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United States and Canada

<table>
<thead>
<tr>
<th>Address</th>
<th>Telephone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC SOFTWARE INC</td>
<td>1 713 918 8800</td>
<td>1 713 918 8000</td>
</tr>
<tr>
<td>2101 CITYWEST BLVD</td>
<td>or</td>
<td>or</td>
</tr>
<tr>
<td>HOUSTON TX 77042-2827 USA</td>
<td></td>
<td>1 800 841 2031</td>
</tr>
</tbody>
</table>

Outside United States and Canada

<table>
<thead>
<tr>
<th>Telephone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>+01 713 918 8800</td>
<td>+01 713 918 8000</td>
</tr>
</tbody>
</table>

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Have the following information available so that Customer Support can begin working on your issue immediately:

- Product information
  - Product name
  - Product version (release number)
  - License number and password (trial or permanent)
- Operating system and environment information
  - Machine type
  - Operating system type, version, and service pack or other maintenance level such as PUT or PTF
  - System hardware configuration
  - Serial numbers
  - Related software (database, application, and communication) including type, version, and service pack or maintenance level
- Sequence of events leading to the problem
- Commands and options that you used
- Messages received (and the time and date that you received them)
  - Product error messages
  - Messages from the operating system
  - Messages from related software
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- Send an e-mail message to customer_support@bmc.com. (In the Subject line, enter SupID:yourSupportContractID, such as SupID:12345.)
- In the United States and Canada, call 1 800 537 1813. Outside the United States and Canada, contact your local support center for assistance.
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About this book

This book describes how to complete the installation procedure that you began in the MainView Installation Guide. While the MainView Installation Guide describes how to complete the tasks that pertain to all MainView products, this book addresses those tasks that are unique to the MainView for z/OS product.

This book is intended for the MainView for z/OS product administrator only.

Like most BMC documentation, this book is available in printed and online formats. To request printed books or to view online books and notices (such as release notes and technical bulletins), see the support website at http://www.bmc.com/support.

Note

Online books are formatted as PDF or HTML files. To view, print, or copy PDF books, use the free Adobe Reader from Adobe Systems. If your product installation does not install the reader, you can obtain the reader at http://www.adobe.com.

The software also offers online Help. To access Help, press F1 within any product or click the Help button in graphical user interfaces (GUIs).

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  - Support Central (at http://www.bmc.com/support/mainframe-demonstrations)
MainView for z/OS Customization Guide

— BMC Mainframe YouTube channel (https://www.youtube.com/user/BMCSoftwareMainframe)

- View individual product documents (books and notices) within the “A – Z Supported Product List.”

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---

**Tip**

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---

**Online Help**

The CMF MONITOR product includes online Help. In the CMF MONITOR ISPF interface, access Help by pressing PF1 from any ISPF panel.

To access the Messages & Codes application from any CMF MONITOR panel, type MSG on the COMMAND line.

---

**Conventions**

This document uses the following special conventions:

- All syntax, operating system terms, and literal examples are presented in this typeface.

- Variable text in path names, system messages, or syntax is displayed in italic text:
  testsys/instance/fileNam

- This document uses a symbol to show menu sequences. For example, Actions => Create Test instructs you to choose the Create Test command from the Actions menu.
Migration considerations

This chapter describes the new features in version 3.2.00 of the MainView for z/OS product, and discusses considerations for migrating from version 3.1.00 to version 3.2.00.

Note
If you are migrating from version 3.0.00 or earlier, also see “Migration considerations” in the MainView for z/OS Customization Guide that supports version 3.1.00.

Enhancements

MainView for z/OS now includes the following general enhancements:

- Support for IBM Crypto Express 4S
- Support for Storage Class Memory, also known as flash memory

Support for IBM Crypto Express4S

MainView for z/OS and CMF MONITOR can now:

- Recognize the following Crypto Express4S cryptographic coprocessor types:
  - CEX4A: Cryptographic Express4 accelerator
  - CEX4C: IBM Common Cryptographic Architecture (CCA) coprocessor
  - CEX4P: Public-Key Cryptography Standards (PKCS) #11 coprocessor
- Collect 4096-bit Modulus-Exponent (ME) and Chinese Remainder Theorem (CRT) encryption metrics
The CEX4A, CEX4C, and CEX4P coprocessor types can appear in the CRYPTOG, CRYPTOGL, and CRYPTOZ views. For information about the new CRYPTOGL detail view, see “Cryptographic coprocessor detail view” on page 14.

**Note**
Crypto Express4S is available on IBM zEnterprise EC12 servers.

---

**Support for Storage Class Memory**

MainView *for z/OS* and CMF MONITOR now recognize the Storage Class Memory (SCM) page data set type. In the PGDSTAT, PGDSTATZ, and PGDIINFO views, SCM can now appear as the page data set type.

**Note**
SCM is also known as *flash memory* and is available on IBM zEnterprise EC12 servers.

---

**New views and view containers**

MainView *for z/OS* now includes the following new views and view containers:

- CPU event counter views
- Coupling Facility channel path view
- Cryptographic coprocessor detail view
- Critical resource view container
- Default view container

---

**CPU event counter views**

The system easy menu (EZMSYS) and the MainView *for z/OS* realtime easy menu (EZMZOSR) now include a new item, **CPU Event Counts**, that provides access to the following new views:
The following views are also new:

<table>
<thead>
<tr>
<th>View</th>
<th>Type</th>
<th>Displays CPU event counters for</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPUDATA</td>
<td>Tabular</td>
<td>All logical central processors (LCPs) on a logical partition (LPAR) over the interval</td>
</tr>
<tr>
<td>CPUDATAR</td>
<td>Tabular</td>
<td>All LCPs on an LPAR for the last 15-second sample</td>
</tr>
<tr>
<td>CPUDATAZ</td>
<td>Tabular summary</td>
<td>All LCPs on an LPAR</td>
</tr>
<tr>
<td>CPUDINFO</td>
<td>Detail</td>
<td>A single LCP on an LPAR for a single interval</td>
</tr>
<tr>
<td>CPUDINFR</td>
<td>Detail</td>
<td>A single LCP on an LPAR for the last 15-second sample</td>
</tr>
<tr>
<td>CPUDINFZ</td>
<td>Detail summary</td>
<td>A single LCP on an LPAR</td>
</tr>
</tbody>
</table>

**New large frame area views**

Two new items on the system easy menu (EZMSYS), **Pageable Large Area** and **2G Fixed Area**, provide access to the following new views that provide information about the large frame area (LFAREA):

- **Pageable Large Area** provides access to the PLAREAZ view, a summarized display of pageable large area (PLAREA) settings and usage. This view helps the user and customer support personnel see how much real storage is available and how many 1MB pageable pages are being used.

- **2G Fixed Area** provides access to the TWOGAREZ view, a summarized display of 2GB page area settings and usage. This view helps the user and customer support personnel see how much real storage is available and how many 2GB pages are being used.

**Coupling Facility channel path view**

A channel path data field, **Chp Data**, now appears in the Coupling Facility overview (CFOVER) and Coupling Facility overview summary (CFOVERZ). When the value of the **Chp Data** field is YES, the value is a hyperlink to a new view that displays the status of channels connected to the Coupling Facility, CFCHPID.

In the Coupling Facility detailed information views (CFINFO and CFCINFO), when the number of channel paths is greater than zero, the value is a hyperlink to the CFCHPID view.
Cryptographic coprocessor detail view

CRYPTOGI is a detail view that displays information from hardware counters that track the number of requests arriving at a cryptographic coprocessor; the tracking occurs regardless of the domains with which the requests are associated. The view also displays the elapsed time it takes for the coprocessor to complete the requests.

The processor ID field in the CRYPTOG view is now a hyperlink to the CRYPTOGI view.

For information about MainView for z/OS support for Crypto Express4S, see “Support for IBM Crypto Express4S” on page 11.

Critical resource view container

For MainView for z/OS, MainView Explorer now provides a view container, IPLDATA, that monitors the system resources that can force an IPL to be performed.

For example, the IPLDATA view container shows information about the:

- Address space vector table (ASVT)
- System linkage index (LX)
- Maximum number of permitted common data spaces (MAXCAD)
- Largest available block of common storage area (CSA)
- Largest available block of extended common storage area (ECSA)

You can open the IPLDATA view container from the EZExplorer folder under the Configuration category in MainView Explorer.

For more information about MainView Explorer and how to work with view containers, see the MainView User Guide.

Default view container

In MainView Explorer, the product now provides a default view container, SYSVIEW, that:
- Provides a basic set of system monitoring metrics
  These metrics include system information, system performance, LPAR information, job CPU utilization, job delays, and four-hour rolling averages (4HRAs).

- Demonstrates the benefits of using MainView Explorer view containers
  You can build containers based on your needs by modifying the default system overview container.

You can open the SYSVIEW default view container from the EZExplorer folder under the Configuration category in MainView Explorer.

Figure 1: SYSVIEW view container

For more information about MainView Explorer and how to work with view containers, see the MainView User Guide.

Enhanced views

MainView for z/OS has enhanced the following views:

- Device views
- LPAR Defined Capacity views
- WLM service class views
Device views

MainView for z/OS and CMF MONITOR support the Interrupt-Delay-Time-Facility by showing the interrupt delay time in views that display device information. The interrupt delay time is the average amount of time, in milliseconds per I/O request, that the I/O completion interrupt was delayed because no logical central processor (LCP) was available to accept the interrupt.

An interrupt delay time field now appears in the following MainView for z/OS and CMF MONITOR views:

- CDEV
- CDEVR
- DDJOB
- DDJOBZ
- DEV
- DEVINFLZ
- DEVINFO
- DEVINFOL
- DEVINFOR
- DEVINFOS
- DEVINFOZ
- DEVSTALZ
- DEVSTASZ
- DEVSTAT
- DEVSTATL
- LDEVL
- DEVSTATR
- DEVSTATS
- DEVSTATZ
- DEVZ
- DUJOB
- DUJOBZ
- JDDEV
- JDDEVZ
- LDEV
- LDEVR
- PDEV
- PDEVL
- PDEVR
- SDEV
- SDEVL
Enhanced WLM monitoring

The product now provides more information about the Workload Manager (WLM), including information about LPAR group entitlement and workload promotion.

**LPAR Defined Capacity views**

The following fields now appear in the LPARCAP and LPARCAPZ views:

- **Group Entit** shows the amount of service to which an LPAR is entitled if all LPARs in the group are demanding service that exceeds their share. The amount appears in millions of service units per hour (MSUs/hr).

- **Group Entl%** shows the LPAR's group entitlement as a percentage of the total group capacity.

Values appear in these fields only if the LPAR belongs to a group that has a defined group MSU limit.

**WLM service class views**

Table 1 on page 17 lists new fields that now appear in the WMSCLS and WMSCLSR views. These fields show the amount of CPU time, in seconds, that dispatching priority for workloads was temporarily increased.

