to summarize the 79x records and produce a CSR+ file using CIMSEXTR.

- 4** Execute CIMSMONY using the CSR+ file as input. The records in the CSR+ file must be sorted in account code/start date/end date sequence before being processed by CIMSMONY. To sort the records, you can use an external sort after the records are created by CIMSEXTR or the CIMSMONY control statement SORT.
- 5** FTP the Tivoli Usage and Accounting Manager Ident, Detail, and Summary files to Tivoli Usage and Accounting Manager and load the database. Refer to the CIMS interface program JCL members (CIMSDISK, CIMTAPE, CIMSCICS, and so on) for sample steps that FTP output data to Tivoli Usage and Accounting Manager.
- 6** Log on to the Tivoli Usage and Accounting Manager Web Reporting Web site and run reports against the data as described in the *Tivoli Usage and Accounting Manager Web Reporting User's Guide*.

Input/Output Changes

Input Changes

The following input DD statements reference the same data in both CIMSMONY and CIMSBILL:

- CIMSCNTL** References the input control statements file. This file is used just as it is in CIMSBILL (the control statements must start in column 1, and so on). However, some CIMSBILL control statements are not supported in CIMSMONY and others have been added or have been changed. See [page 4-28](#) for control statement changes.
- CIMSRTVS** References the CIMS Rate file. The format of the CIMS Rate file changed starting in CIMS 12.0. You must run the upgrade job ACNVJCL1 to upgrade your file to the new format.
- CIMSCLVS** References the CIMS Client file. The format of the CIMS Client file changed starting in CIMS 12.0. You must run the upgrade job ACNVJCL2 to upgrade your file to the new format.

The following input DD statements are new for CIMSMONY:

- CIMSNCPU** References the CPU normalization statements file. This file can contain up to 5,000 records.
- CIMSSCPU** References the priority and class surcharge statements file. This file can contain up to 100 priority and 100 class records.

The following input DD statements reference different data in CIMSMONY:

- CIMSACCT** References the accounting records to be processed. In CIMSBILL, these are CIMS 6, 30, and 991–999 accounting records. In CIMSMONY, these are CSR+ records created by CIMSEXTR. For more information about the CSR+ records, see [New Input Record](#) on page 4-9.
- CIMSCLDR** References the CIMS Calendar file. The accounting year field has been added to the records in this file and the file can now contain up to 1,000 records. For more information, see [CIMS Calendar File Changes](#) on page 4-9.

New Input Record

The input records for CIMS BILL are the CIMS 6, 30, and 991–999 accounting records. The input record for CIMSMONY is the CSR+ record that is created by CIMSEXTR from CIMS 79x accounting records.

The CSR+ record is the same as the Tivoli Usage and Accounting Manager Resource (CSR) record, but has a fixed header so that CIMSMONY can sort records in account code/start date/end date order.

Unlike the records in the history file used for CIMS BILL, which are in correct sort order, the CSR+ records must be sorted after they are created by CIMSEXTR using an external sort or by CIMSMONY using the SORT control statement (see [page 4-32](#)). The SORT statement is turned off by default. CIMSMONY requires the records in account code/start date/end date order.

For more information about CIMSEXTR and the CSR+ record, refer to the Extract and Aggregation Program—CIMSEXTR chapter in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

CIMS Calendar File Changes

Prior to 12.0, the CIMS Calendar file records contained an accounting period, start date, and end date. With the implementation of accounting dates for CIMSMONY in Server mode (see [New Accounting Dates](#) on page 4-25), the accounting periods must be associated with a year. Therefore, a fourth field, accounting year, has been added to the records. In addition, the CIMS Calendar file can now contain up to 1,000 records.

The new record format is:

Accounting_Period,Start_Date,End_Date,Accounting_Year

For example:

```
01,20070101,20070131,2007
02,20070201,20070228,2007
03,20070301,20070331,2007
04,20070401,20070430,2007
05,20070501,20070531,2007
06,20070601,20070630,2007
07,20070701,20070731,2007
08,20070801,20070831,2007
09,20070901,20070930,2007
10,20071001,20071031,2007
11,20071101,20071130,2007
12,20071201,20071231,2007
```

Because the calendar file is used to calculate accounting dates, the CIMS Calendar file is very important when running CIMSMONY in Server mode.

Output Changes

The following output DD statements reference the same data in both CIMSMONY and CIMSBILL:

- CIMSMMSG** References the processing and trace messages file. The format of the messages has changed slightly. All messages from CIMSMONY are prefixed with ****I**** (Information), ****W**** (Warning), or ****E**** (Error). For more information, see [Output Message Changes](#) on page 4-11.
- CIMSPRNT** References the processing results file. This file contains more processing messages for CIMSMONY than for CIMSBILL and the format has changed slightly. For more information, see [CIMSPRNT File Changes](#) on page 4-13.
- CIMSINVC** References the Invoice report. An invoice is produced only in Invoice mode. The format of the invoice has changed slightly to accommodate the 128-byte account code. For more information, see [Invoices Changes](#) on page 4-14.
- CIMSDIST** References the CIMS Desktop file. This file has not changed. It supports a 32-byte account code only. If the account code is longer than 32 bytes, the code is truncated. For the layout of this file, refer to the CIMS Accounting File Record Descriptions appendix in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.
- CIMSSUM** References the CIMS Summary file. The format of this file has changed slightly to accommodate the 128-byte account code. For the layout of this file, refer to the CIMS Accounting File Record Descriptions appendix in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

The following output DD statements are no longer supported in CIMSMONY:

- CIMSRESR** References the CIMS Resource file. This file is no longer needed.
- CIMSJOB** References the detail reports. CIMSMONY does not produce detailed reports.

The following output DD statements are new for CIMSMONY:

- CIMSDETL** References the Tivoli Usage and Accounting Manager Detail file. This file is produced in Server mode only. This file is loaded directly into the Tivoli Usage and Accounting Manager database. For the layout of this file, refer to the CIMS Accounting File Record Descriptions appendix in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

- CIMSUMRY** References the Tivoli Usage and Accounting Manager Summary file. This file is produced in Server mode only. This file is loaded directly into the Tivoli Usage and Accounting Manager database. For the layout of this file, refer to the CIMS Accounting File Record Descriptions appendix in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

- CIMSIDENT** References the Tivoli Usage and Accounting Manager Ident file. This file is produced in Server mode only. This file is loaded directly into the Tivoli Usage and Accounting Manager database. For the layout of this file, refer to the CIMS Accounting File Record Descriptions appendix in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

Output Message Changes

The following changes have been made to many (but not all) of the message files produced by CIMS interface programs:

- A header has been added to the top of the message file to specify the program that produced the message.
- A prefix in the following format has been added to the message:

mmmmnnnt text_of_message

where: mmmm=the routine that issued the message

nnn=a numeric value that identifies the message

t=the type of message (I=Information, W=Warning, E=Error)

For example:

MONY205I Server Mode On - Only one Sequence Level in Effect

- The messages are upper and lowercase for improved readability.

The following is an example of a CIMSMONY message file output using the control statement TEST P (for tracing the parsing information).

```
*****
                          Message Section for Program: CIMSMONY
*****
MONY205I Server Mode On - Only one Sequence Level in Effect

MN01200I CIMSMN01 Compile Date: 2007/11/22   Compile Time: 12:58:19

MONY211I Account Code Length: +007 Resource Record Length: +0470 CSR+ Record Length: +0504
MONY211I First 80 Bytes of Resource Rec: DiskDir,20070422,20070427,00:00:00,23:59:59,,10,"Account_
MONY212I Number of Identifiers: +0010 Number of Resources: +0001
MONY208I Job_Class Identifier Found: N Job_Priority Identifier Found: N
MONY211I Account Code Length: +003 Resource Record Length: +0474 CSR+ Record Length: +0504
MONY211I First 80 Bytes of Resource Rec:DiskDir,20070422,20070604,00:00:00,23:59:59,2,10,"Account_
MONY212I Number of Identifiers: +0010 Number of Resources: +0001
MONY208I Job_Class Identifier Found: N Job_Priority Identifier Found: N
MONY211I Account Code Length: +007 Resource Record Length: +0470 CSR+ Record Length: +0504
MONY211I First 80 Bytes of Resource Rec:DiskDir,20070522,20070524,00:00:00,23:59:59,3,10,"Account_
MONY212I Number of Identifiers: +0010 Number of Resources: +0001
MONY208I Job_Class Identifier Found: N Job_Priority Identifier Found: N
MONY211I Account Code Length: +004 Resource Record Length: +0473 CSR+ Record Length: +0504
MONY211I First 80 Bytes of Resource Rec: DiskDir,20070522,20070703,00:00:00,23:59:59,,10,"Account_
MONY212I Number of Identifiers: +0010 Number of Resources: +0001
MONY208I Job_Class Identifier Found: N Job_Priority Identifier Found: N
MONY211I Account Code Length: +022 Resource Record Length: +0455 CSR+ Record Length: +0504
MONY211I First 80 Bytes of Resource Rec: DiskDir,20070524,20070525,00:00:00,23:59:59,,10,"Account_
MONY212I Number of Identifiers: +0010 Number of Resources: +0001
MONY208I Job_Class Identifier Found: N Job_Priority Identifier Found: N
MONY211I Account Code Length: +007 Resource Record Length: +0470 CSR+ Record Length: +0504
MONY211I First 80 Bytes of Resource Rec: DiskDir,20070527,20070604,00:00:00,23:59:59,,10,"Account_
MONY212I Number of Identifiers: +0010 Number of Resources: +0001
MONY208I Job_Class Identifier Found: N Job_Priority Identifier Found: N
MN01104W Rate Value not defined for Table/Rate: STANDARD/Z003
```

CIMSPRNT File Changes

The following changes have been made to the CIMSPRNT file:

- The control statements are designated by lines containing asterisks and Start of Control Statements/End of Control Statements.
- A message specifying the CIMSMONY mode used and the implications of that mode follows the control statements.
- The messages are upper and lowercase for improved readability and there are more messages than in the CIMSBILL file. New messages include the number of records rejected by user exit CIMSUE16, the number of records that were selected for processing, and so on.

The following is an example CIMSPRNT File.

```
V12.2.1                                CIMS, The Enterprise ChargeBack System      Date=2007/01/15 Page  1
                                         Program CIMSMONY                          15:37:14

Compile Date 2006/12/15
Compile Time  15:36:22

***** Start of Control Statements: CIMSCNTL DD *****
CLASS NAME = C1Ass
PRIORITY NAME = JbPriority
TEST P
USER EXIT ROUTINE2
PROCESS SERVER MODE
ACCOUNTING PERIOD = 11
SUR-CHARGE CPU VALUES
NORMALIZE CPU VALUES
DEFINE J1 1 2
DEFINE J2 1 4
DEFINE J3 1 6
DEFINE J4 1 8
DEFINE J5 1 10
DEFINE J6 1 14
SEQUENCE FIELDS J1 J2 J3 J4 J5 J6
CLIENT FILE NOUPDATE
***** End of Control Statements *****

Server Mode On - Only one Sequence Level in Effect - No Invoice will be produced
The CIMS Server Detail, Identification and Summary Files will be produced

Total Records Read..... 6
Records Rejected by User Exit CIMSUE16..... 1
Records Selected for Processing..... 5
Records Written to the Detail File..... 5
Records Written to the Identification File. 52
Records Written to the Server Summary File. 5

Normal Termination
```

Invoices Changes

The following changes have been made to the Invoice:

- The account code has been moved to a separate line to accommodate the 128-byte account code.
- The shift code appears at the end of the rate description when the control statement USE SHIFT CODES (see [page 4-32](#)) is used.

Invoice Number 00000001

Client.: The Big Time Company

Account:
Payroll

| | | Billing Period 2007/12/01 To 2007/12/31 | | |
|------------------|---------|---|----------|------------------|
| | | Total | Rate | Charge |
| z/OS CPU Minutes | Shift 3 | 0.01 | \$ 20.00 | \$ 0.36 |
| Batch charges | | | | \$ 0.36 |
| Amount-Due ----- | | | | \$ 0.36 ----- |

Processing Differences Between CIMSBILL and CIMSMONY

CIMSMONY differs from CIMSBILL in that CIMSMONY supports CIMS 79x accounting records (which are processed and reformatted by CIMSEXTR) rather than CIMS 6, 30, and 991–999 accounting records. In addition, you can run CIMSMONY in different modes, Invoice or Server, depending on the output that you want to produce.

The two processing modes are needed so that CIMSMONY can perform more efficient processing. For example, in Server mode, you do not need to define break levels (DEFINE J2, J2, : SEQUENCE J2, J2) because Tivoli Usage and Accounting Manager creates break levels dynamically. Also, certain control statements have different implications depending on the mode used. For example, the control statement REPORT DATE has different implications in Invoice mode than in Server mode (see [page 4-35](#)).

The Invoice mode is intended for those users who want to process data and produce an invoice on the mainframe.

The Server mode is intended for those users who want to feed mainframe data to Tivoli Usage and Accounting Manager to produce Web-based invoices and other reports. CIMSMONY in Server mode produces the Tivoli Usage and Accounting Manager Ident, Detail, and Summary files that are loaded into the Tivoli Usage and Accounting Manager database.

The default mode is Invoice. To run CIMSMONY in Server mode, use the control statement PROCESS SERVER MODE (see [page 4-31](#)). You cannot run both modes at the same time.

CIMSMONY Invoice Mode

If you are using CIMSMONY in Invoice mode, you need to determine the length of your data processing period (usually monthly) and run CIMSMONY once at the end of that period.

As with CIMSBILL, you will continue to run all of the CIMS interface programs daily, produce a history file, and run the CIMSEOM process against the 79x records at the end of the period. At this point, you will do the following:

- Run CIMSEXTR to produce the CSR+ file.
- Run CIMSMONY to produce an invoice.

Invoice Mode Supported Features

The Invoice mode supports the following:

- Up to nine break levels in the account code. For example, account code ABBCCC might contain three levels where A is the organization code, BB is the division code, and CCC is the department code. This feature is discussed in *Expanded Break Levels* on page 4-20.
- As many rates as the address space can support. This feature is discussed in *Unlimited Number of Rates* on page 4-20.
- The creation of a paper invoice (CIMSINVC).
- The creation of an optional CIMS Desktop File (CIMSDDIST) for input into CIMS Desktop. Note that CIMS Desktop does not support an account code longer than 32 bytes. If the account code is longer than 32 bytes, the code is truncated.
- The creation of an optional CIMS Summary file (CIMSDDSUM), which supports a full 128-byte account code.
- New CPU normalization. This feature is discussed in *New CPU Normalization* on page 4-23.
- New priority and class surcharging. This feature is discussed in *New Priority/Class Surcharging* on page 4-24.
- New shift processing. This feature is discussed in *New Shift Processing* on page 4-25.
- CIMSACUA and CIMSUE16 user exits. These exits are discussed in *User Exits* on page 4-38.
- Discounts and minimum processing.

Invoice Mode Unsupported Features

The Invoice mode *does not* support the following:

- The creation of the Tivoli Usage and Accounting Manager input files: Tivoli Usage and Accounting Manager Ident, Detail, and Summary.
- Detail reports that are produced by CIMSBILL.
- The billing equation as it is in CIMSBILL.
- The following CIMSBILL control statements, which are controlled by CIMSEXTR:
 - ALL PRINT IS LOCAL/REMOTE
 - DISPATCH OFF
 - INTERVAL ACCOUNTING
 - PRINT CLASS
 - PRINT CLASS ? IS FORM ? FOR PRINTER ?
 - PRINTER ? IS LOCAL/REMOTE
 - PRINT LINES = LOCAL/REMOTE
 - PSF SUPPORT OFF
 - SAR EXPRESS DELIVERY OFF
 - SAR EXPRESS SPOOL OFF
- The following CIMSBILL control statements, which are no longer applicable:
 - Billing equation statements.
 - CPU TIME =

This is controlled by rate codes, see *New CPU Value Determination* on page 4-21.
 - FORM EIGHT OFF
 - SERVICE UNITS

This is not applicable because service units no longer share the Z009–Z013 rate codes with SIO fields. For more information, see *New Rate Codes for Service Units* on page 4-21.

