

## Section 6: Using the DASD Component

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This section describes how to use the DASD Component to analyze system performance in the areas of DASD performance evaluated by the DASD Component.

As discussed in Section 1, the DASD Component is designed based upon the DASD performance analysis concept of "address the outrageous problems" rather than attempting to identify every potential problem. Most Data Base Administrators will be quite pleased to solve one major DASD problem at a time. Consequently, using the DASD Component involves (1) executing the software, (2) reviewing the output, (3) making system changes or altering the guidance to the DASD Component, and (4) iterating through the process.

This process is described in terms of providing guidance to the DASD Component, actions that should be taken on a daily basis (or more frequently if you wish), and actions that should be taken on a weekly or monthly basis.

### Chapter 1: Prepare guidance for the DASD Component

Use TSO ISPF to change the CPEXPERT.USOURCE(DASGUIDE) PDS member to reflect the guidance required by the DASD Component. Section 3 describes the variables that must be changed in the DASGUIDE PDS member. This step must be taken only when the guidance changes (normally when you wish to select different to analyze, when you wish to exclude additional volumes, or when you wish to redefine workloads).

## Chapter 2: Actions on a daily basis

Use the DASD Component to analyze overall system performance, by following the below steps:

### Step 1: Execute the DASCPE Module

The JCL to execute the DASCPE Module is described in Exhibit 4-1. We suggest that you append the JCL to execute the DASCPE Module to the normal daily update of your performance data base.

### Step 2: Review the output from the DASCPE Module

If any rules were produced, refer to the specific rule in Appendix A for a description of the rule, a discussion of why the rule was produced, and a recommendation for actions that should be taken.

Depending upon the output, you may wish to make changes or wait to see if the problems are identified in an analysis of a subsequent day's data.

- The DASD Component may identify problems which clearly should be solved because their effect is so serious. In many cases, once the problem is identified, users immediately realize that the problem and suggested solutions make sense.
- The DASD Component may identify problems which you do not feel will commonly occur. For example, you may review the "worst performing device" and realize that it is the "worst" only because of an infrequent application scheduling situation. In this case, you may wish to exclude the volume and reprocess the data. (The DASD Component will provide summary information about the next "worst" devices, so you can appreciate whether it is likely that there are other serious problems.)
- The DASD Component may identify problems about which you have doubts. The discussion in Section 5 illustrates the potential problems with the analysis, and the discussion associated with each rule often amplifies the cautions appropriate to the particular analysis. In this case, you probably should take no action but wait to see whether the same problems and analysis recur with subsequent data. If the same problems are identified by the DASD Component after analyzing several day's SMF/RMF data, you can be more confident that SMF/RMF data recording problems play less of a consideration.

## Chapter 3: Actions on a weekly or monthly basis

Review the recommendations produced during the previous week or month. If the same problems consistently occur and CPEXpert makes consistent recommendations, then you should consider action. This deliberate review of the problems and associated recommendations ensures that the problems are continuing and that change is warranted.

**You generally should make only one change at a time!** This sound tuning advice is founded on the principles that:

- Tuning is an art. No one (and certainly not CPEXpert) can guarantee that any particular change will have a beneficial effect in all environments.
- Changes may have unexpected effects. Most systems are complex, parameters may improve performance of one area at the expense of performance in another area, and management may wish resources focused on the second area.
- If you make multiple changes and performance deteriorates, you will be unable to identify easily the change causing the problem. You are then faced with the problem of backing out all of the changes and starting over, one at a time.
- Some changes are not "precise" in that, for example, keyword values might need to be adjusted a little at a time until a suitable value is reached. If multiple changes are made, you will be unable to detect the effect of the fine-tuning of the changes.

Above all, **remember that the recommendations from CPEXpert are simply options** to be considered in the context of overall objectives. You must decide whether the recommendations are reasonable. Rarely should a recommendation be implemented without first evaluating how the recommendation will effect other workloads.

Please remember that CPEXpert is not intended to replace a performance analyst. Rather, CPEXpert was developed to help analyze the performance of MVS systems. CPEXpert automates much of the routine of computer performance evaluation. Performance analysts can then focus on the areas which are not routine and which "require thinking".

With this philosophy, please let us know when you discover areas in which CPEXpert could have helped you analyze a problem. We will improve our product and you will have more help!

This request is particularly applicable to the DASD Component. We could have implemented much additional analysis and many additional options. We decided to wait to see what our users **wanted** and respond to your requirements, rather than trying to "guess" about your DASD analysis needs. However, we are eager to provide additional analysis; let us know what you want!