**Table 1: New WLM service class view fields**

<table>
<thead>
<tr>
<th>Field</th>
<th>Reason dispatching priority was temporarily increased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promoted Blkql</td>
<td>To relieve a blocked workload with a lower dispatching priority</td>
</tr>
<tr>
<td>Promoted Enque</td>
<td>Due to enqueue conflict; the workload used a resource that another workload needed</td>
</tr>
<tr>
<td>Promoted Rsrce</td>
<td>Due to resource contention; the workload used a resource that another workload needed</td>
</tr>
<tr>
<td>Promoted Lock</td>
<td>To reduce lock hold time due to a suspended system</td>
</tr>
<tr>
<td>Promoted Spvsr</td>
<td>Due to variable promotion dispatching; the IBM z/OS supervisor promoted the work unit</td>
</tr>
</tbody>
</table>
Job-related views

The program name of the primary job step task in the address space now appears in the following views:

- JSTAT: Appears as the **Job Step PGM Name** field
- JOVER: Appears as the **Job Step PGM Name** field
- JINFO: Appears as the **JS PGM Name** field
- JSOVER: Appears as the **Program Name** field

**Note**
For address spaces started by internal system functions, no value appears in the field.
For jobs or steps started before the MainView for z/OS address space, the value of the field is not available (N/A).

In addition to the job name, the program name can help you determine what the job is actually doing. In the MVSCOPE facility, knowing the program name can help you improve selection criteria for job monitoring.

Considerations for customized views

Before migrating to a new product version, you should review any customized views. Previous view customizations do not appear in the new version. Also, attempting to display a customized view based on a previous product release can cause errors.

You have two alternatives if you have customized views:

- Recustomize the views after migrating. (This method is the preferred alternative, but it is not always practical.)

- Change the hyperlinks within the product-distributed views to remove the word FORM from the hyperlink. You can perform this procedure before or after migrating. This procedure should enable most user views to work, but it will refresh the data when you hyperlink.
# Menu changes

This release includes the following changes to menus:

<table>
<thead>
<tr>
<th>Menu</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESMSYS</td>
<td>A new item, CPU Event Counts, provides access to new views that display information about Warning Track Interrupt (WTI) and Signal Processor (SIGP) events. For more information about these views, see “CPU event counter views” on page 12.</td>
</tr>
<tr>
<td>EZMZOSR</td>
<td></td>
</tr>
</tbody>
</table>
Completing post-installation customization tasks

This topic describes how to complete the manual customization process that you began in the MainView Customization Reference.

**Note**
Complete these tasks even if you have already customized CMF MONITOR. Even though a task might appear similar to a task in the CMF MONITOR customization procedure, the members and screens that you copy are different.

The following customization tasks are *required*:

- “Creating the z/OS PAS startup procedure” on page 22
  If you used the Installation System to configure MainView for z/OS, you have already completed this task and can skip it.

- “Copying Exception Monitor members” on page 33

- “Specifying the Extractor operating environment” on page 34

The following customization tasks are *optional*:

- “Enabling CSMON data collection (optional)” on page 35

- “Copying sample screen definitions (optional)” on page 35

- “Copying optional members into UBBPARM (optional)” on page 35

- “Authorizing SYSPROG Services in TSO line mode (optional)” on page 36

- “Controlling job step data collection (optional)” on page 37

- “Setting up long-term history data collection (optional)” on page 37
  If you used the Installation System to configure MainView for z/OS, you have already completed this task and can skip it.
Creating the z/OS PAS startup procedure

Note
If you used the Installation System to configure MainView for z/OS, you have already completed the tasks in this section and can skip them.

If you are customizing any of the parameters, review this section and use the information shown in the following figures:

- Figure 2 on page 24
- Figure 4 on page 25
- Figure 6 on page 26
- Figure 8 on page 28

To start the z/OS PAS, you must create a procedure in your system PROCLIB and execute the procedure under the following circumstances:

- There should be one z/OS PAS executing per z/OS image.
- The recommended dispatching priority of the z/OS PAS is 255.

This section creates a procedure for starting the z/OS PAS, which is used by both MainView for z/OS and CMF MONITOR, and provides instructions for defining the z/OS PAS to start during IPL.

Required SSID parameter

When creating the PAS procedure, you must define the same subsystem name in the SSID subparameter as defined for the CAS in the CAS procedure. For more information, see the Installation System Reference Manual. The SSID value is used by the PAS during initialization to identify the CAS to which it is to connect.
To create the z/OS PAS procedure

1 Copy BBILIB member BBMPAS, shown in “Sample instructions” on page 23, to SYS1.PROCLIB or to another system procedure library.

2 Follow the instructions at the top of the member to modify the procedure for your site requirements.

   **Note**
   If the IBM z/OS LONGPARM binder option is enabled, the MainView for z/OS PAS supports using the PARMDD JCL parameter to specify parameter strings up to 997 characters.

   For an explanation of the DD statements, see the table in “Understanding the z/OS PAS JCL statements” on page 29 that lists and describes Extractor JCL statements and parameters; for an explanation of the PROC statement parameters, see the figure that is part 2 of the example of the instructions in BBLIB member BBMPAS in “Sample instructions” on page 23.

3 *(optional)* Add the following START command to member COMMNDxx to define the z/OS PAS to your IPL procedure, so that the PAS starts at system initialization:

   \[
   \text{COM}='S \ procName
   \]

   In this command, \textit{procName} is the name of the z/OS PAS Started Task procedure.

   BMC Software recommends that you modify SYS1.PARMLIB member COMMNDxx to define the z/OS PAS to initialize at IPL. The COMMNDxx member contains z/OS commands that are issued by the master scheduler upon system initialization.

   **Note**
   Commands are issued in the order in which they appear in COMMNDxx. The z/OS PAS START command must occur after the CAS START command. See the \textit{Installation System Reference Manual} for more information about defining the CAS proc.

   If you do not define the z/OS PAS to start at IPL, see the \textit{MainView Administration Guide} for instructions about manually issuing a START command for the PAS.

Sample instructions

This section contains examples of the instructions in the BBILIB member BBMPAS.
Figure 2: Example of the instructions in BBILIB member BBMPAS (part 1 of 4)

```c
/*-------MVS PRODUCT ADDRESS SPACE (PAS) STARTED TASK PROCEDURE--------
// FMID=ZBBA220
// APAR=BAAL613
/*
/* INSTRUCTIONS: */
/* - CHANGE ?BBCHILV TO THE HIGH-LEVEL QUALIFIER OF THE */
/* PRODUCT LIBRARIES. */
/* - CHANGE ?BAVSHLQ TO THE HIGH-LEVEL QUALIFIER ASSIGNED TO */
/* VSAM DATA SETS (THE DATA SETS DEFINED BY THE PARMFILE */
/* AND HISTDSXX DDNAMES). */
/* - IF BBLINK IS NOT IN THE LINK-LIST CONCATENATION THEN CHANGE */
/* ?BBLINK TO THE HIGH-LEVEL QUALIFIER ASSIGNED TO THE BBLINK */
/* DATA SET. OTHERWISE DELETE THE //STEPLIB DD AND */
/* //BBLINK='?BBLINK' DD STATEMENTS. */
/* - IF THE PRODUCTS THAT YOU ARE RUNNING DO NOT USE THE BMC PRODUCT */
/* AUTHORIZATION FACILITY THEN DELETE THE //BMCPSWD DD STATEMENT. */
/* OTHERWISE CHANGE ?PSWDDSN TO THE NAME OF THE BMC PRODUCT */
/* AUTHORIZATION (PASSWORD) DATA SET. */
/* - IF SAF SECURITY IS NOT USED IN THIS ENVIRONMENT THEN DELETE */
/* THE //BBSECURE DD STATEMENT. OTHERWISE CHANGE ?BBSECUR TO THE */
/* NAME THAT YOU ASSIGNED TO THE BBSECURE DATA SET. */
/* - CHANGE ?BBSYSOUT TO AN ACCEPTABLE SYSOUT CLASS FOR STARTED */
/* TASKS. */
/* - CHANGE ?UBBPARM TO THE NAME YOU ASSIGNED TO THE USER */
/* PARAMETER LIBRARY DEFINED BY THE PARMLIB DD STATEMENT. */
/* - CHANGE ?SSID TO THE NAME YOU ASSIGNED TO THE CAS THAT THIS */
/* PRODUCT ADDRESS SPACE IS TO CONNECT TO. FOR MORE INFORMATION, */
/* PLEASE REFER TO THE DESCRIPTION OF SSID IN THE PARAMETER */
/* NOTES BELOW. */
/* - IF YOU HAVE NOT ALLOCATED ANY HISTORICAL DATA SETS, DELETE */
/* THE HISTDSXX DD STATEMENTS. */

Figure 3: Example of the instructions in BBILIB member BBMPAS (part 1 of 4, continued)