CIMSMONY Server Mode

CIMSMONY in Server mode produces the Tivoli Usage and Accounting Manager Ident, Detail, and Summary files that are loaded into the Tivoli Usage and Accounting Manager database.

If you are using CIMSMONY in Server mode, we recommend that you run the program daily for each data type that you want to feed to Tivoli Usage and Accounting Manager (SMF6, Disk, DB2, CICS, etc.). Because the Server mode produces files that are loaded to the Tivoli Usage and Accounting Manager database, it is not necessary to run CIMSMONY at the end of a period. Running CIMSMONY daily provides the following advantages:

- **More efficient and faster processing due to a smaller file size.** Because there are fewer records to run through CIMSEXTR, which aggregates the records based on user-defined criteria in the CIMS Dictionary, there are fewer records produced and less resources used to execute jobs.
- **Easier management of the data in the database.** When you run process feeds through CIMSMONY on a daily basis, each day is loaded to the **Tivoli Usage and Accounting Manager** database as a separate load. If you need to reprocess the daily feed, it is much easier to delete the daily load from the **Tivoli Usage and Accounting Manager** database than if you wait until the end of the month to load the data.
- **Up-to-date reports.** Daily loads enable you to produce up-to-date invoices and other reports in Tivoli Usage and Accounting Manager.

Server Mode Supported Features

The Server mode supports the following:

- One break level in the account code. You do not need to define multiple break levels in the account code unless you are using the `CLIENT SEARCH ON` control statement. Account code levels are set in the Tivoli Usage and Accounting Manager Administrator program. For more information, refer to the *Tivoli Usage and Accounting Manager Administrator's Guide*.
- As many rates as the address space can support. This feature is discussed in *Unlimited Number of Rates* on page 4-20.
- New CPU normalization. This feature is discussed in *New CPU Normalization* on page 4-23.
- New priority and class surcharging. This feature is discussed in *New Priority/Class Surcharging* on page 4-24.
- New shift processing. This feature is discussed in *New Shift Processing* on page 4-25.
- CIMSACUA and CIMSUE16 user exits. These exits are discussed in *User Exits* on page 4-38.
- Discounts and minimum processing.

Server Mode Unsupported Features

The Server mode *does not* support the following:

- The creation of a paper invoice (CIMSINVC).
- The creation of the CIMS Resource or CIMS Desktop file.
- Detail reports that are produced by CIMSBILL.
- The billing equation as it is in CIMSBILL.
- The following CIMSBILL control statements, which are controlled by CIMSEXTR:

- ALL PRINT IS LOCAL/REMOTE
- DISPATCH OFF
- INTERVAL ACCOUNTING
- PRINT CLASS
- PRINT CLASS ? IS FORM ? FOR PRINTER ?
- PRINTER ? IS LOCAL/REMOTE
- PRINT LINES = LOCAL/REMOTE
- PSF SUPPORT OFF
- SAR EXRPRESS DELIVERY OFF
- SAR EXRPRESS SPOOL OFF

- The following CIMSBILL control statements, which are no longer applicable:

- Billing equation statements
- CPU TIME =

This is controlled by rate codes, see *New CPU Value Determination* on page 4-21.

- FORM EIGHT OFF
- SERVICE UNITS

This is not applicable because service units no longer share the Z009–Z013 rate codes with SIO fields. For more information, see *New Rate Codes for Service Units* on page 4-21.

New Features

The following features are new or expanded for CIMSMONY.

Expanded Break Levels

Note • If you are running CIMSMONY in Server mode, you do not need to define multiple break levels unless you are using the `CLIENT SEARCH ON` control statement.

You can define up to nine account code break levels using the `DEFINE` control statement. Each level can consist of up to 128 bytes, but the overall account code length cannot exceed 128 bytes.

Note • The more account code levels that you define, the slower the processing time.

Unlimited Number of Rates

You can define as many rate codes as the address space can hold.

CICS Prime and Non-Prime Rate Codes Combined

There is only one set of CICS rate codes. There is no longer a set of prime rate codes (`ZCS*`) and non-prime rate codes (`ZCX*`). The `ZCS*` rate records have been pre-defined in the `CIMSRATE` member in `CIMS.DATFILE` to contain a rate value for shift 1 (prime) and a rate value for shift 2 (non-prime).

If you were using non-prime CICS rate codes in a release prior to 12.0, then you will need to modify the rate records for the `ZCS*` rate codes to include the non-prime rate as shown in the example on [page 3-12](#).

New Rate Codes for Service Units

For CIMSMONY, service units no longer share the Z009–Z013 rate codes with SIO fields. You can now bill for SIO fields and/or service units in any combination.

The following are old and new rate codes for service units for CIMSMONY. Note that CIMSBILL does not support these new rate codes.

| Old Rate Code | New Rate Code | Description |
|---------------|---------------|-----------------------|
| Z009 | SMF30SRV | SERVICE UNITS - TOTAL |
| Z010 | SMF30CSU | SERVICE UNITS - CPU |
| Z011 | SMF30SRB | SERVICE UNITS - SRB |
| Z012 | SMF30IO | SERVICE UNITS - I/O |
| Z013 | SMF30MSO | SERVICE UNITS - MSO |

New CPU Value Determination

CIMSMONY does not support the CPU TIME= control statements. The value used to calculate mainframe CPU times is based on the following rate codes in the rate table.

| CPU Calculation | Rate Code z/OS | Rate Code TSO | Description |
|------------------------------------|----------------|---------------|--|
| Default (SRB + TCB) | Z003 | Z020 | By default, CIMS uses TCB and SRB CPU time when charging for CPU usage. |
| Total (Default + Initiators) | Z003 + Z032 | Z020 + Z035 | Includes the following values in the CPU calculation: <ul style="list-style-type: none"> ■ SMF30ICU. Initiator CPU time under TCB. ■ SMF30ISB. Initiator CPU time under SRB. ■ SMF30CPT. Step CPU time under TCB. ■ SMF30CPS. Step CPU time under SRB. |

Table 4-1 • CPU Rate Codes

| CPU Calculation | Rate Code z/OS | Rate Code TSO | Description |
|-----------------|----------------|---------------|---|
| All | Z033 | Z036 | <p>Includes the following values in the CPU calculation:</p> <ul style="list-style-type: none"> ■ SMF30CPT. Step CPU time under TCB. ■ SMF30CPS. Step CPU time under SRB. ■ SMF30ICU. Initiator CPU time under TCB. ■ SMF30ISB. Initiator CPU time under SRB. ■ SMF30JVU. Step vector usage time. ■ SMF30IVU. Initiator vector usage time. ■ SMF30JVA. Step vector affinity time. ■ SMF30IVA. Initiator vector affinity time. ■ SMF30IIP. Processor time to process I/O interrupts. ■ SMF30RCT. Processor time used by region control task. ■ SMF30HPT. Processor time consumed for the step to support requests for data transfer between hyperspace and an address space. |
| TCB | SMF30CPT | Z034 | <p>Includes the following value in the CPU calculation:</p> <ul style="list-style-type: none"> ■ SMF30CPT. Step CPU time under TCB. |

Table 4-1 • CPU Rate Codes (continued)

Example CPU Rate Code Usage

If you are using the control statement `CPU VALUES=ALL` in `CIMSBILL`, define rates for rate codes `Z033` and `Z036` for `CIMSMONY`. You can leave all other CPU rate codes undefined, or you can set the rate for the rate codes to zero so that the resource is reported on the invoice.

New Flag for CPU Normalization and Priority/Class Surcharging

Rate flag 11 has been added to the rate record to enable CPU normalization and priority/class surcharging. When this flag is set to `Y`, it indicates that the rate code in the rate record is a CPU value. When you run the CIMS Rate file conversion JCL (`ACNVJCL1`), the following rate codes are automatically set as CPU values (i.e., rate flag 11 = `Y`).

- `Z003`
- `ZMVSCPU`
- `Z004`
- `ZMVSRESC`
- `ZVSERESC`
- `Z020`
- `ZTSOCPU`

New CPU Normalization

CPU normalization in `CIMSMONY` is similar to normalization in Tivoli Usage and Accounting Manager. To perform normalization, you need to do the following:

- 1 Ensure that the `System_ID` identifier is included as an aggregation point when you process 79x records through `CIMSEXTR`. If you want to use a work ID in addition to the system ID for normalization, the `Work_ID` identifier must also be included as an aggregation point. By default, both of these identifiers are included as aggregation points. For more information about aggregation and aggregation points, refer to the Extract and Aggregation Program—`CIMSEXTR` chapter in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.
- 2 Define each CPU rate code that requires normalization as a CPU value. To define a rate code as a CPU value, set rate flag 11 in the rate record to `Y` (see [New Flag for CPU Normalization and Priority/Class Surcharging](#)).
- 3 Add a member that is referenced by `DDNAME CIMSNCPU`. This member defines a set of CPU normalization statements for the CIMS system. These statements must be in the following format:

System ID,Work ID,Factor (example: `AL90,JES2,.80`)

For `z/OS`, the system ID is the four-character System Model ID. For `UNIX®` and `Windows`, the system ID is the computer name.

The optional work ID (subsystem) is any other system value that further narrows normalization (that is, the CICS region name, the DB2 plan name, the Oracle instance name, etc.).

The factor is the percentage by which you want to normalize the CPU rate code value(s). For CIMSMONY, the factor is in its real precision. For example, if one system runs 20 percent faster than another system, in CIMSBILL, you would add a statement to normalize the slower system by 80 percent as shown in the following example.

```
AL90, JES2, 80
```

CIMSBILL divides the factor by 100.

In CIMSMONY you would add a statement to normalize the slower system by a factor of .80 as shown in the following example:

```
AL90, JES2, .80
```

- 4** Add the `NORMALIZE CPU VALUES` control statement to the CIMSMONY input control statements (see [page 4-30](#)).

For more information about this feature, including an example, see [page 4-33](#).

New Priority/Class Surcharging

CIMSMONY supports job priority and job class surcharging. Implementing priority and class surcharging is similar to implementing CPU normalization. However, CIMSMONY applies a surcharge to CPU resource values for a specified class and/or priority rather than normalizing the values.

To perform class or priority surcharging, you need to do the following:

- 1** Ensure that the identifier `R792JBPR` (job priority) and/or `R792JBCL` (job class) is included as an aggregation point when you process 79x records through CIMSEXTR. By default, both of these identifiers are included as aggregation points. For more information about aggregation and aggregation points, refer to the Extract and Aggregation Program—CIMSEXTR chapter in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.
- 2** Define each rate code that requires a surcharge as a CPU rate. To define a resource as a CPU rate, set rate flag 11 in the rate record to `Y` (see [New Flag for CPU Normalization and Priority/Class Surcharging](#) on page 4-23).
- 3** Add a member that is referenced by DDNAME CIMSSCPU. This member defines a set of CPU normalization statements for the CIMS system. These statements must be in the following format:

```
CLASS|PRIORITY,Class_or_Priority,System ID,Work ID,Factor (example:  
CLASS,C,SYS1,JES2,.10)
```

The `CLASS` or `PRIORITY` indicator specifies whether you want to add a surcharge for a class or priority. It is followed by the class or priority (and optionally the system ID and work ID [subsystem]) that you want to surcharge.

The factor is the percentage by which you want to surcharge the CPU rate code value(s). For CIMSMONY, the factor is in its real precision. For example, if you want to surcharge class C by 10 percent, in CIMSBILL, you would add the following statement.

```
CLASS,C,10
```

CIMSBILL divides the factor by 100

In CIMSMONY you would add the following statement:

```
CLASS,C,,,10
```

- 4 Add the SUR-CHARGE CPU VALUES control statement to CIMSMONY (see [page 4-32](#)).

For more information about this feature, including an example, see [page 4-36](#).

New Shift Processing

CIMSMONY supports up to nine shifts. In the Rate Values field of the rate record, enter the rate for each shift separated by a colon as shown in the following example:

```
RATE,001,Z001,2.50:2.00:1.50:1.00:0.50:0.25,z/OS JOBS STARTED
```

In this example, the six rates have been set for rate code Z001. Each rate reflects a rate shift as follows:

- Shift 1=2.50
- Shift 2=2.00
- Shift 3=1.50
- Shift 4=1.00
- Shift 5=0.50
- Shift 6=0.25

When the invoice is produced, the shift number is added to the end of the rate description as shown in the example invoice in [Invoices Changes](#) on page 4-14.

New Accounting Dates

Note • If you are running CIMSMONY in Invoice mode, this section is not applicable.

When you run CIMSBILL or CIMSMONY in Invoice mode, all records processed are included in the invoice (unless exclude processing or date selection is on).

When you run CIMSMONY in Server mode, no invoice is created. Instead, the Tivoli Usage and Accounting Manager Ident, Detail, and Summary files are created for input to the Tivoli Usage and Accounting Manager database. Tivoli Usage and Accounting Manager reads these files and produces Web-based invoices and other reports.

To enable Tivoli Usage and Accounting Manager to accurately select records for reporting, CIMSMONY produces *accounting dates* in the Tivoli Usage and Accounting Manager Detail and Summary files. Accounting dates are the start and end dates that Tivoli Usage and Accounting Manager uses to select records for inclusion in reports.

CIMSMONY uses the following factors to determine the accounting dates. The combination of these factors determines the dates as described in *How Accounting Dates Are Calculated* on page 4-27.

- The usage *end* date in the CSR+ records. The accounting start and end dates may be the same as or different than the usage end dates.
- The CIMSMONY run date.
- The periods in the CIMS Calendar file. The CIMS Calendar file must contain periods for all data being processed (see *CIMS Calendar File Changes* on page 4-9). The CIMS Calendar file must also contain the accounting year value.

Note • In CIMS releases prior to 12.0, the CIMS Calendar file did not contain the accounting year.

- The close date (optional). A close date is a user-defined close date for processing CSR+ files. By default, close date logic is turned off. The usage *end* dates in the CSR+ records are used as the accounting start and end dates in the Tivoli Usage and Accounting Manager Summary and Detail records. The control statement `BACKLOAD DATA` also sets the start and end accounting dates to the usage end date from the CSR+ record. Therefore, if CIMSMONY finds no `CurrentCloseDate` option in the CIMS Client file and there is no `DEFAULT CLOSE DAY` control statement, CIMSMONY uses the `BACKLOAD DATA` statement.

To use the `CurrentCloseDate` option:

The `CurrentCloseDate` option in the CIMS Client file sets a system-wide close date. The close date can be a specific date (for example, February 15) or an integer value for a day of the month (for example, 15 specifies a close date of the 15th of each month).

To set the `CurrentCloseDate` option, use the CIMSCLNT control statement `CHANGE-CurrentCloseDate yyyyymmdd`. For example, `CurrentCloseDate 20070131` changes the close date to January 1, 2007.

To use the `DEFAULT CLOSE DAY` control statement:

Use the `DEFAULT CLOSE DAY` control statement to specify an integer value for the close day in the month (see page 4-30). For example, 10 specifies a close date of the 10th of each month. This value overrides the value in the `CurrentCloseDate` option in the CIMS Client file.

How Accounting Dates Are Calculated

Note • If you use the CIMSMONY control statement `REPORT DATE` (which IBM strongly recommends that you do not use with CIMSMONY in Server mode), the accounting start and end dates are set by the specified `REPORT DATE` keyword or date parameters.

