Section 4: Executing the DASD Component

This section describes how to execute the DASD Component of CPExpert.

The instructions in this section assume that you have installed the CPExpert software. The DASD Component is installed as normal part of installing CPExpert, and the modification to MXG or to MICS is installed as described in Section 2 of this User Manual. If you have not installed CPExpert and the modification to MXG or NeuMICS, please install the software before continuing.

Executing the DASD Component involves executing the DASCPE Module. Additionally, the DAS1415 Module must be executed if you wish to analyze the DASD performance provided to critical data sets.

Chapter 1: Executing the DASCPE Module

This chapter describes how to execute the DASCPE Module of the DASD Component.

As stated in the Introduction to this document, the DASD Component consists of numerous modules working together to (1) shape system performance and utilization data for detailed analysis by other modules, (2) evaluate the data to assess potential causes of performance, (3) describe the results from the evaluation, and (4) maintain a historical record of the results from the analysis. These modules are loaded and controlled by the central DASD Component of CPExpert (titled DASCPE).

Step 1. Use TSO ISPF to change the "prefix" in the data set names

Use TSO ISPF to change the "prefix" in the data set names (DSN) in the **USOURCE** DD statement, the **SOURCE** DD statement, the **CPEDATA** DD statement, the **CPEDASD** DD statement, the **HISTORY** DD statement, the **PDBLIB** DD statement, and the **SYSIN** DD statement of the JCL in accordance with your installation standards. The JCL is illustrated in Exhibit 4-1. (A "shell" of this JCL is contained on the distribution tape as "DASJCL2")


```
//jobname     JOB   job card information
//STEP02      EXEC  SAS,OPTIONS='MACRO DQUOTE PAGESIZE=65 ERRORABEND'
//USOURCE     DD    DSN=prefix.CPEXPERT.USOURCE,DISP=SHR
//SOURCE      DD    DSN=prefix.CPEXPERT.SOURCE,DISP=SHR
//CPEDATA     DD    DSN=prefix.CPEXPERT.CPEDATA,DISP=OLD
//CPEDASD     DD    DSN=prefix.CPEXPERT.CPEDATA,DISP=OLD
//PDBLIB      DD    DSN=prefix.MXG.MON,DISP=SHR
//LIBRARY     DD    DSN=saslib containing MXG FORMATs
//SYSIN       DD    DSN=prefix.CPEXPERT.SOURCE(DASCPE),DISP=SHR
```

JOB CONTROL LANGUAGE TO EXECUTE THE DASCPE MODULE

EXHIBIT 4-1

The CPEDATA DD statement in Exhibit 4-1 refers to the SAS data library maintained by CPExpert. The space for this library was created during the installation of CPExpert.

The CPEDASD DD statement in Exhibit 4-1 refers to the SAS library containing the DASD information created by the CPExpert modification to MXG or MICS. The CPEDASD DD statement is required only if you have installed the modification to MXG or MICS necessary to allow CPExpert to collect DASD I/O information at the job step level.

The PDBLIB DD statement in Exhibit 4-1 refers to the SAS library containing the performance data base to be analyzed. The example shows a sample DSN for a typical MXG performance data base. The DSN would be changed to "DSN=prefix.RMF.MICS.DETAIL" to use a MICS performance data base.

Exhibit 4-1 does not show the optional DD statements for MICS Information Areas (i.e., BATLIB DD, SCBLIB DD, HARLIB DD, etc.). The *CPExpert Installation Guide* describes how to use these optional DD statements if you have your MICS performance data base separated by MICS Information Area.

The LIBRARY DD statement in Exhibit 4-1 refers to the SAS library containing the MXG FORMATs. If you execute CPExpert against a MICS performance data base, the SASLIB DD statement would be changed to refer to the MICS FORMAT library. (CPExpert actually does not use the MICS FORMATS. You can specify the SAS **NOFMTERR** option to eliminate problems with SAS FORMAT errors.)

Step 2: Make any appropriate changes to the DASGUIDE Module

Before submitting the JCL shown in Exhibit 4-1 and executing the DASDCPE Module, you should make appropriate changes to the CPEXPERT.USOURCE(DASGUIDE) module. These changes are described in Section 3 of this manual.

Step 3. Execute the DASCPE Module

Submit the JCL to execute the DASCPE Module. Most installations execute the DASCPE Module on a daily basis, after their normal update of their performance data base.

Chapter 2: Executing the DAS1415 Module

This section describes how to execute the DAS1415 Module of the DASD Component. The DAS1415 Module is executed **only** if you wish to perform expanded analysis based on data set name.

The DAS1415 Module reads the SMF Type 14/15 records to acquire information necessary to identify the DD names associated with data set names defined in USOURCE(DASGUIDE). As explained in Section 1 (Chapter 5.3), the DD names are later used in a modification to MXG or MICS processing to identify the activity of devices associated with the DD names.