```c
/* LEAVE THE SYSID= PARAMETER BLANK. THE SYSID IS USED TO SEGREGATE */
/* DATA SETS THAT CANNOT BE SHARED BETWEEN MVS IMAGES. THE SYSID IS */
/* USED AS PART OF THE DATA SET QUALIFIER FOR THESE DATA SETS. WHEN */
/* THIS PARAMETER IS LEFT BLANK, THE SYSID MUST BE SPECIFIED AS PART */
/* OF THE MVS START COMMAND. */
/* */
/* *WARNING* IF YOU SPECIFY A SYSID IN THIS PROC, MAKE CERTAIN THAT */
/* THIS PROC IS STARTED ONLY ON THE MVS IMAGE WITH A */
/* MATCHING SYSID. */
/* */
/* - PUT AN ENTRY IN THE CHANGE LOG BELOW TO INDICATE WHEN THIS MEMBER */
/* WAS ALTERED. */
/* */
/* SAVE THIS MEMBER IN A PROCLIB AND CONTINUE ON TO THE NEXT STEP. */
/* */
/* END OF INSTRUCTIONS. */
/* ============================================================== */
```
Figure 4: Example of the instructions in BBILIB member BBMPAS (part 2 of 4)
//BMCPSWD DD DISP=SHR, DSN=&PSWDDSN

Figure 5: Example of the instructions in BBILIB member BBMPAS (part 2 of 4, continued)

/* VIEW DEFINITIONS. */
/* BBVDEF DD DISP=SHR, DSN=&BBCHILV..BBVDEF */
/* ACTION DEFINITION TABLES. */
/* BBACTDEF DD DISP=SHR, DSN=&BBCHILV..BBACTDEF */
/* HISTORICAL PROCESSING AND WORKLOAD CONFIGURATION DEFINITIONS. */
/* PARMFILE DD DISP=SHR, DSN=&BAVSHLQ..&SYSID..PARMFILE */
/* HISTORY DATA SETS. */
/* * - THESE DATA SET DEFINITIONS MAY BE DELETED IF YOU HAVE NOT */
/* * DEFINED THEM IN A PREVIOUS STEP. */
/* HISTDS00 DD DISP=SHR, DSN=&BAVSHLQ..&SYSID..HISTDS00 */
/* HISTDS01 DD DISP=SHR, DSN=&BAVSHLQ..&SYSID..HISTDS01 */
/* HISTDS02 DD DISP=SHR, DSN=&BAVSHLQ..&SYSID..HISTDS02 */
/* HST1DS00 DD DISP=SHR, DSN=&BAVSHLQ..&SYSID..HST1DS00 */
/* HST1DS01 DD DISP=SHR, DSN=&BAVSHLQ..&SYSID..HST1DS01 */
/* HST1DS02 DD DISP=SHR, DSN=&BAVSHLQ..&SYSID..HST1DS02 */
/* HST2DS00 DD DISP=SHR, DSN=&BAVSHLQ..&SYSID..HST2DS00 */
/* HST2DS01 DD DISP=SHR, DSN=&BAVSHLQ..&SYSID..HST2DS01 */
/* HST2DS02 DD DISP=SHR, DSN=&BAVSHLQ..&SYSID..HST2DS02 */

Figure 6: Example of the instructions in BBILIB member BBMPAS (part 3 of 4)

/* Parameter Notes: */
/* */
/* SSID - XXXX (THIS PARAMETER HAS NO DEFAULT VALUE) */
/* */
/* SPECIFIES THE SUBSYSTEM ID USED TO IDENTIFY THE MainView */
/* COORDINATING ADDRESS SPACE (CAS). THIS PAS USES THE SSID */
/* PARAMETER TO CONNECT TO THE CORRECT CAS, SO THE SAME VALUE */
/* MUST BE SPECIFIED BOTH FOR THIS SSID PARAMETER AND FOR THE */
/* CAS SSID PARAMETER. */
/* */
/* XDM - N|Y (THE DEFAULT IS XDM=N) */
/* */
/* SPECIFIES WHETHER OR NOT THE PAS IS TO EXECUTE IN */
/* EXTENDED DIAGNOSTIC MODE. */
/* */
/* DIAGNOSTIC MODE WILL CAUSE A NUMBER OF ADDITIONAL */
/* MESSAGES TO BE GENERATED AND IS NOT RECOMMENDED FOR */
/* NORMAL OPERATION. */
/* */
/* DC - START|STOP|CPM|IPM (THE DEFAULT IS DC=START) */
/* */
/* Indicates whether or not the normal Data Collectors should */
/* be started. CPM and IPM are used to indicate that the */
/* Data Collectors are to be started using the associated */
/* CMF MONITOR CPM or IPM Extractor session. START will */
/* use the CMF MONITOR CPM session. */
/* */
/* Note: This parameter does not control the CMF Extractor. */
/* */
/* STDC XX|STOP (The default is STDC=STOP) */
Specifies the suffix of the BBDTStxx PARMLIB member used to start the Short-term Data Collectors. The normal Data Collectors must also be started, e.g., DC=START.

Note: This parameter is only available as a JCL PARM specification in MainView for z/OS 3.1 and above or CMF CMF MONITOR 5.9 and above.

CASHWAIT - nnnn (The default is CASHWAIT=10)

Specifies the number of minutes that Data Collector initialization will wait for the Coordinating Address Space (CAS) to become ready. A value of zero (0) will result in no wait.

This applies to both the initial start of the Data Collectors and subsequent restart of them, i.e., DC=STOP followed by a DC=START. If the CAS is stopped and restarted without a DC=STOP/START, a non-zero value will result in an automatic retry of the PAS connection to the CAS for the CASHWAIT specified number of minutes.

This value can be altered at any time via a MODIFY command.

TZOVRLAP=RECORD|DISCARD (The default is TZOVRLAP=RECORD)

Specifies the the recording of CMF SMF records when the Time Zone offset is changed and there is an overlap in the local time.

RECORD will cause all output records to be written, which will result in two sets of interval records covering one hour when the Time Zone offset is changed backwards (i.e., an hour earlier). DISCARD causes the discarding of the CMF SMF records for the intervals following the change that overlap the previously recorded intervals.

This parameter is applicable only to CMF MONITOR CPM and IPM Sessions that are writing SMF records (either to SMF or the CMFPCPx or CMFIPMx DDs). It is otherwise ignored.

This value can be altered at any time via a MODIFY command.

CPM - XX (THE DEFAULT IS CPM=00)

SPECIFIES THE SUFFIX OF THE CMFPCPMXX Control STATEMENT MEMBER YOU WANT THE CMF EXTRACTOR TO USE.

CMF Control STATEMENT MEMBERS ARE STORED IN THE PARAMETER LIBRARY ALLOCATED BY THE DDNAME PARMLIB. A SAMPLE SET OF Control STATEMENTS FOR THE CMF EXTRACTOR SAMPLERS COMMONLY USED IN CPM MODE IS LOCATED IN THE CMFPCPM00 MEMBER OF THE \ HILEVEL.BBPARM LIBRARY.

IPM - XX|STOP (THE DEFAULT IS IPM=STOP)

SPECIFIES THE SUFFIX OF THE CMFIPMXX Control STATEMENT MEMBER YOU WANT THE CMF EXTRACTOR TO USE WHEN RUNNING IN IPM MODE. CHANGE THIS TO THE IPM MEMBER THAT YOU WANT TO START. IF NO IPM MEMBER IS TO BE USED, THE VALUE OF THIS PARAMETER SHOULD REMAIN IPM=STOP (THE DEFAULT VALUE).
CMF Control STATEMENT MEMBERS ARE STORED IN THE PARAMETER * LIBRARY ALLOCATED BY THE DDNAME PARMLIB. A SAMPLE SET OF * Control STATEMENTS FOR THE CMF EXTRACTOR SAMPLERS COMMONLY * USED IN IPM MODE IS LOCATED IN THE CMFIPMDD0 MEMBER OF THE * HILEVEL.BBPARM LIBRARY.

XDS - XX|STOP (THE DEFAULT IS XDS=00)

Figure 8: Example of the instructions in BBILIB member BBMPAS (part 4 of 4)

SPECIFIES THE SUFFIX OF THE CMFXDSXX Control STATEMENT MEMBER YOU WANT THE CMF MONITOR TO USE WHEN STARTING
THE CMF CROSS-SYSTEM DATA SERVER FACILITY (XDS). TO START XDS, CHANGE THIS TO THE XDS MEMBER THAT YOU WANT
TO START.

IF XDS IS NOT DESIRED, THE VALUE OF THIS PARAMETER MAY BE SET TO XDS=STOP.

AS SHIPPED, THE DEFAULT OF XDS=00 CAUSES THE CX10XDGS API TO BE AVAILABLE, BUT DOES NOT BUFFER ANY SMF
RECORDS FOR THE CX10XDQY/CX10XDRC APIS TO ACCESS.

THIS VALUE MAY BE CHANGED AT RUNTIME VIA THE MVS MODIFY(F) COMMAND. E.G. 'F MVSPAS,XDS=01'

XDS Control STATEMENT MEMBERS ARE STORED IN THE PARAMETER LIBRARY ALLOCATED TO THE DDNAME PARMLIB. A COMMENTED SET
OF XDS Control STATEMENTS IS LOCATED IN THE CMFXDS01 MEMBER OF THE HILEVEL.BBPARM LIBRARY.

EM - XX (THE DEFAULT IS EM=00)

SPECIFIES THE SUFFIX OF THE PWSCPMXX Control STATEMENT MEMBER YOU WANT THE EXCEPTION MONITOR TO USE.

Note: this parameter is only used by MainView for z/OS. If MainView for z/OS is not installed, this parameter is ignored.

CXEN - Y|N (THE DEFAULT IS CXEN=Y)

Specifies if the EXTRACTOR IS TO ISSUE AN ENQUEUE PREVENTING ANOTHER EXTRACTOR FROM RUNNING.

USEZIIP - Y|N (The default is USEZIIP=Y)

Specifies if eligible CPU processing should be offloaded to zIIP(s) if active zIIP(s) are on the system or PROJECTCPU has been specified in IEAOPTxx.

Note: This parameter is only used by MainView for z/OS 2.9 and above, CMF 5.7 and above, or MainView SYSPROG Services 3.5 and above. If none of these products are installed, this parameter is ignored.

OMVSLSIM - mnnn (The default is OMVSLSIM=1000)

OMVSLSIM specifies the number of short running OMVS forked address spaces that can occur in a single interval before Address
Understanding the z/OS PAS JCL statements

The following table provides a description of the z/OS PAS proc statement, the PAS EXEC statement, and the Extractor DD statements that are shown in Figure 4 on page 25.

Table 2: Extractor JCL statements and parameters

<table>
<thead>
<tr>
<th>JCL statement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>//MVSPAS PROC</td>
<td>specifies symbolic parameters for the z/OS PAS proc</td>
</tr>
<tr>
<td></td>
<td>For a detailed explanation of each parameter, see the MainView Customization Reference.</td>
</tr>
<tr>
<td>JCL statement</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>//PAS EXEC</td>
<td>specifies the program name (PGM=BBM9DA00)&lt;br&gt;A TIME parameter should be large enough to prevent the possibility of a timeout (use TIME=1440, if allowed).&lt;br&gt;The PARM subparameters are all symbolic and use the same values that are defined for the corresponding parameter in the proc statement. For a detailed explanation of each of these parameters, see the MainView Customization Reference.&lt;br&gt;The REGION parameter is symbolic and uses the same value that is defined for the corresponding RGN parameter in the proc statement. (See Figure 4 on page 25 for more information.)</td>
</tr>
<tr>
<td>//STEPLIB DD</td>
<td>defines a partitioned data set that contains the Extractor load modules&lt;br&gt;The partitioned data set must be an authorized library, such as hilevel.BBLINK.&lt;br&gt;This statement should be deleted if BBLINK was added to your system link list. (See the MainView Customization Reference.)</td>
</tr>
<tr>
<td>//CMFCPMxx DD</td>