The information in this section assumes that you are not using the `REPORT DATE` statement and are allowing CIMSMONY to calculate the accounting dates.

The accounting dates (both the start and end date) are always the *same* as the usage end date in the following situations:

- If no close date is set (either in the `CurrentCloseDate` option or by the `DEFAULT CLOSE DAY` statement).
- If the `BACKLOAD DATA` statement is used.
- If the CIMSMONY run date and the usage end date are in the same period (as set in the CIMS Calendar table), regardless of the close date.
- If the CIMSMONY run date is prior to the close date and the usage end date is in the previous month.
- If the CIMSMONY run date and the usage end date are after the close date.

The accounting dates are always *different* from the usage end date in the following situations:

- If the CIMSMONY run date is after the close date, but the usage end date is prior to the close date, the accounting dates are set the previous day from the day CIMSMONY was run.

For example, if the first of each month is your close date and you process a CSR+ record with a usage end date of 20070131 (January 31) on February 15, the accounting start and end dates will be 20070214, February 14.

- If the CIMSMONY run date is prior to the close date and the usage end date is in a period prior to the previous period, the accounting dates are set the last day of the previous period.

For example, assume that the periods in the CIMS Calendar file are defined as the first day of the month to the last day of the month and that the fifteenth of each month is your close date. If you process an CSR+ file with a usage end date of 20070827 (August 27) on November 1, the accounting start and end dates will be 20071031 (October 31). October 31 is the last day of the previous period.

Control Statement Differences Between CIMSBILL and CIMSMONY

CIMSBILL Control Statements Not Supported in CIMSMONY

CIMSMONY does not support the following control statements. These statements are supported by CIMSEXTR:

- ALL PRINT IS LOCAL/REMOTE
- DISPATCH OFF
- INTERVAL ACCOUNTING
- PRINT CLASS
- PRINT CLASS ? IS FORM ? FOR PRINTER ?
- PRINTER ? IS LOCAL/REMOTE
- PRINT LINES=LOCAL/REMOTE
- PSF SUPPORT OFF
- SAR EXPRESS DELIVERY OFF
- SAR EXPRESS SPOOL OFF

The following control statements are no longer supported by CIMSMONY or CIMSEXTR. These statements are no longer applicable.

- Billing equation statements.
- CPU TIME =

This is controlled by rate codes, see *New CPU Value Determination* on page 4-21.

- FORM EIGHT OFF
- SERVICE UNITS

This is not applicable because service units no longer share the Z009–Z013 rate codes with SIO fields. For more information, see *New Rate Codes for Service Units* on page 4-21.

New Control Statements

The following control statements are new for CIMSMONY. They have no equivalent in CIMSBILL.

BACKLOAD DATA

This control statement is applicable to Server mode only.

This statement sets the accounting dates in the Tivoli Usage and Accounting Manager Detail and Summary records to the usage end date in the CSR+ records. When this statement is specified, the normal accounting dates calculation is not used (see *New Accounting Dates* on page 4-25).

This statement is very useful if you want to process old data and load it into the Tivoli Usage and Accounting Manager database for reporting.

CLASS NAME =

This control statement specifies the job class identifier name that is used to determine a record's job class. If you don't specify a class identifier name, the default name is `Job_Class`.

When the `SUR-CHARGE CPU VALUES` statement is specified (see page 4-32), and one or more `CLASS` statements are specified in the `CIMSCPU DD`, then each CSR+ record is searched for an identifier with the name specified by this statement (if it is present) or by the default name `Job_Class` (if this statement is not present). The value of the identifier is compared with the `CLASS` statements. If a match is found, the CPU resources for that record are surcharged.

Example

Assume that you changed the default identifier name `Job_Class` in the S390R792 records to `JB_CLASS`. You would use the following control statement to direct CIMSMONY to search for the identifier name `JB_CLASS` in the CSR+ records. The identifier value associated with this identifier name is then used to determine whether a surcharge should be applied to the CPU resource(s) in a record.

```
CLASS NAME = JB_CLASS
```

DEFAULT CLOSE DAY

This control statement is applicable to Server mode only.

This statement specifies the day of the month to set as the close day. This value overrides the value in the `CurrentCloseDate` option in the CIMS Client file.

The year and the month used for the close day reflect the year and month in which CIMSMONY is run as shown in the following example.

Example

```
DEFAULT CLOSE DAY 15
```

The close day is set to the 15th of the month. If CIMSMONY is run on 2007/01/06, the close date is set to 2007/01/15. If CIMSMONY is run on 2007/02/17, the close date is set to 2007/02/15.

NORMALIZE CPU VALUES

This control statement instructs CIMSMONY to normalize CPU resource values across different systems. CIMSMONY reads DD CIMSNCPU for CPU normalization statements and applies the statements to the CSR+ records. In Server mode, all CPU rate codes that are normalized will appear in the Tivoli Usage and Accounting Manager Ident file with the original resource value.

For more information about CPU normalization, see [New CPU Normalization](#) on page 4-23.

PRIORITY NAME =

This control statement specifies the job priority identifier name that is used to determine a record's job priority. If you don't specify a priority identifier name, the default name is `Job_Priority`.

When the `SUR-CHARGE CPU VALUES` statement is specified (see [page 4-32](#)), and one or more `PRIORITY` statements are specified in the CIMS CPU DD, then each CSR+ record is searched for an identifier with the name specified by this statement (if it is present) or by the default name `Job_Priority` (if this statement is not present). The value of the identifier is compared with the `PRIORITY` statements. If a match is found, the CPU resources for that record are surcharged.

Example

Assume that you changed the default identifier name `Job_Priority` in the S390R792 records to `JB_PRTY`. You would use the following control statement to direct CIMSMONY to search for the identifier name `JB_PRTY` in the CSR+ records. The identifier value associated with this identifier name is then used to determine whether a surcharge should be applied to the CPU resource(s) in a record.

```
PRIORITY NAME = JB_PRTY
```

PROCESS INVOICE MODE

This control statement sets the CIMS MONY processing mode to Invoice. In this mode, an invoice (CIMSINVC) and optionally the CIMS Summary file (CIMSSUM) and the CIMS Desktop file (CIMS DIST) are produced.

Note • Invoice is the default mode for CIMS MONY.

PROCESS SERVER MODE

This control statement sets the CIMS MONY processing mode to Server. In this mode, the Tivoli Usage and Accounting Manager Ident file (CIMS IDNT), Detail file (CIMS DETL), and Summary file (CIMS UMR Y) are produced. An invoice is not produced in Server mode.

RESET CLIENT LOAD ID TO nnnnnnnnnn

This statement is applicable to Server mode only.

A unique load tracking ID is used to link the Tivoli Usage and Accounting Manager Identifier and Detail files for a particular run of CIMS MONY. This ID is stored in the CIMS Client file. This control statement resets the load tracking ID. For each run of CIMS MONY, the load tracking ID is incremented by 1.

For CIMS MONY, the load tracking IDs 1000000000–999999999 are reserved. The Tivoli Usage and Accounting Manager version of CIMS BILL uses numbers 0000000001–0999999999.

Example

```
RESET CLIENT LOAD ID TO 1000000000
```

The load tracking ID in the Tivoli Usage and Accounting Manager Identifier and Detail files will be set to 1000000000. The CIMS Client file will be updated with this ID and the next run of CIMS MONY will produce the ID 1000000001.

SET LOAD ID TO nnnnnnnnnn

This control statement sets the load tracking ID. Unlike the RESET LOAD ID TO statement, this statement does not change the load tracking ID in the CIMS Client file.

Example

```
RESET CLIENT LOAD ID TO 1000000000
```

The load tracking ID in the Tivoli Usage and Accounting Manager Identifier and Detail files will be set to 1000000000, but the ID in the CIMS Client file is not changed. On the next run of CIMS MONY, the load ID in the CIMS Client file will be used.

SORT

The control statement instructs CIMSMONY to execute an internal sort to put the CSR+ records in the correct account code/start date/end date sequence. This can be used instead of an external sort.

SUR-CHARGE CPU VALUES

This control statement instructs CIMSMONY to apply a surcharge to CPU resource values for class and/or priority. CIMSMONY reads DD CIMSSCPU for CPU surcharge statements and applies the statements to the CSR+ records. In Server mode, all CPU rate codes that are surcharged will appear in the Tivoli Usage and Accounting Manager Ident file with the original resource value.

For more information about CPU surcharge, see [New Priority/Class Surcharging](#) on page 4-24.

USE SHIFT CODES

The control statement instructs CIMSMONY to use shift codes from the CSR+ records and use the rate value associated with each shift as defined in the rate file. The default is to not use shift codes and treat every record as Shift 1.

Updated Control Statement Functions

The following control statements are in CIMSBILL and CIMSMONY; however, the functions have changed.

CPU NORMALIZATION (CIMSBILL) and NORMALIZE CPU VALUES (CIMSMONY)

In CIMSBILL, the CPU normalization statements are found in the CIMSCNTL DD. In CIMSMONY, the CPU normalization process has changed.

CPU normalization in CIMSMONY is similar to normalization in Tivoli Usage and Accounting Manager. To perform normalization, you need to do the following:

- 1 Ensure that the `System_ID` identifier is included as an aggregation point when you process 79x records through CIMSEXTR. If you want to use a work ID in addition to the system ID for normalization, The `Work_ID` identifier must also be included as an aggregation point. By default, both of these identifiers are included as aggregation points.

For more information about aggregation and aggregation points, refer to the Extract and Aggregation Program—CIMSEXTR chapter in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

- 2 Define each CPU rate code that requires normalization as a CPU value. To define a rate code as a CPU value, set rate flag 11 in the rate record to Y (see [New Flag for CPU Normalization and Priority/Class Surcharging](#) on page 4-23).
- 3 Add a member that is referenced by DDNAME CIMSNCPU. This member defines a set of CPU normalization statements for the CIMS system. These statements must be in the following format:

```
System ID,Work ID, Factor (example: AL90, JES2, .80)
```

For z/OS, the system ID is the four-character System Model ID. For UNIX and Windows, the system ID is the computer name.

The optional work ID (subsystem) is any other system value that further narrows normalization (that is, the CICS region name, the DB2 plan name, the Oracle instance name, and so on).

The factor is the percentage by which you want to normalize the CPU rate code value(s). For CIMSMONY, the factor is in its real precision. For example, if one system runs 20 percent faster than another system, in CIMSBILL, you would add a statement to normalize the slower system by 80 percent as shown in the following example.

```
AL90,JES2,80
```

CIMSBILL divides the factor by 100.

In CIMSMONY you would add a statement to normalize the slower system by a factor of .80 as shown in the following example:

```
AL90,JES2,.80
```

- 4 Add the NORMALIZE CPU VALUES control statement to the CIMSMONY input control statements (see [page 4-30](#)).

When the NORMALIZE CPU VALUES control statement is specified, CIMSMONY searches each CSR+ record for the System_ID and Work_ID identifiers and their associated identifier values. The table of system ID and work ID values that is built from the statements in DD CIMSNCPU is searched for any matches. If a match is found, the CPU value is normalized based on the factor.

If you are using CIMSMONY in Server mode, CIMSMONY will add an identifier to the Tivoli Usage and Accounting Manager Ident file with the name *Original_ratecode* where *ratecode* is the rate code that has been normalized. The value for this identifier is the resource value before normalization. For an example, see the Tivoli Usage and Accounting Manager Ident file entry in [CPU Normalization Example](#).

CPU Normalization Example

Assume that you defined rate code Z003 (z/OS CPU) as a CPU rate and that your organization has two z/OS systems. System AL95 is 20 percent faster than system AL90. To normalize the values, choose one of the systems to use as the base system. In this example, AL95 is the base system. Use a factor of .80 to normalize AL90 to reflect the speed of AL95.

- 1 In the CPU Normalization table (DD CIMSNCPU), add the statement:

```
AL90,JES2,.80
```

- 2 Add the following control statement to CIMSMONY to recalculate the z/OS CPU time for the AL90 system:

```
NORMALIZE CPU VALUES
```

Assume that the original resource value for the Z003 rate code was 1.1. The normalized value is 8.8.

If you are using CIMSMONY in Server mode, the following is an example of the corresponding record in the Tivoli Usage and Accounting Manager Detail file (some fields have been removed for simplicity).

```
991,S390R792,200306,10000000072,0000000002,0000000000,..1,2,ATI ... ,01,Z003 , 0.88
```

The following is an example of the corresponding entry in the Tivoli Usage and Accounting Manager Ident file:

```
10000000072,2,Account_Code,ATI  
10000000072,2,System,AL90  
10000000072,2,Type,  
10000000072,2,CLASS,C  
10000000072,2,Original_Z003,1.1
```

DEFINE

In CIMSMONY, the DEFINE control statement has less functionality than in CIMSBILL. This statement is used only in Invoice mode unless you are using the CLIENT SEARCH ON control statement in Server mode. This statement is used for defining sequence levels (J Levels) only. It is no longer used for defining fields for including or excluding records.

INCLUDE/EXCLUDE

CIMSBILL processes a fixed format record. CIMSMONY processes a comma-delimited record. Therefore, you cannot define an include or exclude field based on an offset into a record. The format of the INCLUDE and EXCLUDE statements has to be changed to include or exclude records by identifier values.

The new format of the INCLUDE and EXCLUDE statements is:

```
EXCLUDE rec_id ident offset_into_ident len low high
```

Where:

rec_id = record name (such as S390DASD, S390R792, and so on.)

ident = name of the identifier (such as Account_Code, System_ID, and so on.)

offset_into_ident = starting offset into the identifier value

len = length of the identifier value to compare (1-16)

low = the Low or From selection value

high = the High or To selection value

Example

Assume that you want to exclude all job records with a program name that starts with CIMS.

For CIMSBILL, you would use the control statement `EXCLUDE B3 CIMS CIMS`.

For CIMSMONY, assume that the program identifier defined in the CIMS VSAM Dictionary is PROGRAM. You would use the control statement `EXCLUDE S90R72 PROGRAM 1 4 CIMS CIMS`.

REPORT DATE

In CIMSBILL, the REPORT DATE specifies the from and to date to print on the Invoice (CIMSINVC). The statement is also used to populate the start and end date fields in the CIMS Desktop file (CIMSDIST).

In CIMSMONY, the REPORT DATE statement has different implications depending on the mode that you are running.

If you are running CIMSMONY in Invoice mode, then REPORT DATE functions the same as it does in CIMSBILL.

If you are running CIMSMONY in Server mode, then you should not use REPORT DATE. This statement will place report dates rather than actual usage end dates in the accounting date fields of the CIMS Detail and Summary Records. This could result in missed charges, charges in the incorrect month, drill down not functioning correctly, and other issues.

You should allow CIMSMONY to calculate the accounting dates as described in [New Accounting Dates](#) on page 4-25.

SUR-CHARGES (CIMSBILL) and SUR-CHARGE CPU VALUES (CIMSMONY)

In CIMSBILL, the class and priority surcharge statements are found in the CIMSCNTL DD. In CIMSMONY, the class and priority surcharge process has changed.

CIMSMONY supports job priority and job class surcharging. Implementing priority and class surcharging is similar to implementing CPU normalization. However, CIMSMONY applies a surcharge to CPU resource values for a specified class and/or priority rather than normalizing the values.

To perform class or priority surcharging, you need to do the following:

- 1 Ensure that the identifier R792JBPR (job priority) and/or R792JBCL (job class) is included as an aggregation point when you process 79x records through CIMSEXTR. By default, both of these identifiers are included as aggregation points.