The DAS1415 Module must be executed before MXG or MICS are executed to perform their normal daily update of your performance data base. This is necessary because the modification to MXG or MICS reads the data set created by the DAS1415 Module. [The data set created by the DAS1415 Module is simply the output from a SAS PROC FREQ creating a distribution of unique DD names which were used to reference data sets defined in USOURCE(DASGUIDE).]

Step 1. Use TSO ISPF to change the DD statements

Use TSO ISPF to change the SMF DD statement to refer to the current SMF data. Use TSO ISPF to change the "prefix" in the USOURCE DD statement, the SOURCE DD statement, the CPEDASD DD statement, and the SYSIN DD statement of the JCL in accordance with your installation standards. The JCL is illustrated in Exhibit 4-2. (A "shell" of this JCL is contained on the distribution tape as "DASJCL3")

```
//jobname     JOB   job card information
//STEP1       EXEC  SAS,OPTIONS='MACRO DQUOTE PAGESIZE=65 ERRORABEND'
//SMF         DD    DSN=data set name of current SMF file,DISP=SHR
//USOURCE     DD    DSN=prefix.CPEXPERT.USOURCE,DISP=OLD
//SOURCE      DD    DSN=prefix.CPEXPERT.SOURCE,DISP=SHR
//LIBRARY     DD    DSN=saslib containing MXG FORMATs
//CPEDASD     DD    DSN=prefix.CPEXPERT.CPEDASD,DISP=OLD
//SYSIN       DD    DSN=prefix.CPEXPERT.SOURCE(DAS1415),DISP=SHR
```

JOB CONTROL LANGUAGE TO EXECUTE THE DAS1415 MODULE

EXHIBIT 4-2

Step 2. Execute the DAS1415 Module

The next step is to execute the DAS1415 Module to process the USOURCE(DASGUIDE) information and to process the SMF Type 14/15 data.

The DAS1415 Module will create two SAS data sets in the CPEDASD SAS library, containing information extracted from USOURCE(DASGUIDE) and containing information extracted from the SMF Type 14/15 records for data sets matching the data set names defined in USOURCE(DASGUIDE).

Checklist for Executing the DASD Component, Mainframe

☐ Execute the DASD Component.

- ☐ Change the "prefix" in the data set names in the DD statements.
- ☐ Make any necessary changes to the DASGUIDE Module in USOURCE.
- ☐ Submit the JCL to execute the DASDCPE Module.

Checklist for Executing DASD Component, Personal Computer

☐ Execute the DASD Component.

- ☐ Identify the directories to SAS and CPExpert.
  - ☐ USOURCE filename at SAS PGM window
  - ☐ SOURCE filename at SAS PGM window
  - ☐ LIBRARY filename at SAS PGM window
- ☐ Make any necessary changes to the DASGUIDE Module in USOURCE.
- ☐ If you are executing under Windows, enter "%INCLUDE SOURCE(DASCPE)" at SAS PGM window and submit.
- ☐ If you are executing under OS/2, enter "%INCLUDE SOURCE(DASCPE.SAS)" at SAS PGM window and submit.

Checklist for Performing Expanded Analysis

This checklist contains additional steps which must be performed if you wish the DASD Component to perform expanded analysis.

☐ Make sure that the CPExpert modification to MXG or to MICS is properly installed.

☐ Specify **%LET TYPE30DD = Y;** in USOURCE(GENGUIDE) to tell CPExpert that SMF Type 30(DD) information is available.

☐ If you wish CPExpert to analyze DASD performance from the perspective of critical workloads, take the following steps:

- ☐ Define workload categories in USOURCE(DASGUIDE).
- ☐ If you are running MVS Goal Mode), be sure that **%LET GOALMODE=Y;** has been specified in USOURCE(GENGUIDE).
- ☐ Specify **%LET LOVED1 = xxxx** in USOURCE(DASGUIDE), where 'xxxx' is the name of a "loved one" workload.
- ☐ Execute the DASCPE Module of the DASD Component.

☐ If you wish CPExpert to analyze DASD performance from the perspective of critical data sets, take the following steps **BEFORE** your performance data base has been updated:

- ☐ Specify critical data set names and their associated response objectives in USOURCE(DASGUIDE).
- ☐ Execute the DAS1415 Module to extract information from SMF Type 14/15 records.

☐ If you wish CPExpert to analyze DASD performance from the perspective of critical data sets, take the following steps **AFTER** your performance data base has been updated:

- ☐ Make any desired modifications to data set names and their response objectives in USOURCE(DASGUIDE).
- ☐ Specify **%LET DASDSN = Y** in USOURCE(DASGUIDE) to tell CPExpert to perform data set name analysis.
- ☐ Execute the DASCPE Module of the DASD Component.