<td>specifies one or more data sets where the Extractor records data that was collected by the CPM submonitor&lt;br&gt;Do not define this statement if you are recording CPM data to SMF or if you are specifying the data set names on the REPORT Extractor control statement.&lt;br&gt;To manually customize the CMFCPMxx DD statements to point to your CPM data sets, remove the DUMMY parameter and specify the following statement for each data set that you want to be dynamically allocated during Extractor initialization:&lt;br&gt;//CMFCPMxx DD DISP=SHR,DSN=&amp;BAVSHLQ..&amp;SYSID..CMFCPMxx&lt;br&gt;In this statement, xx is a unique value for the allocated data set.&lt;br&gt;The //CMFCPMxx DD statements can be defined to write simultaneously to the same data sets as the //CMFIPMxx DD statements. If you used the Installation System to configure MainView for z/OS, these statements are defined dynamically, if required.&lt;br&gt;Specifying alternative data sets is optional; however, alternative data-set support is provided only if alternative data is specified.&lt;br&gt;See the CMF MONITOR Customization Guide for more information about the CPM submonitor, allocating CPM data sets, and alternative data set support. See the CMF MONITOR Batch User Guide and Reference for more information about the REPORT Extractor control statement.</td>
</tr>
<tr>
<td>JCL statement</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>//CMFIPMxx DD</td>
<td>specifies one or more data sets where the Extractor records data that was collected by the IPM submonitor. Do not define this statement if you are recording IPM data to SMF or if you are specifying the data set names on the REPORT Extractor control statement. To manually customize the CMFIPMxx DD statements to point to your IPM data sets, remove the DUMMY parameter and specify the following statement for each data set that you want dynamically allocated during Extractor initialization: //CMFIPMxx DD DISP=SHR,DSN=&amp;BAVSHLQ..&amp;SYSID..CMFIPMxx In this statement, xx is a unique value for the allocated data set. The //CMFIPMxx DD statements can be defined to write simultaneously to the same data sets as the //CMFCPMxx DD statements. If you used the Installation System to configure MainView for z/OS, these statements are defined dynamically. Specifying alternative data sets is optional; however, alternative data-set support is provided only if alternative data is specified. See the CMF MONITOR Customization Guide for more information about the IPM submonitor, allocating IPM data sets, and alternative data set support. See the CMF MONITOR Batch User Guide and Reference for more information about the REPORT Extractor control statement.</td>
</tr>
<tr>
<td>//CMFDUMP DD</td>
<td>defines a print data set for snapshot dumps When a program fails in CMF MONITOR, the abend is intercepted by an ESTAE routine and a formatted dump of the failing component is printed.</td>
</tr>
<tr>
<td>//CMFLOG DD</td>
<td>defines an optional file that can be used to direct the CMF MONITOR Control Card Log to an alternative data set The data set for the Control Card Log is dynamically allocated and deallocated as needed when no //CMFLOG DD statement is present. The CMFLOG data set allows for immediate inspection of messages, regardless of how long an Extractor job runs. Dynamic allocation is performed based on the MSGCLASS parameter on the JOB statement for batch jobs or on CLASS A for Started Tasks.</td>
</tr>
<tr>
<td>//CMFMSG DD</td>
<td>defines a print data set that contains non-initialization messages for the system The //CMFMSG DD data set is dynamically allocated to SYSOUT CLASS A when no DD statement is present. To print this data set, issue a MSGFREE command by using the MVS MODIFY command. The data set is dynamically deallocated and printed, and a new allocation occurs immediately.</td>
</tr>
<tr>
<td>//PARMLIB DD</td>
<td>defines a partitioned data set that contains control statement members that are read by the Extractor The PARMLIB data set must be a fixed-block data set with a logical record length of 80, such as hilevel.UBBPARM.</td>
</tr>
<tr>
<td>JCL statement</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>//BBSECURE DD</td>
<td>is a required statement only if you want to use the security views, SERDEF, SERDEFD, and SERDEFL, to define security parameter definitions for CMF MONITOR and/or MainView for z/OS security resource calls. If specified, the data set name that is defined to the CAS proc BBSECURE statement must also be defined to the PAS proc BBSECURE statement. See the MainView Customization Reference for information about creating the security data set. BMC Software recommends that you define a BBSECURE data set to the PAS proc; otherwise, your system must run with the default security calls that are made for CMF MONITOR or MainView for z/OS. If you do not define a BBSECURE data set, you must either remove or comment out this statement from the PAS proc. An error results when the BBSECURE DD is present and there is no data set allocated. The security resource definitions in the BBSECURE data set are used by the CAS and PAS to determine whether security checking should occur for system, product, view, or action access. Defining a BBSECURE data set is only one part of setting up security to function with your external security manager; see the MainView Customization Reference for more information about customizing security.</td>
</tr>
<tr>
<td>//BBVDEF DD</td>
<td>defines the view library containing all default views for CMF MONITOR or MainView for z/OS. See the MainView Customization Reference for more information about this DD statement.</td>
</tr>
<tr>
<td>//BBACTDEF DD</td>
<td>defines the library containing all action and view tables for CMF MONITOR or MainView for z/OS.</td>
</tr>
<tr>
<td>//PARMFILE DD</td>
<td>defines a VSAM data set that contains:</td>
</tr>
<tr>
<td></td>
<td>■ data set names for historical data sets, as defined by means of the DSLIST view. For more information, see the CMF MONITOR Online User Guide.</td>
</tr>
<tr>
<td></td>
<td>■ user-defined workload definitions created through MainView for z/OS by means of the WKLST view.</td>
</tr>
<tr>
<td></td>
<td>This data set is allocated and initially loaded during the customization process.</td>
</tr>
<tr>
<td>//HISTDS00 DD //</td>
<td>defines up to 100 VSAM data sets that make up the regular historical database.</td>
</tr>
<tr>
<td>HISTDS01 DD //</td>
<td>Refer to the MainView Customization Reference for information about defining HISTDSnn DD statements. The regular historical database is used for historical data support. See the MainView Customization Reference for information about maintaining these data sets.</td>
</tr>
<tr>
<td>HISTDS02 DD</td>
<td></td>
</tr>
</tbody>
</table>
Copying Exception Monitor members

In this section, you submit a job that copies default control statement members for the Exception Monitor from `hilevel.BBSAMP` to your own `hilevel.UBBPARM` library.

Subsequently, all modifications should be made in UBBPARM, leaving the originals untouched in BBSAMP.

**Note**
For more information about the Exception Monitor and control statement members, see “Setting up the Exception Monitor” on page 45 and “Maintaining the Exception Monitor” on page 107.

To copy the default Exception Monitor members

1. Copy `hilevel.BBSAMP` member `MMRCOPYP` to your private JCL library. `MMRCOPYP` is the JCL that copies the control statement members from `hilevel.BBSAMP` to `hilevel.UBBPARM`.

2. Modify the JCL by following the directions at the top of the member.

3. Submit the JCL.

<table>
<thead>
<tr>
<th>JCL statement</th>
<th>Description</th>
</tr>
</thead>
</table>
| //HST1DS00 DD //HST1DS01 DD //HST1DS02 DD | defines up to 100 VSAM data sets that make up the long-term historical database whose records can be displayed in the views listed on the LONGTERM view  
HST1DSnn DD statements are defined and maintained in the same way as HISTDSnn DD statements. |
| //HST2DS00 DD //HST2DS01 DD //HST2DS02 DD | defines up to 100 VSAM data sets that make up the short-term historical database whose records can be displayed in the views listed on the SHORTTERM view  
HST2DS nn DD statements are defined and maintained in the same way as HISTDS nn DD statements. |
You must specify the correct Extractor operating environment for the combination of BMC Software products that you have installed on your system.

In this section, you select a sample member containing the minimum set of Extractor control statements for the combination of products at your site.

The following BMC Software products use the Extractor:

- MainView for z/OS
- CMF MONITOR

**Note**
If you are customizing CMF MONITOR and will not be recording Extractor data to SMF data sets, you must also

- allocate CPM output data sets
- optionally, allocate IPM output data sets

Consult the CMF MONITOR documentation for additional information about CPM and IPM. (CPM and IPM data sets are not required for MainView for z/OS.)

Each product or combination of products requires specific Extractor control statements to collect the necessary data for product views, screens, and reports. Samples of the different Extractor control statement sets for each product combination are shipped in BBPARM.

**To specify Extractor operating environment for your BMC Software product combination**

1. Create two members in *hilevel/UBBPARM*, with the names CMFCPM00 and CMFIPM00.

2. In **Table 3 on page 35**, note the BBPARM member name in the row that contains plus symbols (+) for your combination of Extractor products.

3. Copy the correct sample member from BBPARM to the CMFCPM00 member in *hilevel/UBBPARM*.
Table 3: Sample members to copy into CMFCPM00

<table>
<thead>
<tr>
<th>If you are customizing CMF MONITOR MainView for z/OS</th>
<th>Copy BBPARM member</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>CXACC</td>
</tr>
<tr>
<td>+</td>
<td>CXACCR</td>
</tr>
<tr>
<td>+</td>
<td>CXACR</td>
</tr>
</tbody>
</table>

Enabling CSMON data collection *(optional)*

**Note**
The COMMON STORAGE MONITOR uses IBM VSM tracking data, so it is necessary to enable VSM storage tracking to use this feature.

To enable VSM storage tracking, add the following statement to SYS1.PARMLIB(DIAGxx):