For more information about aggregation and aggregation points, refer to the Extract and Aggregation Program—CIMSEXTR chapter in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

- 2 Define each rate code that requires a surcharge as a CPU rate. To define a resource as a CPU rate, set rate flag 11 in the rate record to Y (see [New Flag for CPU Normalization and Priority/Class Surcharging](#) on page 4-23).
- 3 Add a member that is referenced by DDNAME CIMSSCPU. This member defines a set of CPU normalization statements for the CIMS system. These statements must be in the following format:

```
CLASS|PRIORITY,Class_or_Priority,System ID,Work ID,Factor (example:
CLASS,C,SYS1,JES2,.10)
```

The CLASS or PRIORITY indicator specifies whether you want to add a surcharge for a class or priority. It is followed by the class or priority (and optionally the system ID and work ID [subsystem]) that you want to surcharge.

The factor is the percentage by which you want to surcharge the CPU rate code value(s). For CIMSMONY, the factor is in its real precision. For example, if you want to surcharge class C by 10 percent, in CIMSBILL, you would add the following statement.

```
CLASS,C,10
```

CIMSBILL divides the factor by 100

In CIMSMONY you would add the following statement:

```
CLASS,C,,.10
```

- 4 Add the SUR-CHARGE CPU VALUES control statement to CIMSMONY (see [page 4-32](#))

When the SUR-CHARGE CPU VALUES control statement is specified, CIMSMONY searches each CSR+ record for the class and/or job priority identifiers and their associated values. The default identifier names are Job_Class and Job_Priority. To change these names, use the CLASS NAME and PRIORITY NAME control statements (see [page 4-29](#) and [page 4-30](#)).

If a job class and/or a job priority identifier is found in the record, the table of job classes and job priorities that is built from the statements in the CIMSSCPU DD is searched for any matches. If a match is found, the CPU value is surcharged based on the factor. The factor can be negative for discounts.

If you are using CIMSMONY in Server mode, CIMSMONY will add an identifier to the Tivoli Usage and Accounting Manager Ident file with the name `Original_ratecode` where `ratecode` is the rate code that has been surcharged. The value for this identifier is the resource value before the surcharge was applied. For an example, see the Tivoli Usage and Accounting Manager Ident file entry in [Surcharge Example](#).

Surcharge Example

Assume that you defined rate code Z003 (z/OS CPU) as a CPU rate. Class C is a high-priority class that is surcharged 10 percent for its usage regardless of the system or subsystem.

- 1 In the Class and Priority Surcharge CPU table (DD CIMSSCPU), set an entry of:

```
CLASS,C,.10
```

- 2 Add the following control statement to CIMSMONY to recalculate the CPU time for Class C jobs:

```
SUR-CHARGE CPU VALUES
```

Assume that the original resource value for rate code Z003 was 1.1. The new Z003 value would be 1.21.

If you are using CIMSMONY in Server mode, the following is an example of the corresponding record in the Tivoli Usage and Accounting Manager Detail file (some fields have been removed for simplicity).

```
991,S390R792,200306,10000000072,0000000002,0000000000,..1,2,ATI ... ,01,Z003 , 1.21
```

The following is an example of the corresponding entry in the Tivoli Usage and Accounting Manager Ident file:

```
10000000072,2,Account_Code,ATI
10000000072,2,System,AL95
10000000072,2,Type,
10000000072,2,CLASS,C
10000000072,2,Original_Z003,1.1
```

Tracing Options

CIMSMONY provides the following process tracing options.

To turn tracing on, use the control statement `TEST x`, where `x` is one of the following.

| | |
|---------------|---|
| TEST Y | Prints general messages (control options specified, number of J levels specified, client search results, date selection criteria, and so on). |
| TEST R | Lists all rate tables, including their rates, options, and values |
| TEST P | Lists CSR+ record parsing results |
| TEST S | Lists the space needed for rate tables and internal control blocks. |
| TEST C | Traces the client processing. |
| TEST B | Lists all client break levels (J levels). This is primarily used in Invoice mode. |
| TEST N | Lists all CPU normalization processing. |
| TEST D | Lists the accounting date setting—all usage start and end dates and the accounting dates assigned to them. |

User Exits

In CIMSMONY, there are two user exits: CIMSACUA and CIMSUE16. These exits are controlled by the control statements `USER EXIT ROUTINE (CIMSACUA)` and `USER EXIT ROUTINE 2 (CIMSUE16)`.

The summary record passed to CIMSACUA is different than the summary record passed to CIMSACU8. Refer to the `DAILY-SUMMARY-REC1` layout in the CIMSUSER exit.

The record passed to CIMSUE16 is no longer the CIMS-ACCOUNT-FILE record. It is the CIMSMONY-RECORD. Refer to member `CIMRECMN` in `CIMS.DATAFILE` for the CIMSMONY-RECORD.

JCL and Interface Program Considerations

JCL Changes

The use of the CIMSMONY program requires multiple changes to the JCL. The JCL for all interface programs must be updated to include the CIMSACT2 DD statement, which contains the 79x records. CIMS required this DD statement in release 11.6; however, it might have been dummied out (DD DUMMY) of the JCL. You need to ensure that all of the CIMSACT2 files are produced. Refer to *Chapter 3, Upgrade Instructions* for a list of the JCL that you need to update.

If you are running CIMSMONY in Server mode, you should update all interface programs to execute CIMSEXTR and CIMSMONY and FTP data to Tivoli Usage and Accounting Manager. Refer to the sample interface JCL in CIMS.DATAFILE.

The merge and end-of-month (or period) JCL members need to be updated. Refer to members CIMSMERG and CIMSEOM in CIMS.DATAFILE.

Interface Program Considerations

CIMSCICS

Program CIMSCICS is no longer needed if you are using CIMSMONY. All of the functionality of CIMSCICS is performed by the combination of CIMSCMF2, CIMSEXTR, and CIMSMONY.

CIMSEXTR summarizes the CICS transaction records based on the record definitions in the CIMS Dictionary. For more information about the CIMS Dictionary, refer to the CIMS Dictionary—CIMSDTVS chapter in the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

CIMSCMF2

When using CIMSMONY, you need to update some of the CIMSCMF2 control parameters because the 791 records are not processed by CIMSCICS.

If you are using prime and non-prime shift code processing in CIMSCICS, you need to add the SHIFT control statements to your CIMSCMF2 control parameters. CIMSMONY and Tivoli Usage and Accounting Manager use shift codes rather than prime and non-prime rate codes.

The following control statements have been added to support this change. For more information about these statements, refer to the CIMS CICS Account Code Creation Program—CIMSCMF2 chapter in the *CIMS CICS Data Collector User Guide*.

- NON-PRIME SHIFT CODE = n. This control statement enables you to change the non-prime shift from the default shift 2 to another shift.
- NON-PRIME DAY yyyyddd/yyyymdd. The Julian or Gregorian Date specified by this control statement is considered a non-prime processing day. If the NON-PRIME SHIFT CODE control statement is not present, all work processed on this day is assigned to the default shift 2.

Installation Flow Charts

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About the Flow Charts in this Chapter

Each flow chart is preceded by a description. This description contains a list of connectors that are designated by numbers. For example:

- [1] Refers to the CIMSACCT flow chart on [page 5-7](#).
- [2] Refers to the CIMSCICS flow chart on [page 5-24](#).
- [3] Refers to the CIMSDB2 flow chart on [page 5-27](#).

These connector numbers are provided in the flow chart to cross reference corresponding flow charts. The corresponding flow charts are on the specified pages.

Some flow charts include references to TUAM. Tivoli Usage and Accounting Manager (TUAM) is a full-featured resource accounting and chargeback system that runs on the Windows operating system. TUAM consolidates accounting data from multiple IT sources (operating systems, databases, storage systems, Web servers, etc.) into a common output format for costing and reporting. This output may then be used for Web-based reporting using the Tivoli Usage and Accounting Manager Web Reporting program.

For more information about the use of CIMS Mainframe Data Collector and Chargeback System with TUAM, refer to the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

CIMSDATA–Interface Program to SMF Data

CIMSDATA provides one important function for CIMS. It processes IBM's System Management Facility (SMF) data and converts the data into a CIMS compatible format.

Job control to execute CIMSDATA is contained in CIMS.DATFILE as member CIMSJOB2.

CIMSDATA performs the following tasks:

- Processes IBM's SMF data
- Accepts control statements
- Writes data sets containing:

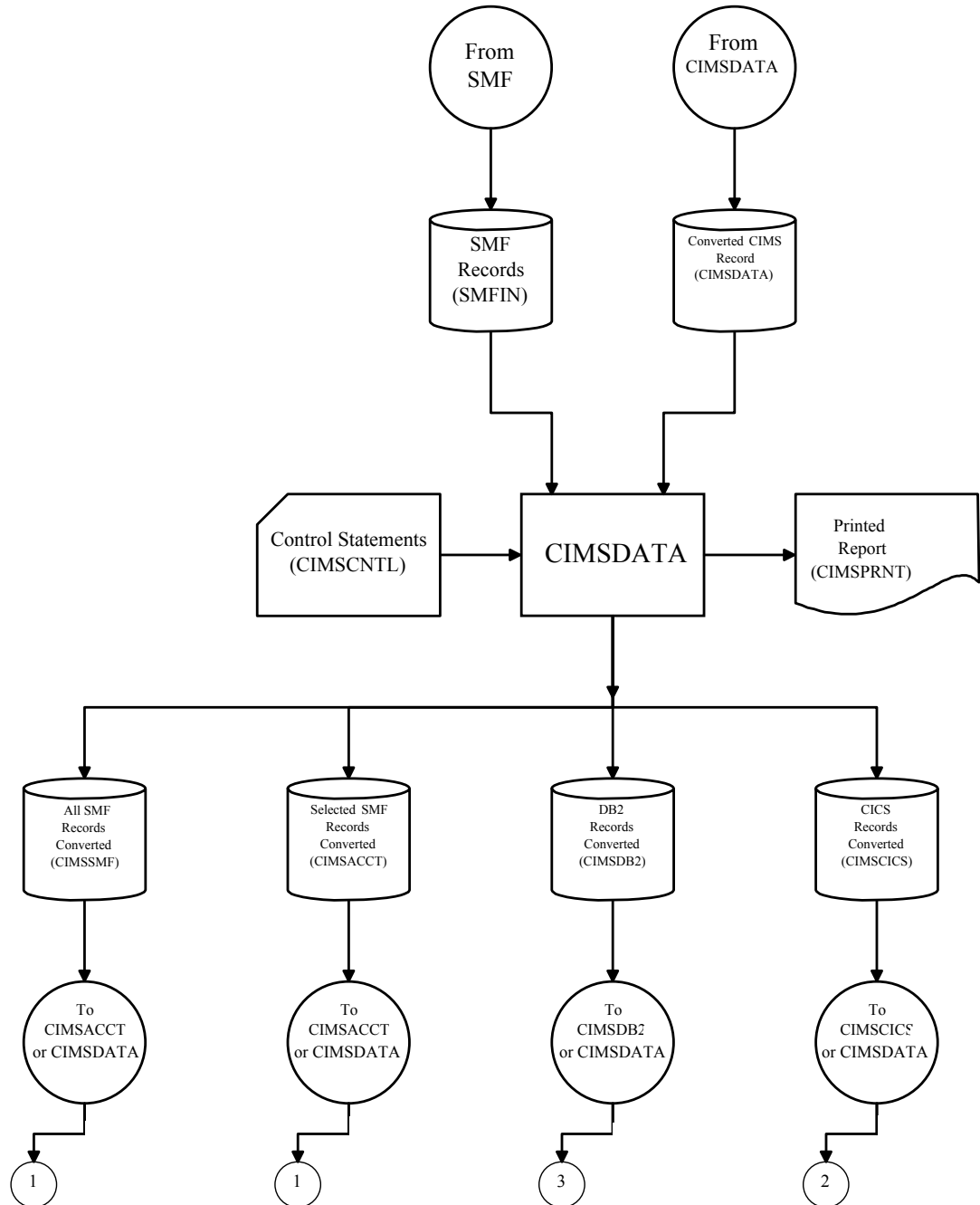
| | | |
|-----------------------------------|--------|----------|
| All requested SMF records | DDNAME | CIMSSMF |
| Selected requested SMF records | DDNAME | CIMSACCT |
| CICS records: SMF record type 110 | DDNAME | CIMSCICS |
| DB2 records: SMF record type 101 | DDNAME | CIMSDB2 |

- Prints statistics on the number of SMF records read and written.

Connectors

- [1] Refers to the CIMSACCT flow chart on [page 5-7](#).
- [2] Refers to the CIMSCICS flow chart on [page 5-24](#).
- [3] Refers to the CIMSDB2 flow chart on [page 5-27](#).

CIMSDATA Flow Chart



Note • Values in parentheses represent DDNAMES.

CIMSACCT–Process SMF

The CIMSACCT control statement `PROCESS SMF RECORDS` processes SMF data created by program CIMSDATA and produces CIMS accounting data.

Job control to execute CIMSACCT is in `CIMS.DATAFILE` as member CIMSJOB2.

When the `PROCESS SMF RECORDS` statement is used, the CIMSACCT performs the following tasks:

- Processes SMF data created by CIMSDATA
- Accepts the CIMS Calendar file
- Requires the CIMS Password file
- Accepts control statements
- Processes a Suspense file of unmatched accounting codes
- Writes CIMS accounting data (both CIMS 79x accounting records and 6 and 30 accounting records)
- Writes a Suspense file of unmatched accounting codes
- Prints statistics for each record type read and written

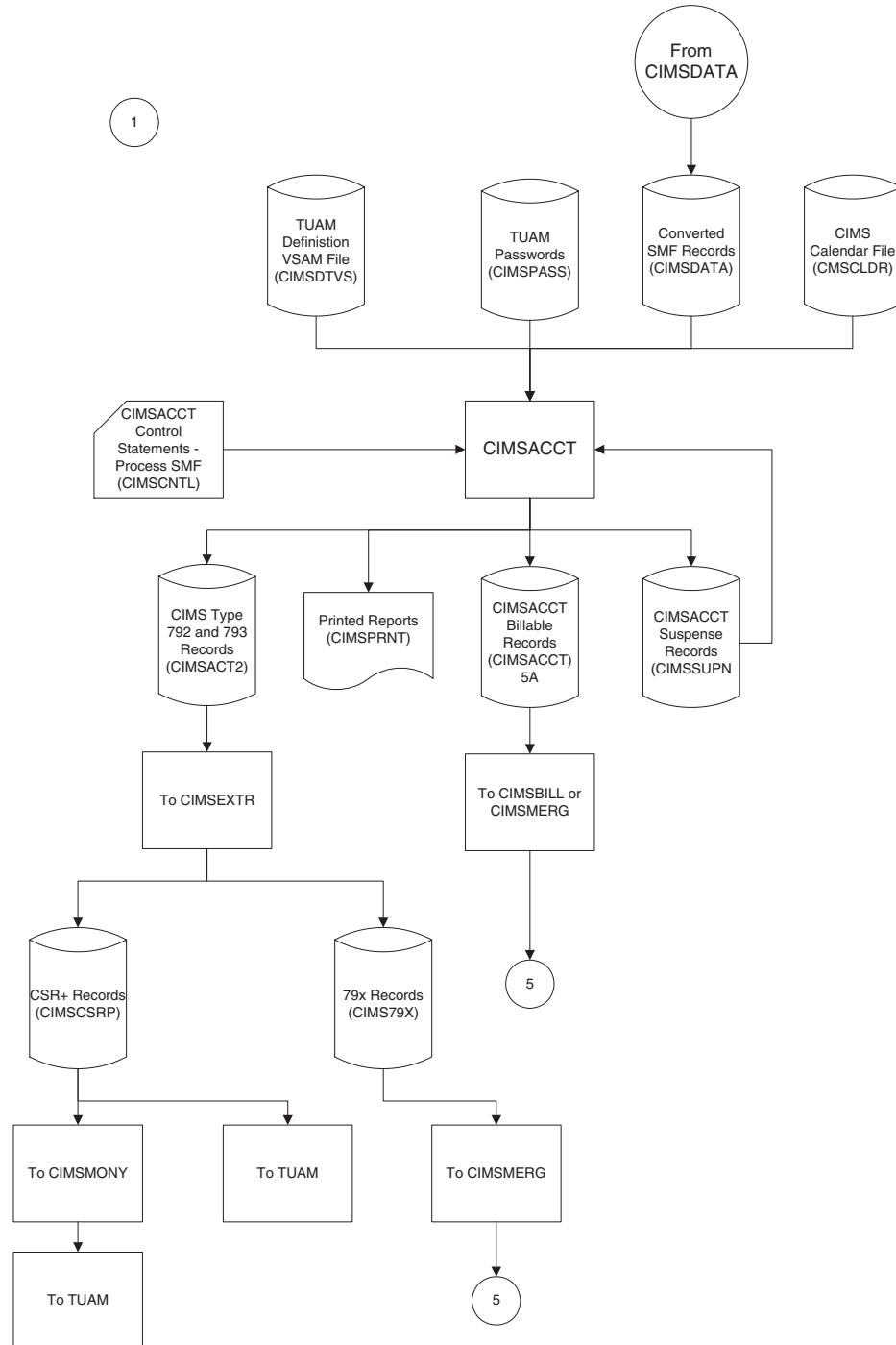
CIMS accounting data is passed to CIMS MERG, CIMS EXTR, CIMS MONY, and CIMS BILL.

