

## Section 2: Installing the CICS Component

---

Most of the CICS Component will be installed as normal part of installing CPEXpert. However, one step is unique to the CICS Component of CPEXpert: placing CICS statistics into a performance data base created by MXG.

CICS statistics are accumulated by CICS management programs into CICS system tables. These statistics can be (1) captured and recorded on request (**requested statistics**), (2) captured and recorded automatically at a specified interval (**interval or automatic statistics**), (3) recorded at normal termination of the CICS system (**shutdown statistics**), and (4) **unsolicited statistics** for dynamically allocated and deallocated resources. The statistics are written to SMF (unless a different destination is specified).

- Requested statistics can be recorded at any time when specified by the operator in the CEMT transaction. The requested statistics are sent to the default destination CSSL unless the operator specifies another destination in the CEMT transaction.
- Interval or automatic statistics can be recorded at intervals defined by the operator in the CEMT transaction.
- The shutdown statistics are recorded at normal CICS termination if an explicit request for all requested statistics had been made then. The shutdown statistics do not include statistics that were recorded during interval or automatic statistics recording or those in which the counters were reset during requested statistics.
- The unsolicited statistics are recorded for dynamically allocated and deallocated resources.

The CICS statistics contain a wealth of information. In fact, most of the performance analysis techniques described in IBM's *CICS Performance Guide* relate to information available from the CICS shutdown statistics.

For best analysis of CICS performance problems or potential problems **interval statistics** should be gathered and made available for CPEXpert's analysis. The interval statistics are gathered by CICS during a specified interval. CICS writes the interval statistics to the SMF data set automatically when the specified interval expires, if:

- Statistics recording status was set ON by the **STATRCD** system initialization parameter (and has not subsequently been set OFF by a CEMT or EXEC CICS SET STATISTICS RECORDING command). The default is STATRCD=OFF. The default should be changed to **STATRCD=ON** to collect the interval statistics.
- ON is specified in CEMT SET STATISTICS.
- The RECORDING option of the EXEC CICS SET STATISTICS command is set to ON.

The default recording interval for the CICS interval statistics is to record the statistics every three hours.

Additional procedures must be used to obtain interval statistics if you are using CICS Shared Temporary Storage, Coupling Facility Data Tables, or Named Counters. These CICS facilities are implemented using a server, started in its own region, for each shared temporary storage pool, coupling facility data table, or named counter. The servers produce the interval statistics for the specific CICS facility that they provide. As a part of the start-up procedures for the servers, two statistics parameters can be provided:

- The **STATSOPTIONS**={NONE/SMF/PRINT/BOTH} specifies whether the server is to produce interval statistics, and the destination for the statistics it produces. The default specification is **NONE** which means that the server does not produce any interval statistics. This default must be overridden for statistics to be produced. **STATSOPTIONS=SMF** (or **BOTH**) should be specified for the servers to produce interval statistics and write the statistics to the SMF data set.
- The **STATSINTERVAL**={03:00/hh:mm} specifies the statistics collection interval, in the range 1 minute to 24 hours. This parameter should specify the same collection interval as is used for the normal CICS interval statistics (default of 3 hours).

As mentioned in Section 1, MXG is required for CPExpert to comprehensively process the CICS interval statistics<sup>1</sup>.

Exhibit 2-1 illustrates the SAS data sets created by MXG that should be present for the CICS Component to analyze CICS performance. Some of the files shown in Exhibit 2-1 apply only to certain releases of CICS, and might not be applicable to the release of CICS operating at your site.

If you do not retain one of the data sets required for your release(s) of CICS, please specify `%LET STANDARD=NO;` in `USOURCE(CICGUIDE)` and the CICS Component will automatically determine which files (and which variables) are present in your performance data base. The CICS Component will produce a report listing the rules that cannot be executed because of missing information.

---

<sup>1</sup>Even if you normally place CICS data into a MICS performance data base, you must use MXG to process the CICS statistics since detailed analysis of CICS performance issues can be accomplished only if the detailed information is available.

<b>MXG DATA SET</b>	<b>MXG DESCRIPTION</b>	<b>NOTES</b>
CICAUTO	CICS AUTOINSTALL GLOBAL	
CICCONMR	CICS ISC/IRC MODE ENTRY	
CICCONSR	CICS ISC/IRC SYSTEM ENTRY	
CICCONSS	CICS ISC CONNECTION SECURITY	
CICDLIT	CICS DL/I LOCAL TOTALS	
CICDQG	CICS TDQUEUE TRANSIENT GLOBAL	
CICDS	CICS DISPATCHER DOMAIN	
CICDTB	CICS DYNAMIC TRANS BACKOUT	
CICFCR	CICS FILE CONTROL SPECIFIC	
CICJCR	CICS JOURNAL CONTROL	N/A with CICS/TS
CICLDR	CICS LOADER DOMAIN PROGRAM SPEC	
CICLGR	CICS LOG MANAGER JOURNAL STATS	N/A with CICS/TS
CICLGS	CICS LOGSTREAM MANAGER STATS	Applicable with CICS/TS
CICLSRFR	CICS LSRPOOL FILE STATS PER FILE	
CICLSRR	CICS LSRPOOL STATS PER LSR POOL	
CICSDG	CICS SYSTEM DUMP GLOBAL	
CICSMDSA	CICS STORAGE MANAGER DSA/EDSA	
CICSMT	CICS STORAGE MANAGER TSK SUBPOOL	
CICTC	CICS TASK CONTROL GLOBAL	N/A with CICS 4.1 and above
CICTCR	CICS TERMINAL CONTROL	
CICTCLR	CICS TCLASS TRANSACTION CLASS	N/A with CICS 4.1 and above
CICTSQ	CICS TSQUEUE TEMPORARY STORAGE	
CICTSR	CICS TRANSACTION STATS	N/A with CICS 4.1 and above
CICVT	CICS VTAM GLOBAL	
CICXMC	CICS TRANSACTION MANAGER TCLASS	Applicable with CICS 4.1 and above
CICXMG	CICS TRANSACTION MANAGER GLOBAL	Applicable with CICS 4.1 and above
CICXMR	CICS TRANSACTION MANAGER TRANS	Applicable with CICS 4.1 and above
CICXQ1	CICS SHARED TS QUEUE SERVER CF	Applicable with CICS/TS
CICXQ2	CICS SHARED TS QUEUE SERVER BUFFERS	Applicable with CICS/TS
CICXQ3	CICS SHARED TS QUEUE SERVER STORAGE	Applicable with CICS/TS
TYPE88	SMF SYSTEM LOGGER DATA	Applicable with CICS/TS

## **MXG FILES USED BY CICS COMPONENT**

### **EXHIBIT 2-1**

Additionally, one further step may be required if you implement the SAS Output Delivery System to create output that is formatted in Hypertext Markup Language (HTML). This step is described in Section 3: **SAS Output Delivery System**. From a practical view, you might wish to postpone this step until you are comfortable with the CICS Component and its output.

The CICS Component provides many processing options (for example, you may select particular time intervals for analysis, specify specific APPLIDs to analyze, provide guidance to the CICS Component's analysis process, etc.). These processing options are not, strictly speaking, a part of the installation process. They may be employed as you refine your analysis of the performance of your CICS regions. These processing options are described in Section 3 of this User Manual.