```
VSM TRACK CSA(ON) SQA(ON)
```

Copying sample screen definitions *(optional)*

1. Copy `hilevel.BBSAMP` member MMRCOPYS to your private JCL library. MMRCOPYS is the JCL that copies the screen definitions from `hilevel.BBSAMP` to `hilevel.SBBSDEF`.

2. Modify the JCL by following the directions at the top of the member.

3. Submit the JCL.

Copying optional members into UBBPARM *(optional)*

Optional PARMLIB members, BBDTMSDP and BBDTQRJ0, can be copied into your UBBPARM:
The BBDTMSDP member is used to specify and define MVScope default sampling parameters for all monitoring sessions.

The BBDTQRJ0 member works in conjunction with the JESTATR view to monitor a list of jobs that are required to be executing.

This section tells you how to copy the sample PARMLIB members BBDTMSDP and BBDTQRJ0 from hilevel.BBPARM to your hilevel.UBBPARM library. Subsequently, all modifications should be made in UBBPARM, leaving the distributed BBPARM untouched.

Note
For more information about the BBDTMSDP PARMLIB member, refer to Chapter 11, "The MVScope facility" in the MainView for z/OS User Guide and Reference.

To copy the default BBDTMSDP and BBDTQRJ0 PARMLIB members

1. Copy hilevel.BBPARM member MMRCOPYQ to your private JCL library. MMRCOPYQ is the JCL that copies the optional BBDTMSDP and BBDTQRJ0 members from hilevel.BBPARM to hilevel.UBBPARM.

2. Modify the JCL by following the directions at the top of the member.

3. Submit the JCL.

Authorizing SYSPROG Services in TSO line mode (optional)

1. Copy the member SYSPROG from the BBSAMP library to the CLIST library that is available to TSO users.

2. Update the CLIST member to add the hilevel qualifier.

3. Add SYSPROG to the AUTHPGM list and the AUTHCMD list in SYS1.PARMLIB(IKJTSO.xx).

4. You can now invoke SYSPROG services by typing TSO SYSPROG on the COMMAND line.
Controlling job step data collection (optional)

In MainView for z/OS, you can use the job step data collector and PARMLIB member BBDJST00 to collect and report job step-level data for specified jobs or job steps.

In addition, you can activate Batch Optimizer support in the MainView for z/OS product. PARMLIB member BBDJST00 controls the specific jobs or job steps to be monitored. It is available only in MainView for z/OS.

This section copies sample PARMLIB member BBDJST00 from hilevel.BBSAMP to your hilevel.UBBPARM library. Subsequently, all modifications should be made in UBBPARM, leaving the originals in BBSAMP untouched.

Note
For more information about the Exception Monitor and control statement members, refer to Chapter 5, "Controlling job step data collection" in the MainView for z/OS User Guide and Reference.

To copy the default BBDJST00 PARMLIB member

1 Copy hilevel.BBSAMP member MMRCOPYJ to your private JCL library. MMRCOPYJ is the JCL that copies the PARMLIB member from hilevel.BBSAMP to hilevel.UBBPARM.

2 Modify the JCL by following the directions at the top of the member.

3 Submit the JCL.

Setting up long-term history data collection (optional)

In MainView for z/OS, you can set up a second set of interval recorder files for long-term history data, which is collected less frequently than the regular history data. (The typical interval for regular history collection is every 15 minutes.)

The data that is written to the long-term history files consists of job, device, and system data records only. Long-term history files are smaller in number and size than regular history records. Therefore, you should be able to retain them much longer for online and batch viewing and reporting.

You can synchronize the long-term history data collection with the regular history data collection.
You can view long-term history data by choosing the **Long Term Data** option on the MainView EZMZOS menu. In addition, to display all available long-term views, enter **LONGTERM** on the **COMMAND** line.

**Note**
If you used the Installation System to configure MainView for z/OS, you have already completed this task and can skip it.

---

**To set up long-term history data collection**

1. From the BBPARM data set, copy the BBDTLTxx member to UBBPARM, where *xx* is defined by the LTDC=*xx* parameter in the PAS JCL PARM field.

   **Note**
   If the LTDC=*xx* parameter is not defined, the default name for this member is BBDTLTDC.

2. In the control statements for long-term data collection in the copied member (shown in Figure 10 on page 38), change the **ENABLED** value to **YES**.

   **Figure 10: Control statements for long-term data collection**
   ```xml
   <LONG_TERM_DATA_COLLECTION>
   <ENABLED>NO</ENABLED>
   <INTERVAL_LENGTH>4X</INTERVAL_LENGTH>
   <INTERVAL_SYNCH>NO</INTERVAL_SYNCH>
   <DATA_COLLECTORS>
   <CLASS>ADDRESS SPACE</CLASS>
   <CLASS>DEVICE</CLASS>
   <CLASS>SYSTEM</CLASS>
   <CLASS>WAIT USE</CLASS>
   </DATA_COLLECTORS>
   </LONG_TERM_DATA_COLLECTION>
   ```

3. *(optional)* If you want to change the default long-term data collection interval, change the numeral in the **INTERVAL_LENGTH** value.

   The default, 4X, means that the long-term interval consists of four regular intervals. With the typical regular interval of 15 minutes, 4X means long-term data is collected every 60 minutes.
MainView for z/OS synchronizes the regular data-collection interval with the CMF MONITOR Extractor (defined in the Extractor 'REPORT' control statement).

Follow these guidelines when setting the **INTERVAL_LENGTH** value:

- The long-term data collection interval cannot be less than 15 minutes or more than six hours. If you specify an **INTERVAL_LENGTH** value that would result in a long-term interval that is too short or too long, the minimum or maximum value is used, instead.
  
  For example, if the interval defined in the CMF MONITOR Extractor ‘REPORT’ control statement is two minutes, the **INTERVAL_LENGTH** value must be at least 8X.

- If you want the long-term and regular intervals to be the same, and the regular interval is at least 15 minutes and not longer than six hours, set the **INTERVAL_LENGTH** value to 1X.

4 (optional) If you want to synchronize the long-term interval with the regular interval, change the **INTERVAL_SYNCH** value to **YES**.

Synchronizing the long-term interval with the regular interval allows you to compare data from multiple systems over the same time frames.

Follow these guidelines when setting the **INTERVAL_SYNCH** value:

- The long-term interval cannot be longer than one hour.

- The long-term interval must divide evenly into one hour.
  
  For example, a 5-minute regular interval with a 4X **INTERVAL_LENGTH** is valid because a 20-minute long-term interval divides evenly into 60 minutes. However, a 5-minute regular interval with a 5X **INTERVAL_LENGTH** is not valid because 60 minutes divided by 25 minutes equals 2.4 (not a whole integer).

If the **INTERVAL_LENGTH** value is **YES** when the PAS starts, the first long-term interval is a partial interval. It consists of fewer than the specified number of regular intervals. Subsequent intervals consist of the specified number of regular intervals, and long-term history data collection is synchronized with regular history data collection.

5 Define and initialize a second set of interval recorder files for long-term history data.

Use the same process that you use to create and initialize regular history data sets, but begin the DDnames with HST1 instead of HIST.
For more information about defining the new HST1 files, see:

- *MainView Administration Guide* (the section that discusses historical data sets)
- *Installation System Reference Manual* (instructions for creating MVS PAS historical data sets)

**Setting up short-term history data collection (optional)**

In MainView for z/OS, you can use the short-term history data collection facility to set up a third set of interval recorder files that contain history that is written more frequently than regular history data.

The short-term interval is 15, 30, or 60 seconds long.

The data that is written to the short-term history files consists of job, device, and system data records only. Even though the short-term history records are much smaller than the regular history records, they are written more frequently. In general, the short-term history files should be bigger than the regular history files.

The short-term history data can be displayed by using a special set of short-term history views. These views are accessible from the View ShortTerm Menu option on the EZMZOS menu in MainView for z/OS. In addition, if you want to see all available short-term views, display the SHORTERM view by entering SHORTERM on the COMMAND line.

You specify the short-term history data-collection parameter in member BBDTST xx.

**Note**

If you used the Installation System to configure MainView for z/OS, you have already completed this task and can skip it.

**To activate short-term history data collection**

1. Copy the BBDTST00 member to UBBPARM and customize it for your particular needs.

   As distributed with the product in the BBDTST00 member, the short-term data-collection interval is 60 seconds long. You can optionally define, for example, a BBDTST15 member for 15-second short-term interval.
The control statements in member BBDTST00 are shown in Figure 11 on page 41.

Figure 11: Control statements for short-term data collection