Connectors

[5] Refers to the CIMS MERG flow chart on [page 5-29](#).

[5A] Refers to the CIMS MERG flow chart on [page 5-29](#).

CIMSACCT–Process SMF Flow Chart



Note • Values in parentheses represent DDNAMES.

CIMSACCT—Process External Transactions

The CIMSACCT control statement `PROCESS EXTERNAL TRANSACTIONS` processes external transactions and produces CIMS Accounting data.

Job control to execute CIMSACCT is in `CIMS.DATAFILE` as member `CIMSJB2A`. An example of external transaction billing input is shown in the *Accounting File Creation Program—CIMSACCT* chapter of the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

When the `PROCESS EXTERNAL TRANSACTIONS` control statement is used, CIMSACCT performs the following tasks:

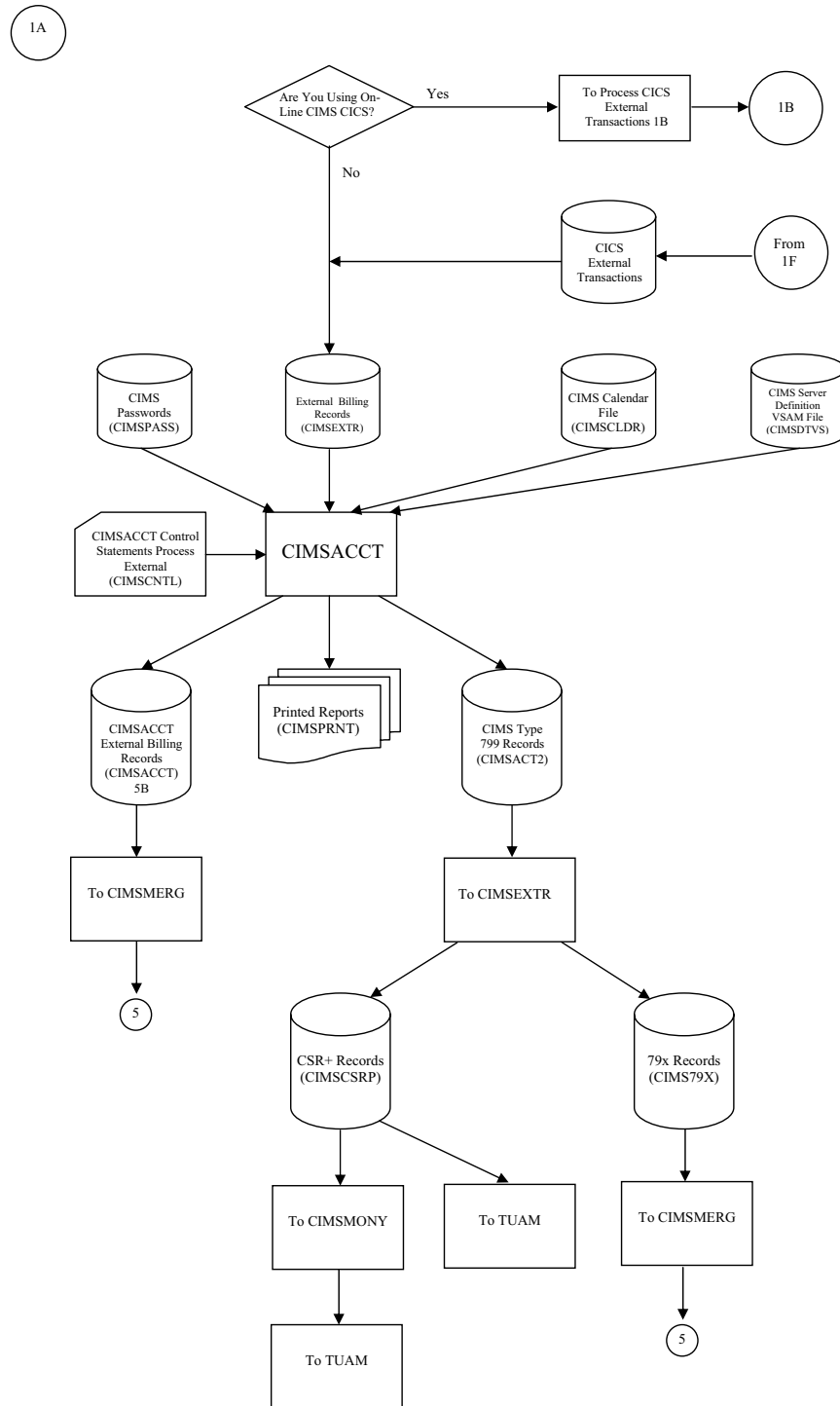
- Processes external transactions
- Processes external transactions from CIMS CICS screens
- Accepts the CIMS Calendar file
- Requires the CIMS Password file
- Accepts processing control statements
- Writes CIMS accounting data (both CIMS 799 accounting records and 999 accounting records)
- Prints statistics for each record type read and written

CIMS accounting data is passed to `CIMSMERG`, `CIMSEXTR`, `CIMSMONY`, and `CIMSBILL`.

Connectors

- | | |
|------|---|
| [1B] | Refers to the CIMS CICS External Transaction Processing flow chart on page 5-11 . |
| [1F] | Refers to DATE processing for external transactions on page 5-18 . |
| [5] | Refers to the CIMSMERG flow chart on page 5-29 . |
| [5B] | Refers to the CIMSMERG flow chart on page 5-29 . |

CIMSACCT–Process External Transactions Flow Chart



Note • Values in parentheses represent DDNAMES.

Process CICS Online External Transactions

CIMS provides CICS online screens for the input of external transactions. Refer to the *CIMS Data Entry Screens* chapter of the *CIMS Mainframe Data Collector and Chargeback System User Guide*, which provides documentation for CIMS CICS online screens.

The CIMSACCT control statement `PROCESS EXTERNAL TRANSACTIONS` processes the following records:

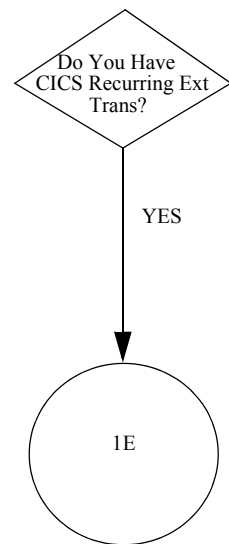
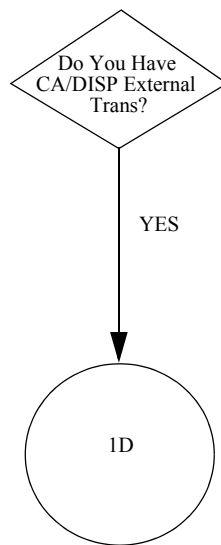
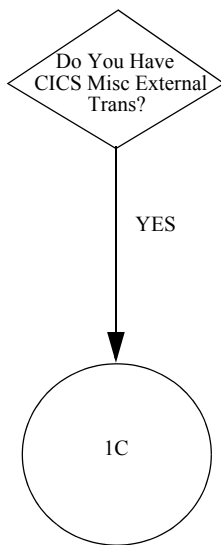
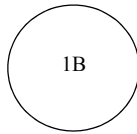
- Miscellaneous transactions
- CA/DISPATCH transactions
- Recurring transactions

Job control for CIMSMESS, CIMSDSPH, CIMSRECU, and CIMSBDTE are in CIMS.DATFILE as members CIMSEXT1, CIMSEXT2, CIMSEXT3, and CIMSEXT4.

Connectors

- | | |
|------|---|
| [1C] | Refers to Miscellaneous External Transactions Flow Chart on page 5-13 . |
| [1D] | Refers to CA/DISPATCH External Transactions Flow Chart on page 5-15 . |
| [1E] | Refers to Recurring External Transactions Flow Chart on page 5-16 . |

CICS Online External Transactions Flow Chart



Process Miscellaneous CICS External Transactions

CIMS CICS Miscellaneous External Transaction Processing

Job control CIMSEXT1 for program CIMSBMIS performs the following tasks:

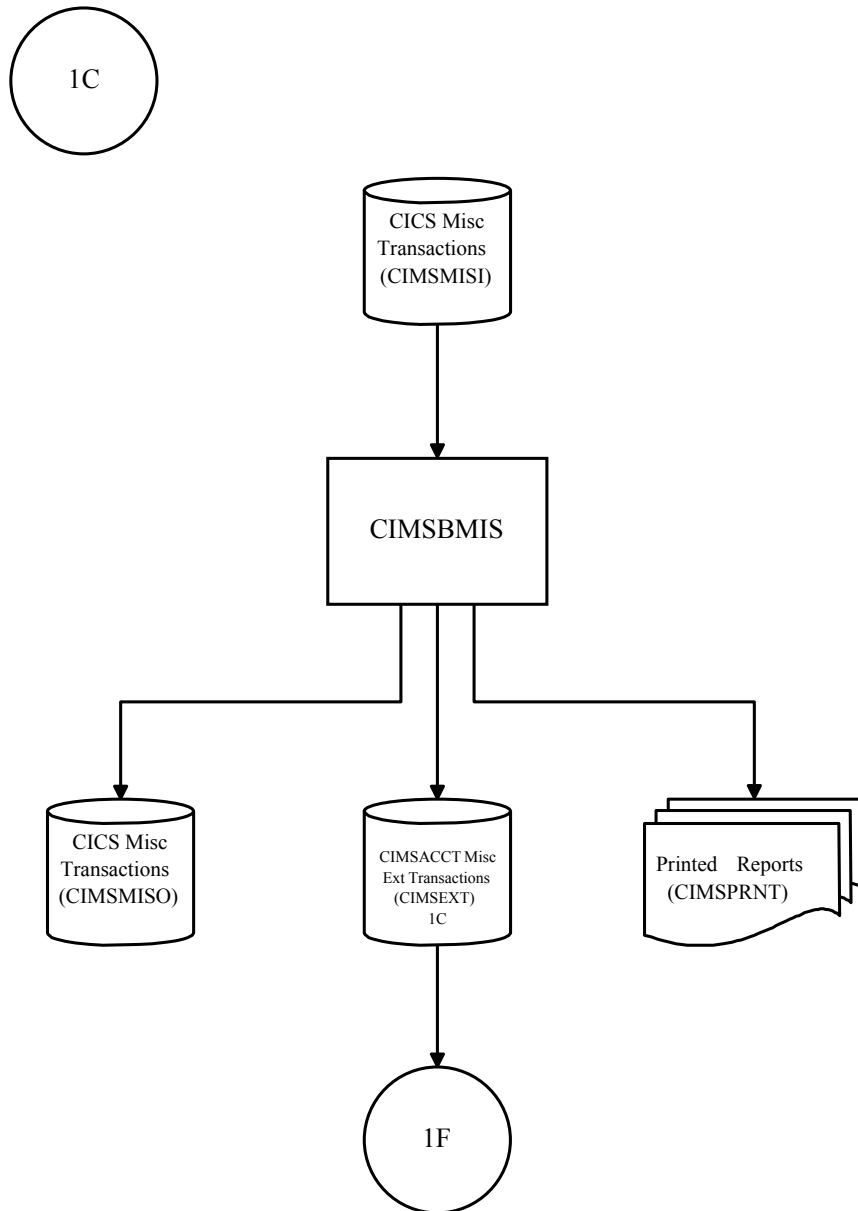
- Processes miscellaneous transactions from the CICS database
- Writes miscellaneous external transactions
- Writes miscellaneous transactions to the CICS database
- Prints accepted miscellaneous transactions

Connectors

[1C] Refers to the Miscellaneous External Transaction data set in CIMS Batch External Date Flow Chart on [page 5-18](#).

[1F] Refers to CIMS Batch External Date Flow Chart on [page 5-18](#).

Process Miscellaneous CICS External Transactions Flow Chart



Note • Values in parentheses represent DDNAMES.

Process CA/DISPATCH CICS External Transactions

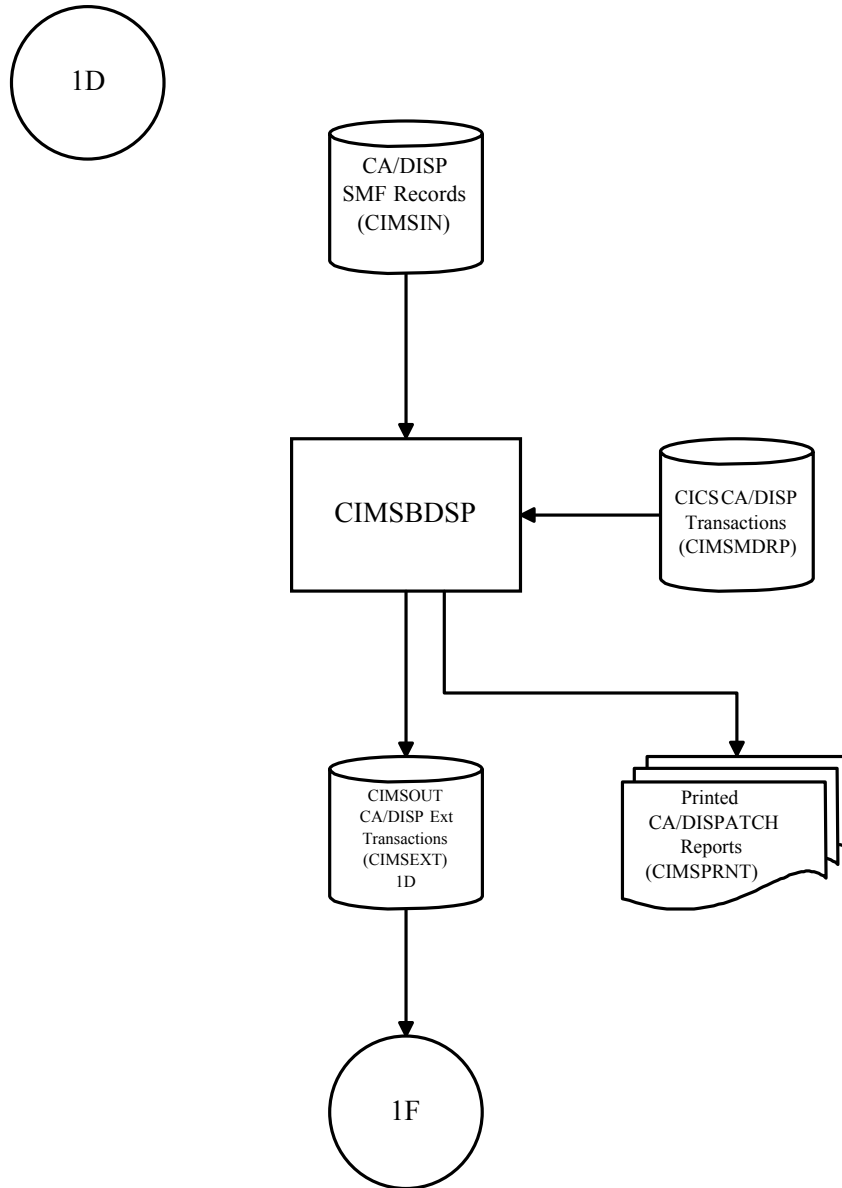
Job control CIMSEXT2 for program CIMSBDSP performs the following tasks:

- Processes CA/DISPATCH SMF records
- Processes CA/DISPATCH transactions from the CICS database
- Writes CA/DISPATCH external transactions
- Prints CA/DISPATCH transactions

Connectors

- [1D] Refers to CIMS CA/DISPATCH External Transaction data set in CIMS Batch External Date flow Chart on [page 5-18](#).
- [1F] Refers to CIMS Batch External Date Flow Chart on [page 5-18](#).

Process CA/DISPATCH CICS External Transactions Flow Chart



Note • Values in parentheses represent DDNAMES.

Process Recurring CICS External Transactions

Job Control CIMSEXT3 for program CIMSBRUCU performs the following tasks:

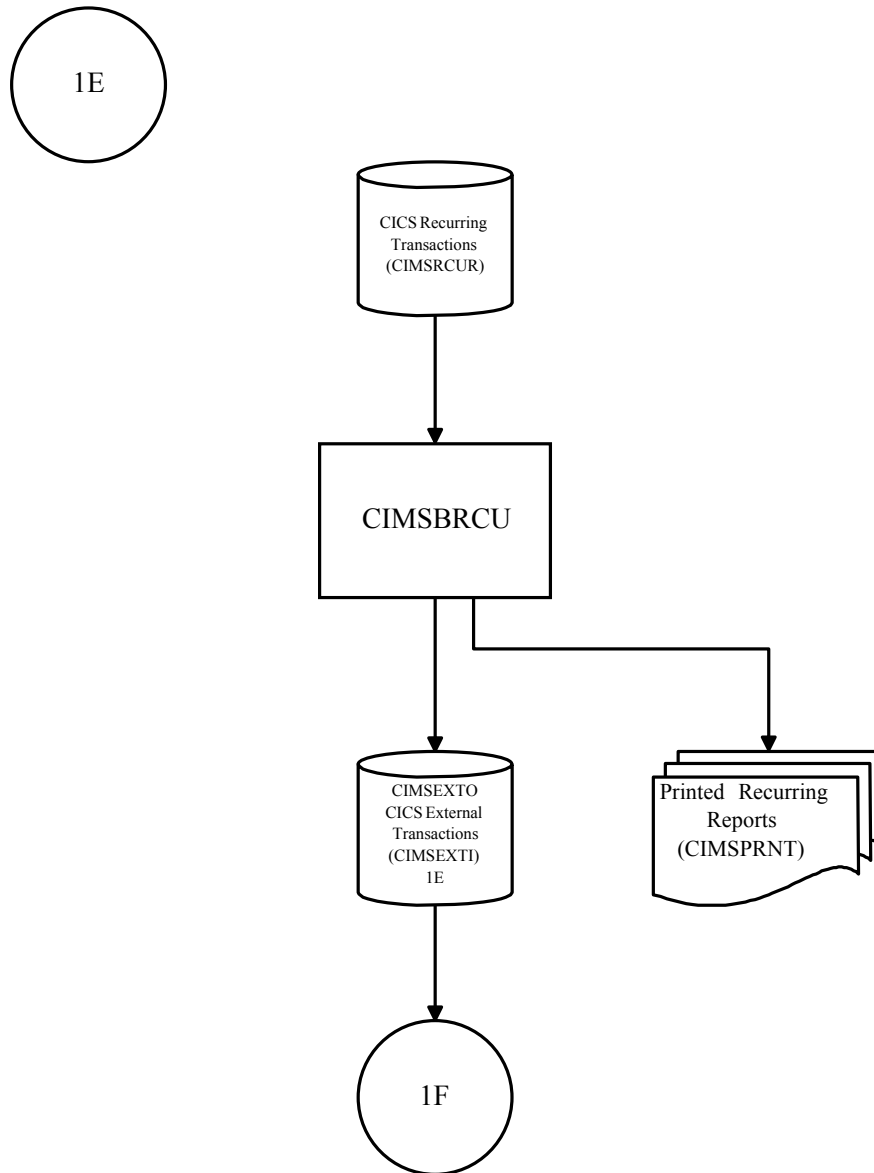
- Processes recurring transactions from the CICS database
- Writes recurring external transactions
- Prints recurring transactions

Connectors

[1E] Refers to the Recurring Transaction Data Set in CIMS Batch External Date Flow Chart on [page 5-18](#).

[1F] Refers to CIMS Batch External Date Flow Chart on [page 5-18](#).

Process Recurring CICS External Transactions Flow Chart



Note • Values in parentheses represent DDNAMES.

CIMSDTE Batch External Date Program

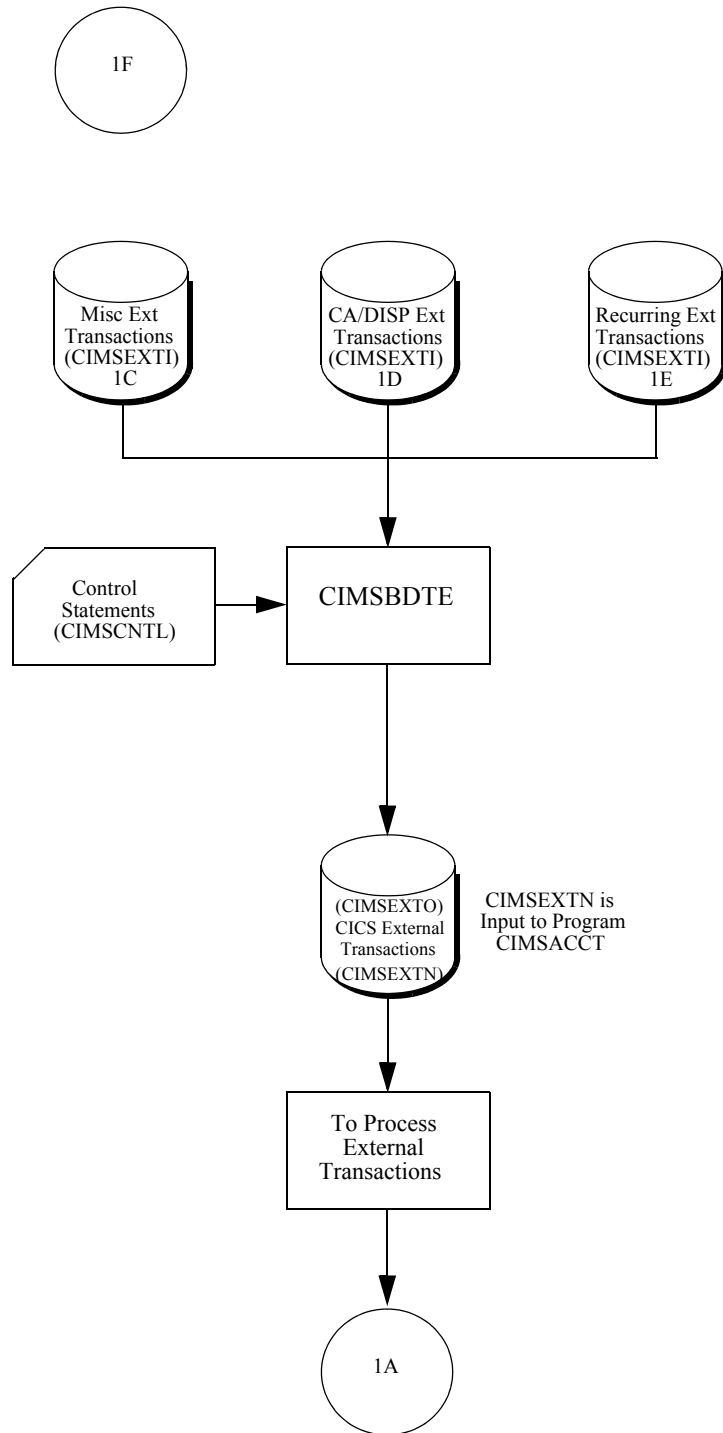
Job control CIMSEXT4 for program CIMSDTE performs the following tasks:

- Processes miscellaneous external transactions created by program CIMSMISS
- Processes CA/DISPATCH external transactions created by program CIMSDSPH
- Processes recurring external transactions created by program CIMSRECU
- Accepts processing control date statements
- Writes external transactions with processing date

Connectors

- [1A] Refers to CIMS External Transaction Processing Flow Chart on [page 5-9](#).
- [1C] Refers to CIMSBMIS Flow Chart on [page 5-13](#).
- [1D] Refers to CIMSDSP Flow Chart on [page 5-15](#).
- [1E] Refers to CIMSBRUCU Flow Chart on [page 5-16](#).

CIMSDTE—Batch External Date Program Flow Chart



Note • Values in parentheses represent DDNAMES.

CIMSACCT—Process CIMS Maintenance

The CIMSACCT control statement `PROCESS CIMS MAINTENANCE` performs the following:

- Processes a data set created by CIMSACCT. DDNAME CIMSACIN
- Provides account code edit capability. Example:
GLOBAL CHANGE
- Produces an edited accounting file. DDNAME CIMSACCT

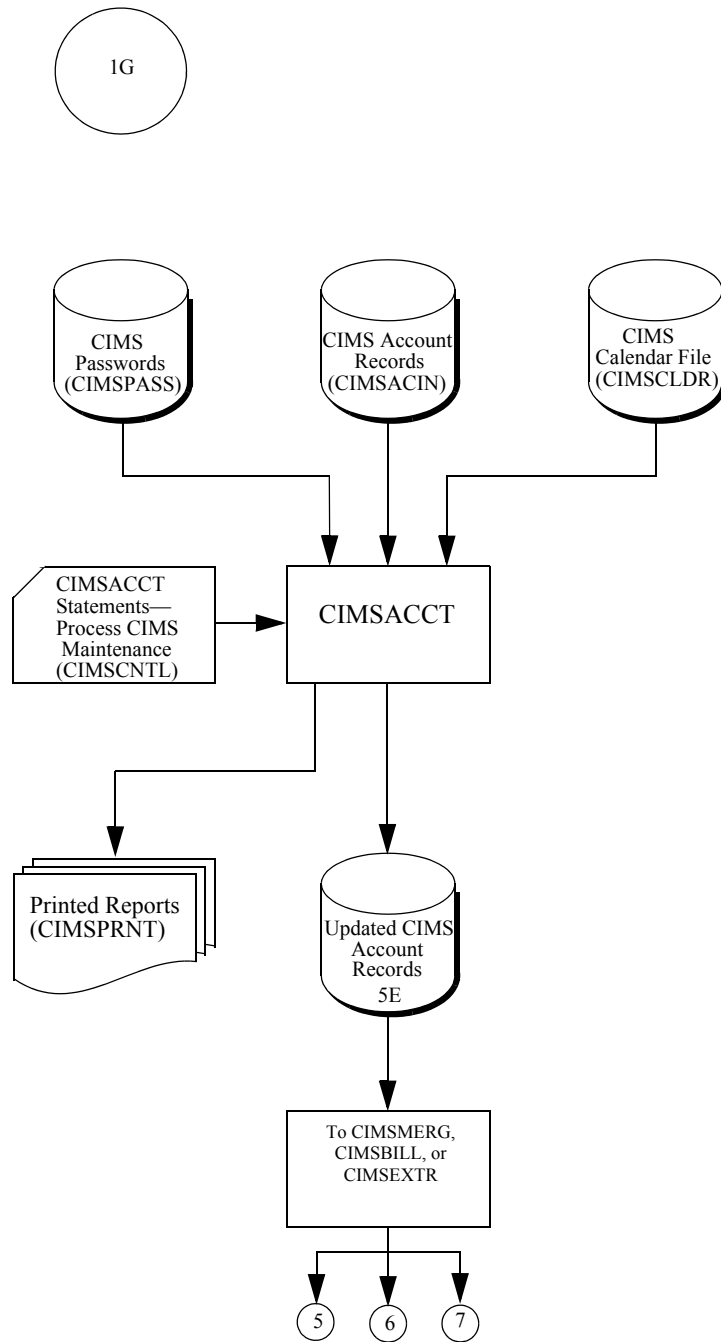
Job control to execute CIMSACCT is in `CIMS.DATAFILE` as member `CIMSJB2B`. An example of changing accounting data is provided in the *Accounting File Creation Program—CIMSACCT* chapter of the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

CIMS accounting data is passed to `CIMSMERG`, `CIMSEXTR`, `CIMSMONY`, and `CIMSBILL`.

Connectors

-
- | | |
|------|---|
| [5] | Refers to the <code>CIMSMERG</code> flow chart on page 5-29 . |
| [5E] | Refers to the <code>CIMSMERG</code> flow chart on page 5-29 . |
| [6] | Refers to the <code>CIMSMONY</code> flow chart on page 5-31 . |
| [7] | Refers to the <code>CIMSBILL</code> flow chart on page 5-33 . |
-

CIMSACCT—Process CIMS Maintenance Flow Chart



Note • Values in parentheses represent DDNAMES.

CIMSCICS–CIMSCICS Transaction Chargeback

CIMSCICS executes three programs:

- CIMSCMFP
- CIMSCMF2
- CIMSCICS

Job control for programs CIMSCMFP, CIMSCMF2, and CIMSCICS is in CIMS.DATFILE as member CIMSCICS.

These programs process CICS data and create CIMS CICS accounting data.

- Program CIMSCMFP performs the following tasks:
 - Processes SMF record type 110 and selects accounting and performance records. These records were extracted by program CIMSDATA and written to DDNAME CIMSCICS. (See the CIMSDATA flow chart on [page 5-5](#).)
 - Accepts control statements
 - Writes reformatted CICS intermediate records
 - Passes the re-formatted CICS records to CIMSCMF2
- Program CIMSCMF2 performs the following tasks:
 - Processes reformatted CICS intermediate data set
 - Processes the CIMS CICS account code table
 - Reads CIMS password file
 - Accepts control statements
 - Writes the CIMS CICS transaction data set, which contains an account code for each transaction.
 - Prints reports showing input parameters, records read and written, and records not matched to the account code table.
 - Passes the CIMS CICS transaction data set to CIMSCICS.