```xml
<SHORT_TERM_DATA_COLLECTION>
  <!-- Root tag -->
  <INTERVAL_LENGTH>60</INTERVAL_LENGTH> <!-- Short-term interval length is 15, 30, or 60 seconds-->
  <DATA_COLLECTORS>
    <!-- Collected data: -->
    <CLASS>ADDRESS SPACE</CLASS> <!-- Address space -->
    <CLASS>DEVICE</CLASS> <!-- Device -->
    <CLASS>SYSTEM</CLASS> <!-- System -->
    <CLASS>WLM</CLASS> <!-- Wlm -->
    <CLASS>LPAR</CLASS> <!-- Lpar -->
  </DATA_COLLECTORS>
</SHORT_TERM_DATA_COLLECTION>
```

2 To activate short-term history data collection, enter one of the following system commands:

a To start the data collection using the member BBDTST00:

- `F mvspas,STDC=START`

  or

- `S pas,DC=START,STDC=START`

b To start the data collection using the member BBDTST xx

- `F mvspas,STDC=xx`

  or

- `S pas,DC=START,STDC=xx`

To stop short-term history data collection, enter the system command:

`F mvspas,STDC=STOP`

3 In addition, you must define and initialize a set of short-term interval recorder files. Short-term history data sets are created and initialized like the regular history data sets, except that their DDnames begin with HST2 rather than HIST.

For additional information about defining the new HST2 files, see the chapter in the MainView Administration Guide that relates to historical data sets and to the instructions for creating MVS PAS historical data sets in the MainView Installation Guide.
Installing distributed alarm definitions *(optional)*

MainView for z/OS ships distributed alarm definitions in BBACTDEF member BBDTDA.

The ALRMDIST view, as shown in Figure 12 on page 42, lists the distributed alarm definitions, which can be installed by either typing ADD on the COMMAND line or using an ADD line command.

*Note*

ALRMDIST writes the alarm definition directly to the MainView for UNIX® System Services file system. Your PAS must have an OMVS segment and must be authorized to write to the directory specified for alarm definitions in the CAS.

![Figure 12: Using ALRMDIST to see a list of distributed alarm definitions](attachment:image)

For additional information regarding alarms for MainView for z/OS, refer to Chapter 7 in the MainView for z/OS User Guide and Reference.

Installing BMC CPM CIM providers *(optional)*

Capacity Provisioning Manager (CPM) support is optional. Only customers who are running CPM with CMF MONITOR version 5.8 or later installed require this support.

For more information about BMC CPM support, see "Capacity Provisioning Manager" in the MainView for z/OS User Guide and Reference.
What next

You have now completed the manual customization procedure for MainView for z/OS. At this point, BMC Software recommends that you perform the following steps:

1. Read the MainView Customization Reference and the entire MainView Administration Guide.

2. Complete the steps in the MainView Administration Guide to finish setting up your MainView environment and to start the address spaces that are necessary to run MainView for z/OS.

When you have completed the tasks in the MainView Customization Reference and the MainView Administration Guide, continue setting up MainView for z/OS by following these steps:

3. Use the MainView CLIST to access MainView for z/OS.

4. Complete the steps in “Setting up the Exception Monitor” on page 45.

5. Complete the steps in “Defining workloads and service objectives” on page 51.
Setting up the Exception Monitor

The Exception Monitor provides one of the fastest and easiest methods for detecting performance problems or potential problems. This chapter explains how to start the Exception Monitor, both manually and automatically.

For information about creating your own control statement member for use with the Exception Monitor, see “Maintaining the Exception Monitor” on page 107.

For information about monitoring exceptions by using the Exception Monitor, see the MainView for z/OS User Guide and Reference.

Understanding the Exception Monitor

For each system resource, you can specify an upper limit for utilization called a threshold.

The Exception Monitor continuously monitors the resource at specified intervals and generates a warning message if that threshold is exceeded. These messages are displayed both in the WARN view and on the z/OS console. By monitoring Exception Monitor messages, you can take steps to correct problems or potential problems before they severely impact performance.

Note
To address potential problems automatically, you might want to set up a MainView AutoOPERATOR Solution that is triggered by warning messages. See the MainView AutoOPERATOR Solutions Guide for more information.

How the Exception Monitor knows what to monitor

The Exception Monitor tracks system resources according to the samplers that are specified in the currently active control statement member:
A sampler is a program that monitors a particular aspect of system performance. MainView for z/OS provides a diverse set of samplers from which to choose to monitor activities such as enqueue conflicts, various types of I/O activity, and CPU utilization.

A control statement member is a collection of one or more samplers. Each member contains the initial threshold settings for its constituent samplers, which you can either keep or alter. Only one control statement member can be active at a time. MainView for z/OS ships two default control statement members, PWSCPM00 (which is modifiable) and PWSCPMXA (which is not).

Both PWSCPM00 and PWSCPMXA contain all of the available MainView for z/OS samplers and therefore monitor every possible aspect of system performance. However, by using the Exception Monitor Member List, you can create your own control statement members to contain a subset of samplers, thus monitoring only specific areas of performance. See “Displaying the Exception Monitor member list” on page 107 for more information.

The following example illustrates how you might use the Exception Monitor to gather information about a particular aspect of system performance.

**Example**

Suppose that, for resource-planning purposes, you want to record how often CPU2 on SYSA is utilized beyond 75 percent of its capacity. After accessing the Exception Monitor on SYSA, follow these steps:

1. Create a control statement member called PWSCPMC2.
2. Select the CPU sampler by typing S next to it.
3. Set a threshold for CPU2 by typing 75 next to the CPU2 field on the CPU Sampler screen.
4. To monitor channel path utilization and the paging subsystem simultaneously, add the samplers CHA and PAG to PWSCPMC2 as well.
5. Start the Exception Monitor with the PWSCPMC2 control statement member.

The Exception Monitor will now monitor the CPUs, channel paths, and paging subsystem according to the thresholds that you set. When CPU2 is utilized above 75 percent of its capacity, the Exception Monitor sends a warning message to both the WARN view and the z/OS console.

The next section tells you how to start the Exception Monitor.
Starting the Exception Monitor

You can set up the Exception Monitor so that it is started automatically each time MainView for z/OS is initialized (as a subtask in the z/OS PAS), or you can start it manually when you need it.

This section assumes that you are familiar with the information in “Understanding the Exception Monitor” on page 45.

Automatically starting the Exception Monitor

1. Decide which control statement member you want to use.

   You can use the default member, PWSCPM00, or you can create your own member. If you prefer creating your own member, consult “Creating control statement members” on page 108 to create your member, and then add it to hilevel/UBBPARM. The control statement member with which the Exception Monitor is started automatically must reside in the data set that is allocated by the DD name PARMLIB.

   **Note**
   
   If you are planning to use PWSCPM00, be sure that the PARMLIB DD statement points to the data set where PWSCPM00 resides. By default, PWSCPM00 resides in hilevel.UBBPARM.

2. Add the following DD statement to the z/OS product address space JCL:

   ```
   //PARMLIB DD DSN= hilevel.UBBPARM, ...
   ```

   **Note**
   
   If you used the Installation System to configure MainView for z/OS, this DD statement has already been added.

3. In the EM parameter of the PROC statement, code the suffix of the control statement member (PWSCPM xx) with which you want to start MainView for z/OS:

   ```
   //MVSPAS PROC EM= xx
   ```

   For example, to start MainView for z/OS by using the PWSCPMC2 control statement member, code
//MVSPAS PROC EM=C2

If you do not code anything on the EM statement, MainView for z/OS is started with the default control statement member, PWSCPM00. You can modify PWSCPM00 so that only a subset of samplers are activated on a regular basis. See “Updating a control statement member” on page 113 for instructions.

Each time that the Exception Monitor is started, the samplers in the control statement member that you named are activated.

**Manually starting and stopping the Exception Monitor**

1. Display the EMSTAT view, as shown in Figure 13 on page 48.

   **Figure 13: EMSTAT view**

<table>
<thead>
<tr>
<th>COMMAND</th>
<th>SCROLL</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELOAD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   **Display the EMSTAT view**

   DDMMMYYYY HH:MM:SS -------- MainView WINDOW INTERFACE (Vv.r.mm) --------
   COMMAND ===> SCROLL ===> PAGE
   CURR WIN ===> 1       ALT WIN ===>
   W1 -EMSTAT-***********SYSD----*--------DDMMMYYYY--HH:MM:SS----MVMVS----D---1
   C Mem Name Current Total
   -------- ------- ------- -------
   PWSCPM00 4    194

2. Place the cursor on the Mem Name field and press Enter.

   The Exception Monitor Member List is displayed, as shown in Figure 14 on page 48.

   **Figure 14: Exception Monitor member list**

<table>
<thead>
<tr>
<th>COMMAND</th>
<th>SCROLL</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELOAD</td>
<td></td>
<td></td>
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<tr>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   **Display the EMSTAT view**

   DDMMMYYYY HH:MM:SS -------- MainView WINDOW INTERFACE (Vv.r.mm) --------
   COMMAND ===> SCROLL ===> PAGE
   CURR WIN ===> 1       ALT WIN ===>
   W1 -EMSTAT-***********SYSD----*--------DDMMMYYYY--HH:MM:SS----MVMVS----D---1
   C Mem Name Current Total
   -------- ------- ------- -------
   PWSCPM00

   **Valid line commands are:**
   S - Select this member for update
   E - Execute AEWS with this member
   D - Delete this member from list

   **Valid OPTIONs are:**
   C - Create new member
   A - Display/Update active AEWS
   P - Stop AEWS sampling

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Last Modified</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWSCPM00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PWSCPM99</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PWSCM99</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PWSCPMZ2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PWSCPMZ7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PWSCPMDP</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   **Bottom of data************* Bottom of data *************
3 Type E (Execute) to the left of the member that you want to start, and press Enter.

A status message appears in the upper right corner of the screen to indicate that the selected control statement member is now active.

**Note**

Only one control statement member can be active at a time. To execute a new control statement member, stop the Exception Monitor by typing a P on the OPTION line, and use the E line command to the left of the desired member to restart the Monitor.

If you want to start the Exception Monitor with your own PWSCPM xx member, rather than with the PWSCPM00 default, read “Creating control statement members” on page 108 first, and then start the Monitor by using the E command.
This chapter describes how to create your own workloads to reduce the amount of time and effort that are required to monitor your system. Although the MainView for z/OS product creates some workloads for you automatically, BMC Software recommends that you use the WKLIST view to create additional workloads that make sense for your organization.

Overview

Using the WKLIST view, you can group any combination of address spaces into one workload, and then monitor the performance of those address spaces as a single entity in terms of service, delays, and resource utilization.

This process consists of four basic steps:

1. Decide which workloads you want to define.
2. Create the workload definitions.
3. Set service objectives for the workloads.
4. Check to see how well the service objectives are being met.

For Workload Manager (WLM) workload monitoring, MainView for z/OS provides WLM monitoring views. See the MainView for z/OS User Guide and Reference for more information.

For information about changing or deleting workloads, see “Changing name, description, and current status of a workload” on page 104.
Advantages of creating your own workloads

Consider the advantages of establishing your own workloads:

- By making extensive use of workloads, you can drastically reduce the amount of time and effort that is required to monitor the overall health of your system. In other words, it is much easier to monitor 10 workloads, each containing 20 jobs, than it is to track all 200 jobs individually.

- By setting performance objectives for your organization’s specific needs, you will be able to monitor the service that is given to entire departments, shifts, or functional areas.

  For example, you might create objectives for one workload to monitor all TSO and batch activity for the Accounting group and another workload to track the same activity for the Shipping department. By creating these workloads, you will be able to immediately assess the impact of performance to both areas.

Deciding which workloads to define

The MainView for z/OS product defines some types of workloads for you, and you can define other types.

Workloads you can define

By using MainView for z/OS, you can define these types of workloads:

- ASCH—composed of address spaces scheduling work for z/OS APPC (Advanced Program-to-Program Communications)

- Batch—composed of address spaces running batch jobs

- OMVS—composed of address spaces running OpenEdition z/OS applications

- Started task—composed of address spaces running Started Tasks

- TSO—composed of address spaces running TSO sessions

- Composite—collections of other previously defined workloads

  With composite workloads, you can monitor diverse collections of address spaces as a single entity.

  For example, you might create a workload called DB2WORK to track all address spaces that are related to IBM DB2®: TSO address spaces that are used for QMF
sessions, batch jobs that update DB2 tables, and DB2’s own Started Tasks. This concept is illustrated in Figure 15 on page 53.

Figure 15: Sample composite workload for DB2-related address spaces

Up to 128 workloads can be defined.

Workloads created for you

To make things easier, the MainView for z/OS product has already created the following predefined workloads for you:

- ALLASCH—to monitor all APPC work
- ALLBAT—to monitor all batch jobs
- ALLOMVS—to monitor z/OS UNIX System Services applications
- ALLSTC—to monitor all Started Tasks
- ALLTSO—to monitor all TSO sessions
- ALLWKLD—to monitor all workloads on the system

MainView for z/OS also creates these workloads:

- a service class workload for each service class that you defined through the z/OS WLM definition dialogs
  These workloads are identified by the characters SCL in the WKLIST Type field.
a WLM workload for each WLM workload that you established through WLM. These workloads have a type of WKL. WLM workloads are actually composites of service classes.

MainView for z/OS assigns the same names to service classes and WLM workloads that you assigned in your WLM service policies.

**Selecting only the jobs that you want**

You do not have to group address spaces strictly by address space type. During the workload definition process, you can specify the selection criteria that an address space must satisfy before it can be included in the workload. Selection criteria include:

- address space type
- user ID
- Started Task name
- job name
- job class
- service class
- accounting data

For example, by specifying the accounting string of Department 65 as the selection criteria, you can create a workload to monitor all of the activity in that department—TSO, batch, and Started Task—as a single entity.

Now that you know what you can do with MainView for z/OS, consider the kinds of workloads that are best suited to your organization and proceed with creating workload definitions.

**Creating workload definitions**

To create a workload definition.
1 Display the WKLIST view, as shown in Figure 16 on page 55.

**Figure 16: WKLIST view**

| W1=WKLIST=SYSC==DDMMMYYYY==HH:MM:SS=-----MVMVS=D=58 |
|-----------|------------------|
| C Workload | Type Description |
| AATSO      | TSO Test         |
| ALLASCH    | ASCH All ASCH Address Spaces |
| ALLBAT     | BAT All Batch Address Spaces |
| ALLOMVS    | OMVS All Open MVS Address Spaces |
| ALLSTC     | STC All Started Tasks |
| ALLTSO     | TSO All TSO Address Spaces |
| ALLWKLDS   | COMP All Address Spaces |
| APPC       | WKLD APPC Workload |
| APPCHOT    | BAT TEST MMR22 TFT#TST2 |
| APPCHOT    | SCLS APPC Hot Transactions |
| APPCNRM    | SCLS APPC Normal Transactions |
| BATCH      | WKLD Batch Workload |
| BATHAL     | SCLS Batch Hal Jobs |
| BATHOT     | SCLS Batch Hot Jobs |
| BATNRM     | SCLS Batch Normal Jobs |
| BATPROD    | SCLS Batch Production Jobs |

WKLIST displays a single line of information for each defined workload and is the view from which all workload-management activities are initiated. (For more information about managing these workloads, see “Maintaining workload definitions” on page 103.)

For a description of each field in the WKLIST view, place the cursor on the field and press **PF1** (Help).

2 On the COMMAND line, type **ADD** and press **Enter**.

The Add Workload panel is displayed, as shown in Figure 17 on page 55.

**Figure 17: Creating a workload definition using the Add Workload panel**

<table>
<thead>
<tr>
<th>BMC Software ------------------ ADD WORKLOAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMAND ==&gt; _  SCROLL ==&gt;</td>
</tr>
<tr>
<td>CSR</td>
</tr>
<tr>
<td>Enter Workload Name, Type and Description.</td>
</tr>
<tr>
<td>Name ==&gt;</td>
</tr>
<tr>
<td>Type ==&gt; (ASCH, BAT, OMVS, STC, TSO, COMP)</td>
</tr>
<tr>
<td>Description ==&gt;</td>
</tr>
<tr>
<td>Press END when all entries are complete.</td>
</tr>
<tr>
<td>Enter CANCEL to cancel request.</td>
</tr>
</tbody>
</table>

3 In the **Name** field, type a name for the workload. The name must not exceed eight characters. All user-defined workload names must be unique. It is possible, however, for workloads whose names are defined outside of MainView for z/OS (service class or WLM workloads) to have names that are not unique. That is, while a WKL workload and a TSO workload can both be named PROD01, a TSO and a batch workload cannot share that name.
Tip

The Wkld key field, not the workload name, uniquely identifies a workload. This field is an excluded field in every workload view (MainView for z/OS views beginning with W). To see this field from any workload view, type CUSTOM on the COMMAND line, and then type Excluded on the View Customization panel.

4 In the Type field, type one of these workload names:

- ASCH—for an APPC workload
- BAT—for a batch workload
- OMVS—for an OpenEdition MVS workload
- STC—for a Started Task workload
- TSO—for a TSO workload
- COMP—for a composite workload

5 In the Description field, type a description not exceeding 40 characters.

6 Type END on the COMMAND line to complete the workload definition. (If you want to cancel the definition instead, use the CANCEL command.) When you enter the END command, a workload characterization panel is displayed.

7 On the workload characterization panel, specify the characteristics that an address space must possess to be included in the new workload. A different workload characterization panel exists for each type of workload, as discussed in the next section, “Characterizing workloads” on page 57.

8 To complete your workload definition, refer to the appropriate page in Table 4 on page 56 and follow the instructions there.

Table 4: Characterizing different types of workloads

<table>
<thead>
<tr>
<th>To perform this task</th>
<th>See</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCH workload definitions</td>
<td>“Characterizing ASCH workloads” on page 58</td>
</tr>
<tr>
<td>Batch workload definitions</td>
<td>“Characterizing batch workloads” on page 59</td>
</tr>
<tr>
<td>OMVS workload definitions</td>
<td>“Characterizing OMVS workloads” on page 61</td>
</tr>
<tr>
<td>Started task workload definitions</td>
<td>“Characterizing Started Task workloads” on page 62</td>
</tr>
<tr>
<td>TSO workload definitions</td>
<td>“Characterizing TSO workloads” on page 63</td>
</tr>
<tr>
<td>Composite workload definitions</td>
<td>“Characterizing composite workloads” on page 64</td>
</tr>
</tbody>
</table>
Characterizing workloads

After you have created a workload, you need to specify the kinds of address spaces that should make up the workload.

This section tells you how to perform this task for different types of workloads.

Note
Service class and WLM workload types are characterized automatically when they are created and cannot be characterized in the MainView for z/OS product.

The following task will set up a batch workload called ABCBAT that represents all jobs starting with ABC.

To characterize workloads

1. Go to the WKLIST view.

2. On the COMMAND line, type ADD to display an Add Workload panel.

3. Fill in the fields with appropriate values, as shown in Figure 19 on page 58.

   Figure 18: Workload panel field values

   | BMC Software ----------------- ADD WORKLOAD |
   | COMMAND ==> |
   | Enter Workload Name, Type and description. |
   | Name ===> ABCBAT |
   | Type ===> BAT (ASCH, BAT, OMVS, STC, TSO, COMP) |
   | Description ===> Batch jobs for ABC department |
   | Press END when all entries are complete. |
   | Enter CANCEL to cancel request. |

4. Press END to display the Characterize Batch Workload panel.
5  Fill in the fields with appropriate values, as shown in Figure 19 on page 58.

Figure 19: Characterize Batch Workload panel with sample values

```
BMC Software ----------- CHARACTERIZE BATCH WORKLOAD ---------------------
COMMAND =>
Enter O to specify workload service objectives
Workload => ABCBATCH
Description => Batch jobs for ABC department
Initial status => ACTIVE (Initial collection status, Active/Inactv)
Specify the following selection criteria:
  Jobname => ABC*
  Job class =>
  Service class => BATNORM
  Programmer name => *
  Accounting
  Information
  Data
  Field # => Offset
  I/E => (Include/Exclude Address space if account data matches)
Enter END when all entries are complete.
Enter CANCEL to cancel workload characterization.
```

As you can see by the example shown in Figure 19 on page 58, batch workloads are assigned a service class of BATNORM.

**Valid commands**

Although each type of workload has a different workload characterization panel, the following commands are valid from all of the panels:

- **END**—when all entries are complete
  Your updates are saved automatically and will be in effect the next time you access MainView for z/OS.

- **CANCEL**—to exit the panel without saving your changes

The O command, specifying service objectives for the workload, is valid from the batch and TSO panels only.

**Characterizing ASCH workloads**

ASCH (APPC Scheduler) workloads are composed of address spaces that schedule work for z/OS APPC (Advanced Program-to-Program Communications).
To characterize an ASCH workload

1 Display the Characterize ASCH Workload panel. Figure 20 on page 59 shows the panel that is displayed for the ALLASCH workload.

**Figure 20: Characterize ASCH Workload panel**

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCH name</td>
<td>MV*</td>
<td>selects all APPC address spaces beginning with MV</td>
</tr>
<tr>
<td>Service class</td>
<td>APPCNRM</td>
<td>selects all APPC address spaces in service class APPCNRM when running in Goal mode Wildcard characters are invalid in this field.</td>
</tr>
</tbody>
</table>

2 In the Initial status field, type one of the following values:

- **ACTIVE**—if you want data-collection services for this workload to begin as soon as MainView for z/OS is initialized
- **INACTV**—if you do not want data reported for the workload at this time

   You can enable data reporting at your convenience by updating the workload characterization panel and specifying ACTIVE. (To update this panel, type S, for SELECT, next to the workload name in the WKLIST view.)

3 Type the selection criteria values in the appropriate fields, as shown in the following table. The default setup selects all Started Tasks for the workload, as indicated by the asterisk in the ASCH name field. (This wildcard character, *, is valid only in the ASCH name field.)

4 Press END to save your new or changed workload definition.

No service objectives apply for APPC workloads, so the workload definition is now complete.

**Characterizing batch workloads**
1 Display the Characterize Batch Workload panel. Figure 21 on page 60 shows the panel that is displayed for the ALLBAT workload.

**Figure 21: Filling in fields for the Characterize Batch Workload panel**

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobname</td>
<td>DA*</td>
<td>selects all batch jobs beginning with DA</td>
</tr>
<tr>
<td>Job class</td>
<td>8</td>
<td>selects all jobs in class 8</td>
</tr>
<tr>
<td>Service class</td>
<td>BATNORM</td>
<td>selects all jobs in service class BATNORM when running in Goal mode (Wildcard characters are invalid in this field).</td>
</tr>
<tr>
<td>Programmer name</td>
<td>VUSER1</td>
<td>selects all batch jobs belonging to programmer USER1</td>
</tr>
</tbody>
</table>

2 In the **Initial status** field, type one of the following values:

- **ACTIVE**—if you want data collection services for this workload to begin as soon as MainView for z/OS is initialized

- **INACTV**—if you do not want data reported for the workload at this time

You can enable data reporting at your convenience by updating the workload characterization panel and specifying ACTIVE. (To update this panel, type S, for SELECT, next to the workload name in the WKLIST view.)

3 Type the selection criteria in the appropriate fields, as shown in the following table. Asterisks (*) are valid entries. The default setup selects all batch jobs for the workload, as indicated by the asterisk in the **Jobname** field.

4 (*optional*) Type data in the **Accounting Information** fields.

The data that you specify here is compared to the information in the ACCT keyword that is specified on the JOB or EXEC statement.
a Type the character string to be matched in the *Data* field, the number in the *Field #*, and its location within the field in the *Offset* field.

b To include the address space in the workload after the accounting data has been located, type *I* in the *I/E* field; to exclude it, type *E*.

c Press *END* to save your new or changed workload definition.

5 To set service objectives for the workload, type *O* on the COMMAND line, and then refer to “Batch workloads service objectives” on page 69.

**Characterizing OMVS workloads**

An OMVS (z/OS UNIX System Services) address space is one in which a POSIX application is running.

**To characterize an OMVS workload**

1 Display the Characterize OMVS Workload panel.

   *Figure 22 on page 61* shows the panel that is displayed for the ALLOMVS workload

   **Figure 22: Characterize OMVS Workload panel**

   BMC Software -------------- CHARACTERIZE OMVS WORKLOAD----------------------
   COMMAND ===> _
   Workload - ALLOMVS
   Description - All OMVS workloads
   Initial status ===> ACTIVE (Initial collection status, Active/Inactv)
   Specify the following selection criteria:
   OMVS name ===> *
   Service class ===> 
   Enter END when all entries are complete.
   Enter CANCEL to cancel workload characterization.

2 In the *Initial status* field, type *one* of the following values:

- **ACTIVE**—if you want data-collection services for this workload to begin as soon as MainView for z/OS is initialized

- **INACTV**—if you do not want data reported for the workload at this time

   You can enable data reporting at your convenience by updating the workload characterization panel and specifying ACTIVE. (To update this panel, type *S*, for SELECT, next to the workload name in the WKLSTM view.)

3 Type the selection criteria in the appropriate fields, as shown in the following table. The default setup selects all Started Tasks for the workload, as indicated by
the asterisk in the OMVS name field. (This wildcard character, *, is valid only in the OMVS name field.)

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OMVS name</td>
<td>MV*</td>
<td>selects all OMVS address spaces beginning with MV</td>
</tr>
<tr>
<td>Service class</td>
<td>OMVSNRM</td>
<td>selects all OMVS address spaces in service class OMVSNRM when running in Goal modeWildcard characters are invalid in this field.</td>
</tr>
</tbody>
</table>

4 Press END to save your new or changed workload definition. No service objectives apply for OMVS workloads, so the workload definition is now complete.

**Characterizing Started Task workloads**

To characterize started task workloads.

1 Display the Characterize STC Workload panel. Figure 23 on page 62 shows the panel that is displayed for the ALLSTC workload.

   **Figure 23: Characterize STC Workload panel**

   ```
   BMC Software -------------- CHARACTERIZE STC WORKLOAD---------------------
   COMMAND !===> 
   Workload - ALLSTC
   Description - All Started Tasks
   Initial status !===> ACTIVE (Initial collection status, Active/Inactv)
   Specify the following selection criteria:
   - STC name !===> *
   - Job class !===>
   - Service class !===>
   - Accounting Information
   Data
   - Field # !===> Offset !===>
   - I/E !===> (Include/Exclude Address space if account data matches)
   Enter END when all entries are complete.
   Enter CANCEL to cancel workload characterization.
   ```

2 In the Initial status field, type one of the following values:

   - **ACTIVE**—if you want data-collection services for this workload to begin as soon as MainView for z/OS is initialized

   - **INACTV**—if you do not want data reported for the workload at this time

   You can enable data reporting at your convenience by updating the workload characterization panel and specifying ACTIVE. (To update this panel, type S, for SELECT, next to the workload name in the WKLIST view.)

3 Type the selection criteria in the appropriate fields, as shown in the following table. Asterisks (*) are valid entries, unless otherwise noted. The default setup
selects all Started Tasks for the workload, as indicated by the asterisk in the **STC name** field.

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STC name</td>
<td>MV*</td>
<td>selects all Started Tasks beginning with MV</td>
</tr>
<tr>
<td>Job class</td>
<td>8</td>
<td>selects all Started Tasks in class 8</td>
</tr>
<tr>
<td>Service class</td>
<td>STCNORM</td>
<td>selects all Started Tasks in service class STCNORM when running in Goal mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wildcard characters are invalid in this field.</td>
</tr>
</tbody>
</table>

4. Press **END** to save your new or changed workload definition. No service objectives apply for Started Task workloads, so the workload definition is now complete.

## Characterizing TSO workloads

To characterize TSO workloads.

1. Display the Characterize TSO Workload panel. **Figure 24 on page 63** shows the panel that is displayed for the ALLTSO workload.

   **Figure 24: Characterize TSO Workload panel**

   ```
   BMC Software -------------- CHARACTERIZE TSO WORKLOAD---------------------
   COMMAND ===> _
   Enter O to specify workload service objectives
   Workload    - ALLTSO
   Description - All TSO Address Spaces
   Initial status ===> ACTIVE (Initial collection status, Active/Inactv)
   Specify the following selection criteria:
   Userid          ===> *
   Service class   ===> 
   Accounting Information
   Data    ===>     Offset ===>
   I/E     ===>     (Include/Exclude Address space if account data matches)
   Enter END when all entries are complete.
   Enter CANCEL to cancel workload characterization.
   ```

2. In the **Initial status** field, type **one** of the following values:

   - **ACTIVE**—if you want data-collection services for this workload to begin as soon as MainView for z/OS is initialized
   - **INACTV**—if you do not want data reported for the workload at this time

   You can enable data reporting at your convenience by updating the workload characterization panel and specifying ACTIVE. (To update this panel, type **S**, for SELECT, next to the workload name in the WKLIST view.)
3 Type the selection criteria in the appropriate fields, as shown in the following table. Asterisks (*) are valid entries, unless otherwise noted. The default setup selects all TSO user IDs for the workload, as indicated by the asterisk in the Userid field.

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Userid</td>
<td>ENG*</td>
<td>selects all TSO sessions beginning with ENG</td>
</tr>
<tr>
<td>Service class</td>
<td>TSODEV</td>
<td>selects all TSO sessions in service class TSODEV when running in Goal mode. Wildcard characters are invalid in this field.</td>
</tr>
</tbody>
</table>

4 (optional) Type data in the Accounting Information fields. The data that you specify here is compared to the information in the TSO user ID definition.

a Type the character string to be matched in the Data field, the number in the Field # field, and its location within the field in the Offset field.

b To include the address space in the workload once the accounting data has been located, type I in the I/E field; to exclude it, type E.

c Press END to save your new or changed workload definition.

5 To set service objectives for the workload, type O on the COMMAND line, and then refer to “TSO workload service objectives” on page 71.

Characterizing composite workloads

**Note**

WLM workloads are composites of service classes, are created automatically, and cannot be characterized.

**To characterize a composite workload**

1 Display the Characterize Composite Workload panel.
When you display this panel from WKLIST, it lists all workloads that are currently defined for the composite and shows their weighting factors. Figure 25 on page 65 shows the panel that is displayed for COMPO1, a sample workload.