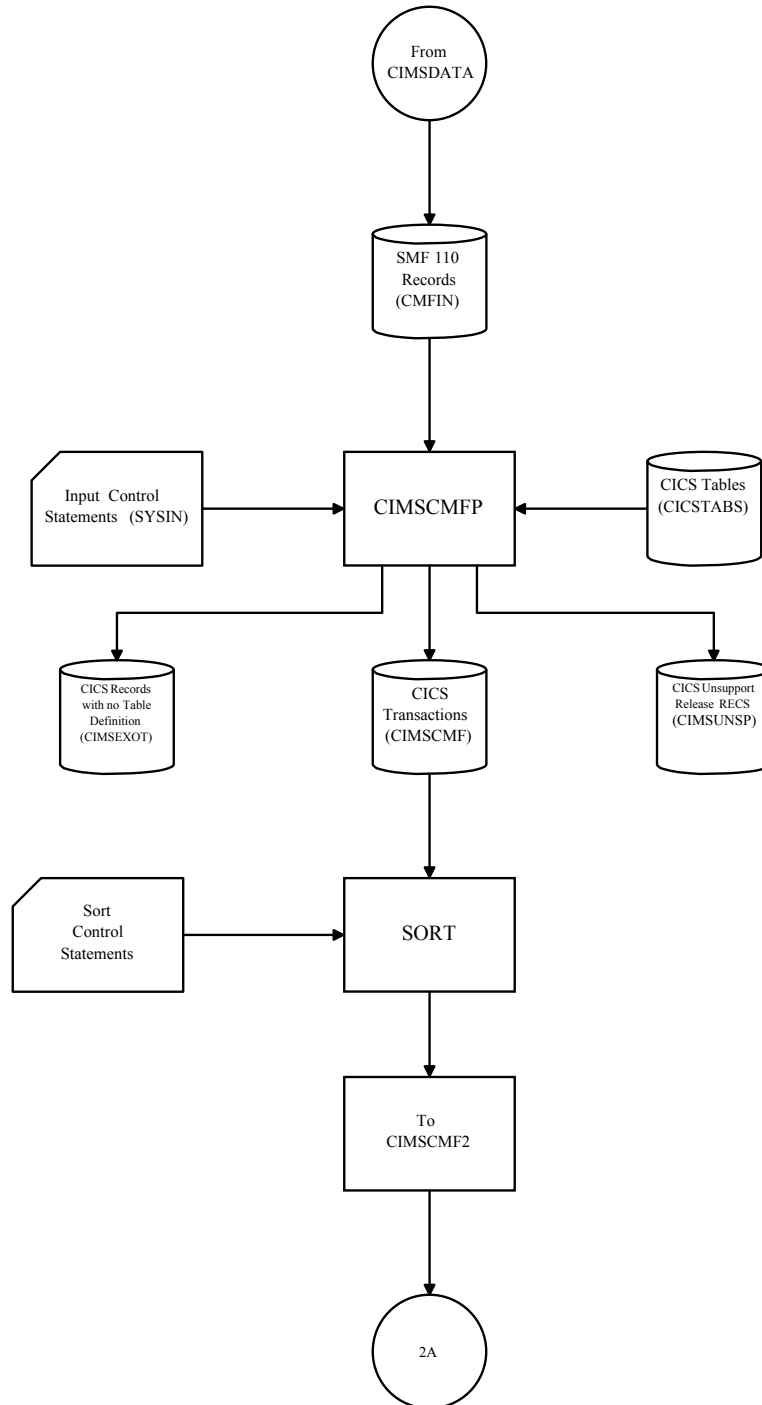
- Program CIMSCICS performs the following tasks:
 - Processes data set created by CIMSCMF2. (CIMSCICS is not needed to process this data if you are processing the 79x accounting records only.)
 - Reads Client VSAM file
 - Reads Rate VSAM file
 - Accepts CICS input control statements
 - Writes CIMS CICS Accounting data
 - Prints reports displaying detail and summary CICS usage
 - Passes the CIMS CICS accounting data set to CIMSMERG.

Connectors

- [2A] Refers to the CIMS CICS Flow Chart on [page 5-25](#).
- [5] Refers to the CIMSBILL Flow Chart on [page 5-33](#).

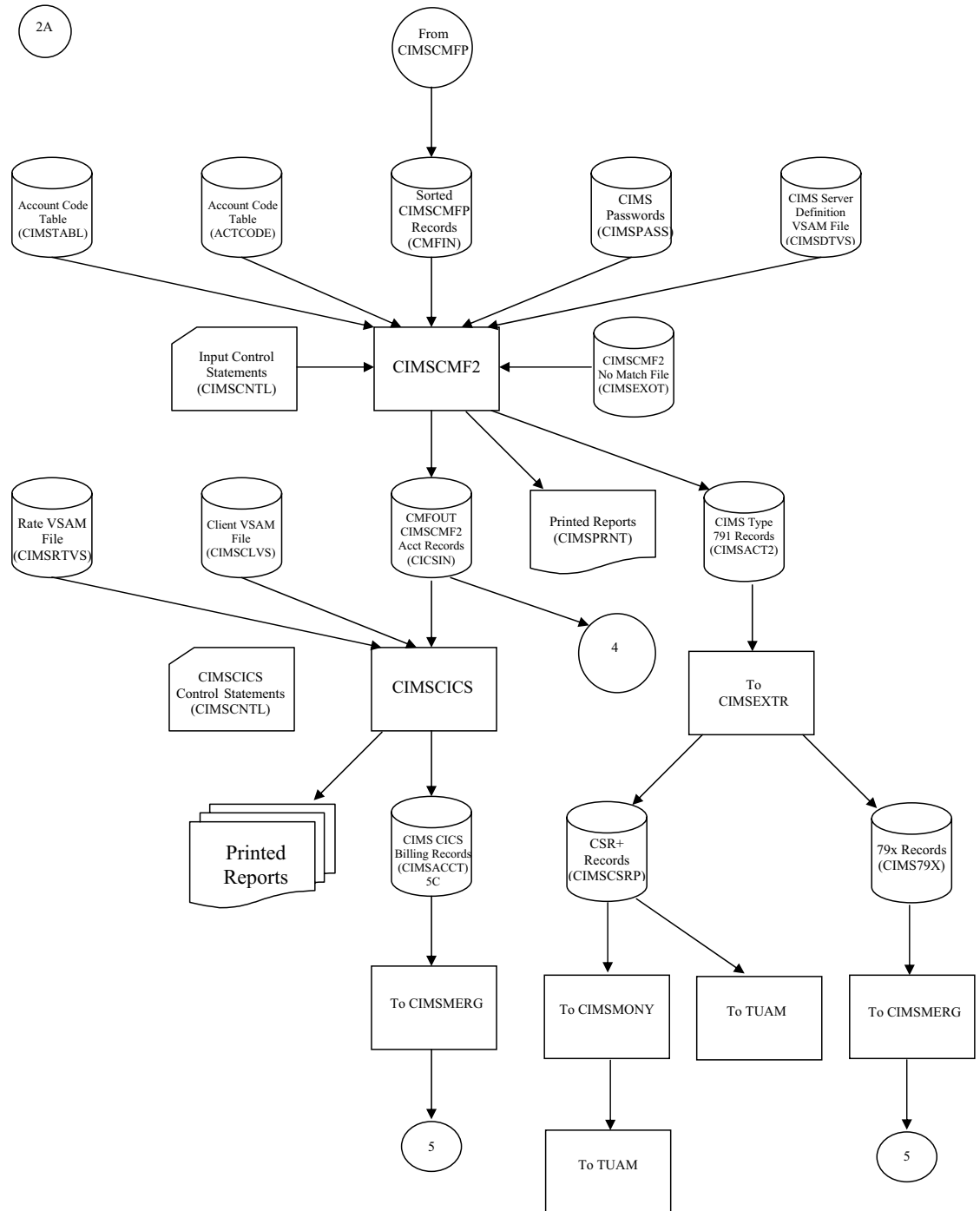
CIMSCICS Flow Chart

2



Note • Values in parentheses represent DDNAMES.

CIMSCICS Flow Chart–Continued



Note • Values in parentheses represent DDNAMES.

CIMSDB2–CIMS DB2 Chargeback

CIMSDB2 processes SMF record type 101.

These records were extracted by program CIMSDATA and were written to DDNAME CIMSDB2. See the CIMSDATA flow chart on [page 5-5](#).

CIMSDB2 produces CIMS DB2 accounting data.

Job Control to execute CIMSDB2 is in CIMS.DATFILE as member CIMSDB2. Example job control is provided in the *DB2 Transaction Accounting Program—CIMSDB2* chapter of the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

CIMSDB2 performs the following tasks:

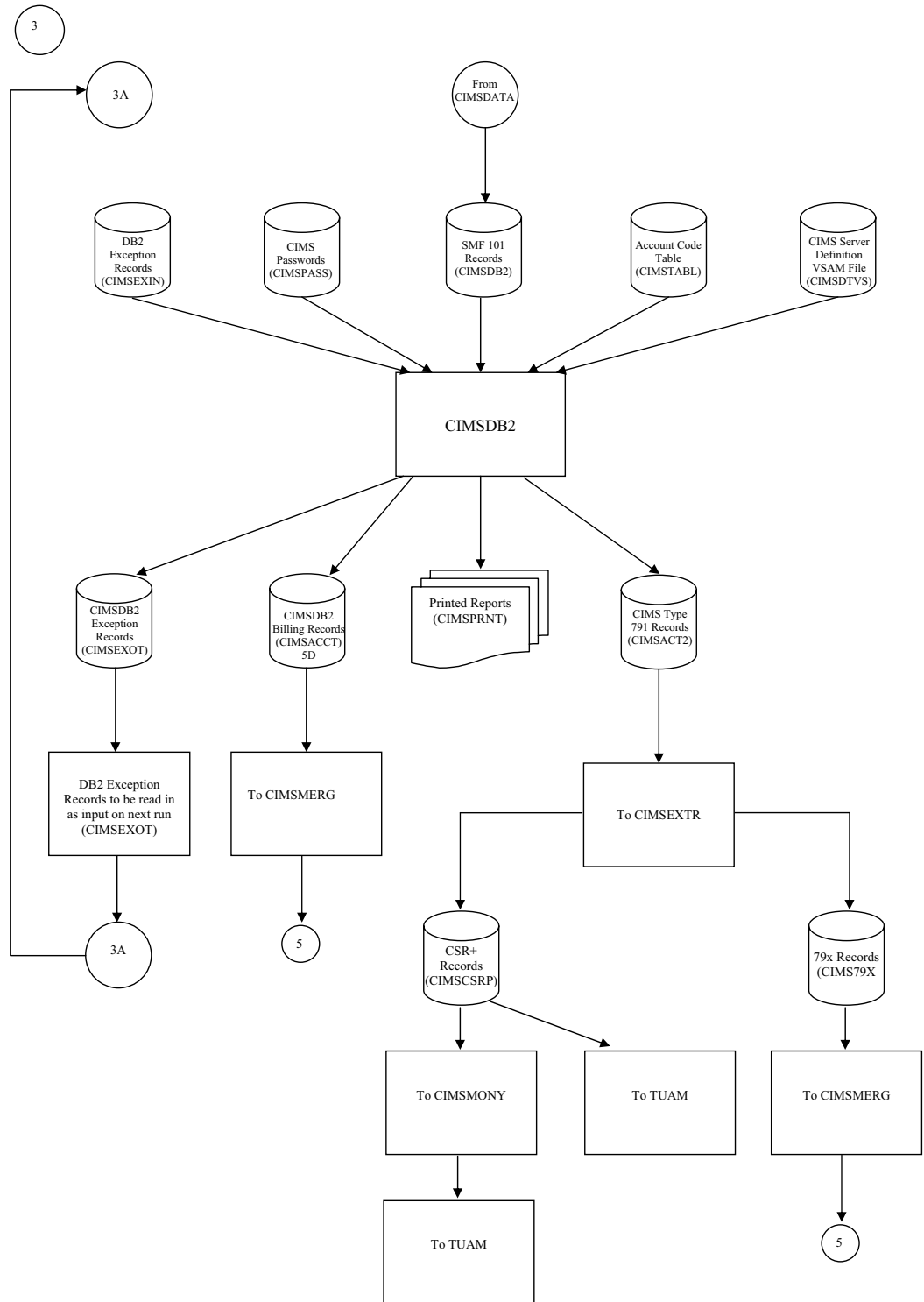
- Processes SMF record type 101 records
- Processes the CIMS DB2 Account Code Table
- Reads CIMS password file
- Processes CIMS DB2 Exception records
- Produces CIMS DB2 Accounting data
- Writes CIMS DB2 Exception records
- Prints a report showing:
 - Input parameters
 - Number of records read and written
 - Records not matched via the Account Code Table

DB2 accounting data is passed to CIMSMERG.

Connectors

-
- | | |
|------|--|
| [5D] | Refers to the CIMSMERG data set in the flow chart on page 5-29 . |
| [6] | Refers to the CIMSMONY flow chart on page 5-31 . |
| [7] | Refers to the CIMSBILL flow chart on page 5-33 . |

CIMSDB2 Flow Chart



Note • Values in parentheses represent DDNAMES.

CIMSMERG

CIMS Account File Merge Procedure

CIMSMERG performs three functions:

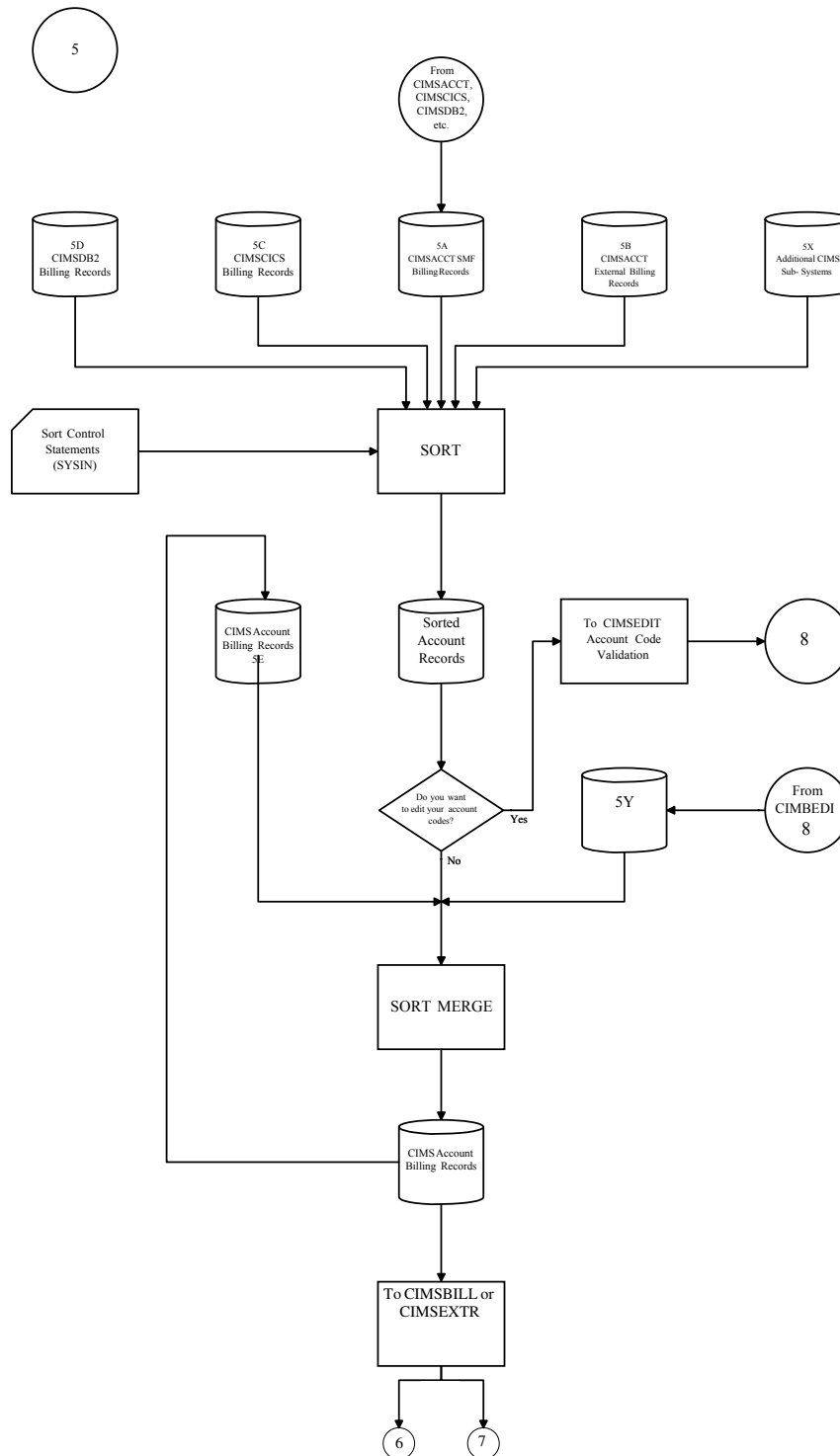
- Sorts the CIMS accounting records
- Merges Daily, Month-to-Date, CICS Miscellaneous, CICS Recurring, CA/DISPATCH and Rejected accounting records.
- Creates Month-to-Date accounting records

Job control for CIMSMERG is in CIMS.DATAFILE as member CIMSMERG. Month-to-Date accounting records are passed to CIMSBILL.

Connectors

| | |
|------|--|
| [5A] | Refers to the CIMSACCT (SMF) flow chart on page 5-7 . |
| [5B] | Refers to the CIMSACCT (External) flow chart on page 5-9 . |
| [5C] | Refers to the CIMS CICS flow chart on page 5-25 . |
| [5D] | Refers to the CIMS DB2 flow chart on page 5-27 . |
| [5X] | Refers to any additional files coming from other sub-systems. |
| [5Y] | Refers to the CIMSEEDIT flow chart on page 5-35 . |
| [6] | Refers to the CIMSMONY flow chart on page 5-31 . |
| [7] | Refers to the CIMSBILL flow chart on page 5-33 . |
| [8] | Refers to the CIMSEEDIT flow chart on page 5-35 . |

CIMSMERG Flow Chart



Note • Values in parentheses represent DDNAMES.

CIMSMONY

CIMS Billing & Chargeback Program

CIMSMONY processes the CSR+ records that are generated by CIMSEXTR and produces:

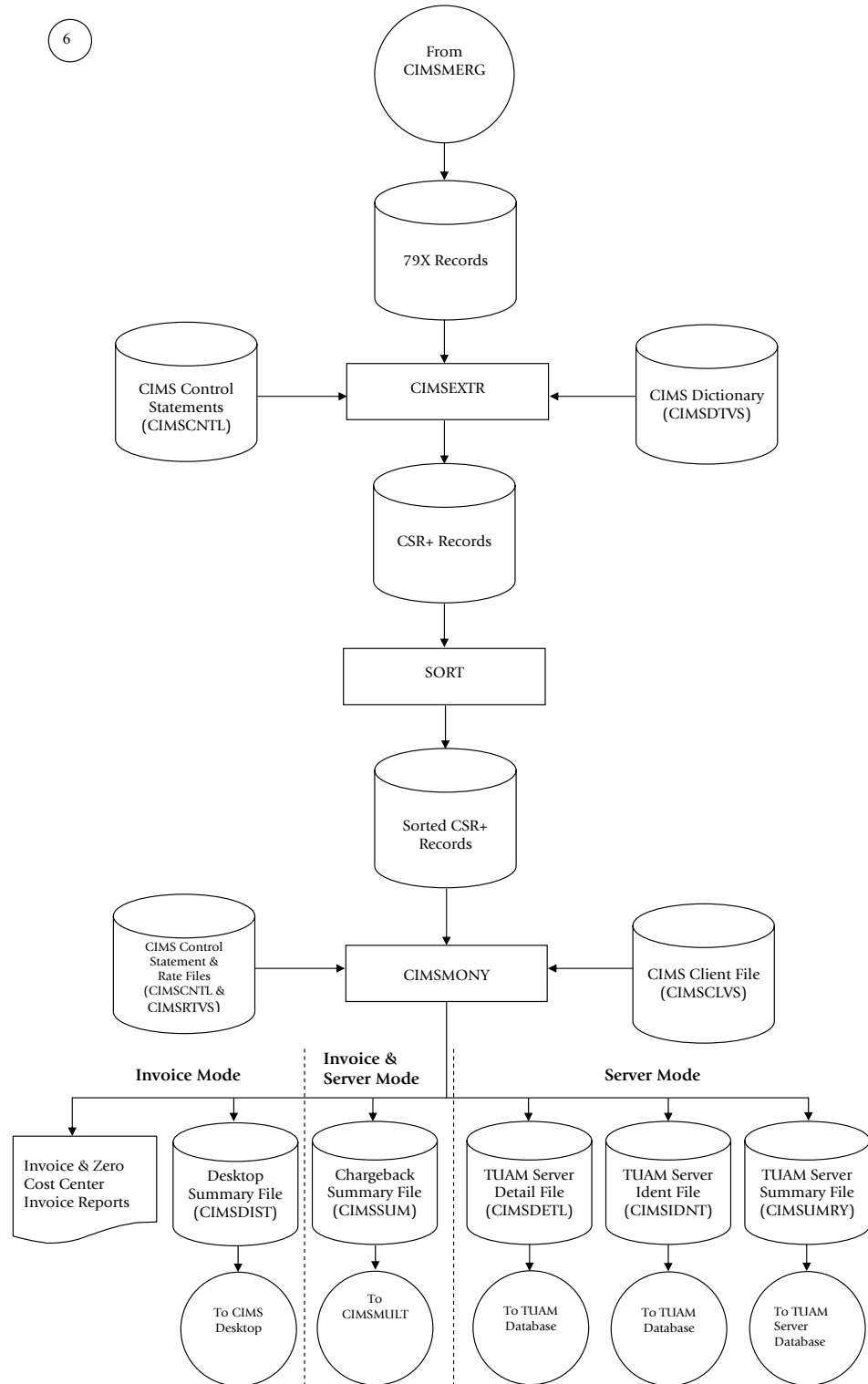
- Invoices
- CIMS Summary File
- CIMS Desktop File

Job control for CIMSMONY is in CIMS.DATFILE as member CIMSJOB3.

CIMSMONY performs the following tasks:

- Processes Sorted Month to Date CSR+ Records
- Reads the CIMS Client VSAM file
- Reads the CIMS Rate VSAM file
- Accepts Control statements
- Writes Summary File
- Writes CIMS Desktop File
- Writes Invoices
- Can also produce Tivoli Usage and Accounting Manager Ident, Detail, and Summary files for input into Tivoli Usage and Accounting Manager database.

CIMSMONY Flow Chart



Note • Values in parentheses represent DDNAMES.

CIMSBILL

CIMS Billing & Chargeback Program

CIMSBILL processes the accounting records created by CIMSMEG and produces:

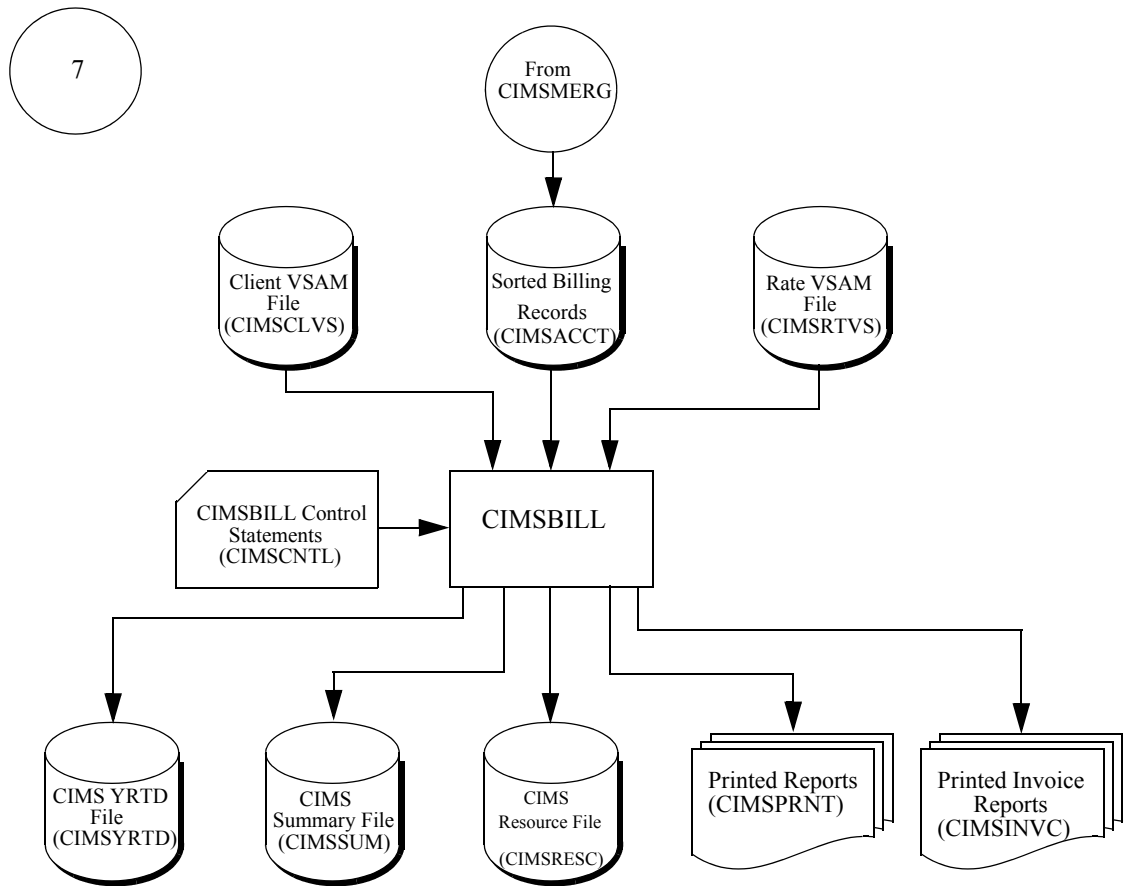
- Billing Reports
- CIMS Year to Date File
- CIMS Summary File
- CIMS Resource File

Job Control for CIMSBILL is in CIMS.DATFILE as member CIMSJOB5. Example job control is provided in the *Computer Center Chargeback Program—CIMSBILL* chapter of the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

CIMSBILL performs the following tasks:

- Processes Sorted Month to Date Accounting Records
- Reads the CIMS Client VSAM file
- Reads the CIMS Rate VSAM file
- Accepts Control statements
- Writes Year to Date File
- Writes Summary File
- Writes Resource File
- Prints Invoice, Zero Cost, Job Cost, Detail & Summary Reports
- Creates a File of Selected Records

CIMSBILL Flow Chart



Note • Values in parentheses represent DDNAMES.

CIMSEDIT–Account Code Validation

CIMSEDIT validates account codes against the CIMS Client file and produces validated accounting records. Job control for CIMSEDIT is in CIMS.DATFILE as member CIMSEXT6. Example job control is provided in the *CIMS Data Entry Screens* chapter of the *CIMS Mainframe Data Collector and Chargeback System User Guide*.

This JCL executes the following programs:

- CIMSREN Extracts rejected transactions
- SORT Sorts daily account records and rejected transactions
- CIMSEDIT Validates account codes

- Job control for program CIMSREN performs the following tasks:
 - Processes rejected transactions from the CIMS CICS database
 - Writes rejected transactions
- Job control for program SORT performs the following tasks:
 - Processes rejected transactions
 - Processes CIMSACCT external transactions
 - Processes CIMS daily accounting records
 - Accepts sort control statements
 - Writes sorted CIMS accounting file
- Job control for program CIMSEDIT performs the following tasks:
 - Processes sorted Accounting Transactions
 - Reads Client VSAM file
 - Writes validated accounting records
 - Writes invalid account code reject transactions
 - Prints invalid account codes

The validated accounting file is passed to CIMSMERG.

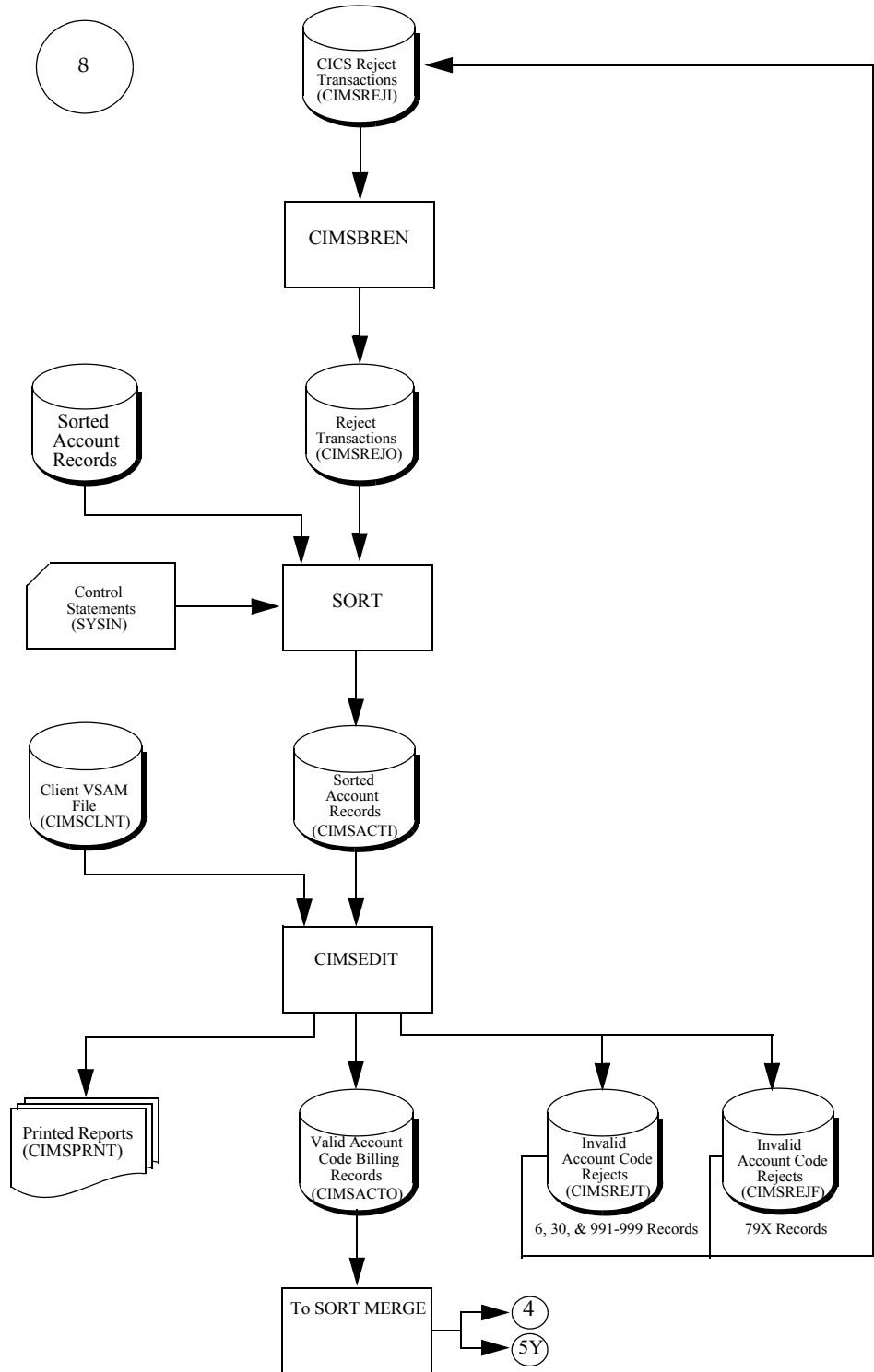
The invalid account code file is passed back to the Reject CICS screen for corrections and then recycled.

Connectors

[5Y] Refers to the CIMSMERG flow chart on [page 5-29](#).

CIMSEDIT–Account Code Validation Flow Chart

CIMS Account Code Validation Procedure



Note • Values in parentheses represent DDNAMES.

■ **Installation Flow Charts**

CIMSEdit–Account Code Validation



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