**Figure 25: Characterize Composite Workload panel**

BMC Software -------------- CHARACTERIZE COMPOSITE WORKLOAD --------------

<table>
<thead>
<tr>
<th>OPTION ====&gt;</th>
<th>Valid line commands are:</th>
<th>Valid options are:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>D</strong> - Delete selected workload</td>
<td><strong>A</strong> - Add workloads to this composite</td>
</tr>
</tbody>
</table>

Workload - COMPO1
Description - Test composite workload
Initial status ====> ACTIVE (Initial collection status, Active/Inactv)
The sum of all Weighting % fields must be 100. Current total = 0 %

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Weighting %</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLBAT</td>
<td>All Batch Address Spaces</td>
<td>50</td>
</tr>
<tr>
<td>ALLTSO</td>
<td>All TSO Address Spaces</td>
<td>50</td>
</tr>
</tbody>
</table>

2 In the **Initial status** field, type *one* of the following values:

- **ACTIVE**—if you want data-collection services for this workload to begin as soon as MainView for z/OS is initialized
- **INACTV**—if you do not want data reported for the workload at this time

You can enable data reporting at your convenience by updating the workload characterization panel and specifying ACTIVE. (To update this panel, type S, for SELECT, next to the workload name in the WKLIST view.)

The next two sections explain how to delete and add constituent workloads to a composite workload.

**Deleting a constituent workload**

To delete a workload from this list, type **D** (Delete) next to the workload and press **Enter**.

**Adding a constituent workload**

To add a costituent workload.

1 On the COMMANDline, type **A** (Add) and press **Enter**.
The Composite Workload Characterization panel is displayed, as shown in Figure 26 on page 66.

**Figure 26: Add a workload to a composite workload**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Select workload for inclusion</td>
</tr>
<tr>
<td>CSR</td>
<td>Workload - COMP01 Description - Test composite workload</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLASCH</td>
<td>All ASCH Address Spaces</td>
</tr>
<tr>
<td>ALLBAT</td>
<td>All Batch Address Spaces</td>
</tr>
<tr>
<td>ALLOMVS</td>
<td>All Open MVS Address Spaces</td>
</tr>
<tr>
<td>ALLSTC</td>
<td>All Started Tasks</td>
</tr>
<tr>
<td>ALLTSO</td>
<td>All TSO Address Spaces</td>
</tr>
<tr>
<td>ALLWKLDS</td>
<td>All Address Spaces</td>
</tr>
<tr>
<td>COMP01</td>
<td>Test composite workload</td>
</tr>
<tr>
<td>SHIFT1</td>
<td>Shift 1 accounting</td>
</tr>
<tr>
<td>SHIFT2</td>
<td>Shift 2 accounting</td>
</tr>
<tr>
<td>SHIFT3</td>
<td>Shift 3 accounting</td>
</tr>
<tr>
<td>TESTCOMP</td>
<td>test composite</td>
</tr>
</tbody>
</table>

This panel displays the workloads that you can add to the composite workload. Asterisks indicate the workloads that are already included.

2 Type **S** (Select) next to the workloads that you want to include in the composite.

3 When you are finished, type **END** to return to the Characterize Composite Workload panel.

4 In the **Weighting %** field, assign to each workload a weighting factor that reflects its relative importance to the group.

**Note**

This action effectively sets the service objectives for the workload. The total must equal 100.

A composite workload’s service objectives are monitored according to the time periods that are specified by its constituent workloads. For example, if COMP1 includes SHIFT1 (whose service objectives are monitored between 08:00 and 12:00) and SHIFT2 (which is monitored from 11:00 to 02:00), COMP1 is monitored between 08:00 and 02:00.

If SHIFT1 is given a weighting factor of 75 percent, and SHIFT2 is assigned a weighting factor of 25 percent, SHIFT1 is three times as important as SHIFT2 in calculating how well COMP1 is performing as a whole.

To examine this concept more closely, suppose that SHIFT1 is meeting 60 percent of its service objectives, whereas SHIFT2 is meeting only 20 percent of its service objectives.
objectives. You would like to know how well the composite workload, COMP1, is meeting its service objectives.

Although the contribution of SHIFT1 is 60 percent, this figure actually accounts for a full 75 percent of the total measure of COMP1. Multiply 60 percent by .75 to get a value of 45 percent. To calculate the contribution of SHIFT2, simply multiply 20 by .25 to get 5 percent. Adding the two figures together gives a total of 50 percent. COMP1 is meeting 50 percent of its service objectives.

5 Press **END** to save your new or changed workload.

## Setting service objectives

Now that you have defined your workloads, it is time to set some service objectives.

The following table characterizes the service objectives that can be set for each type of workload. Following the table are instructions for setting service objectives for the various workload types.

You cannot define service objectives for Started Task, ASCH, or OMVS workloads.

### Table 5: Service objectives for different types of workloads

<table>
<thead>
<tr>
<th>Workload</th>
<th>Service objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSO</td>
<td>TSO is specified in terms of response time. Response time is the elapsed time between the issuance of a command and the system’s response. For example, a TSO workload might have a response time of less than 1 second for 90 percent of all transactions and less than 3 seconds for 100 percent of all transactions, between the hours of 8:00 A.M. and 5:00 P.M. See “TSO workload service objectives” on page 71 for more information.</td>
</tr>
<tr>
<td>Batch</td>
<td>This workload is specified in terms of turnaround time. Turnaround time is the elapsed time between submission of a job and the return of the completed output. For example, a batch workload might have a turnaround time of less than 5 minutes for 80 percent of batch jobs and less than 10 minutes for 100 percent of all jobs, between the hours of 8:00 A.M. and 2:30 P.M. See “Batch workloads service objectives” on page 69 for more information.</td>
</tr>
</tbody>
</table>
### Service class

The service class workload depends on the goal definition and importance that you assign, during WLM service policy definition, to each period composing the service class.

Within the same service class, you can express performance goals for each period in completely different terms. For example, periods 1 and 2 might have response-time goals, while the period 3 goal might be expressed in terms of velocity. Additionally, you can make the period 1 performance goals more important than any other period’s goals.

#### Service class (continued)

To normalize these disparate goals, MainView for z/OS assigns a weighting factor based upon the importance that you assign, as follows:

<table>
<thead>
<tr>
<th>Importance</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>1</td>
<td>32</td>
</tr>
</tbody>
</table>

For example, suppose service class TSONORM has three periods defined. Period 1 has an importance of 1, while periods 2 and 3 have no importance rating. Therefore, the performance in period 1 is 32 times more important than the performance in periods 2 and 3. In other words, because period 1 is so much more important to the workload, TSONORM does well as long as period 1 meets its objectives—even if periods 2 and 3 are doing poorly.

### Composite

A composite workload is set by assigning a weighting factor to each constituent workload. This factor reflects the workload’s relative importance to the group as a whole. In this way, the different service measures for TSO and batch workloads are synthesized, thus enabling a composite workload to contain a mixture of both workload types. Composite workloads are then measured in terms of the percentage of total service objectives that they accomplish.

See “Adding a constituent workload” on page 65 for more information about how composite workload service objectives are measured.
A WLM workload is a composite of service class workloads. Each constituent workload is equally weighted. For example, if a WLM workload contains service classes TSONORM, TSOHOT, and TSOSHIFT1, the performance of each contributes equally to the WLM workload service objectives as a whole.

Like other composite workloads, the total weight for WLM workloads must equal 100. If the workloads cannot be equally divided into 100, the remainder is distributed among the first few workloads. For example, if a WLM workload has seven workloads, each workload counts for 14 percent of the total service objective with a remainder of 2. In other words, the first two workloads in the WLM workload definition will be incremented by 1 and thus will count for 15 percent instead of 14 percent.

### Beginning workload service objectives

1. On any workload characterization panel, perform one of the following tasks:

   - On the COMMAND line, type **O** (except for Started Task, ASCH, and OMVS workloads).
   - On the WKLIST view, type the **O** line command for a workload with an **Obj** field value of **YES**.

   A Service Objective Type panel for that workload type is displayed. Two Service Objective Type panels exist, one for batch and one for TSO workloads. (Composite workloads do not have Service Objective Type panels.)

2. See “Batch workloads service objectives” on page 69 or “TSO workload service objectives” on page 71 for information about how to proceed.

### Batch workloads service objectives

1. Display the Specify Batch Service Objective panel.
Figure 27 on page 70 shows the panel that is displayed for the ALLBAT workload.

Figure 27: Specify Batch Service Objective panel for ALLBAT

BMC Software ----- SPECIFY BATCH SERVICE OBJECTIVE ------------------------
COMMAND ===> _
Workload    - ALLBAT
Description - All Batch Address Spaces
Turnaround time of ===> 20 minutes
    for ===> 50 percent of all jobs
and ===> 45 minutes
    for ===> 80 percent of all jobs
Between ===> 08:00 (Begin time hh:mm)
    and ===> 17:00 (End time hh:mm)
JES queue time ===> N (Y/N, Include queue time in turnaround time)
Enter END when all entries are complete.
Enter DELETE to delete service objectives.
Enter CANCEL to cancel service objective specification.

**Note**
To reset all current objectives to 0, type DELETE on the COMMAND line.

2 In the **Turnaround time** fields, type the required turnaround times and the percentage of all jobs that are to complete within those specified time periods. Turnaround time is expressed in terms of minutes, from 0 to 9999.

3 In the **Between** and **and** fields, type the time period for which the objectives are to be monitored, using the format *hh:mm*, where *hh* is a value from 00 to 23. The default is from 00:00 to 00:00, which means that the workload’s service objectives are not monitored and do not appear on either the WOBJ or the WOBJS views.

**Note**
If you specified INACTV in the Initial status field on the workload characterization panel, be sure to activate data collection before the MainView for z/OS product begins monitoring the workload’s service objectives. For example, if you want MainView for z/OS to monitor the WKLD service objectives from 8:00 A.M. to 5:00 P.M., go to the WKLIST view and type the S line command on the line containing WKLD1. In the workload characterization panel, type ACTIVE, and make sure you do it before 8:00 A.M. If you do not, MainView for z/OS will not collect data for WKLD1 and thus will not have any information for WOBJ, WTA, or any other workload-related views.

4 To include JES input queue time in the measure of overall turnaround time (rather than just execution time), type **Y** in the **JES queue time** field.

5 When finished, perform one of the following tasks:
   - Type **END** to return to WKLIST and save the objectives automatically.
   - Type **CANCEL** to exit the panel without saving the objectives.
TSO workload service objectives

1 Display the Specify TSO Service Objective panel.

Figure 28 on page 71 shows the panel that is displayed for the ALLTSO workload.

Figure 28: Specify TSO Service Objective panel for ALLTSO

BMC Software ----- SPECIFY TSO SERVICE OBJECTIVE --------------------------
COMMAND ===> ALLTSO
Workload - ALLTSO
Description - All TSO Address Spaces
Response time of ===> 1     seconds
for ===> 90    percent of all transactions
and ===> 2     seconds
for ===> 99    percent of all transactions
Between ===> 08:00   (Begin time hh:mm)
and ===> 17:00   (End time hh:mm)
Enter END when all entries are complete.
Enter DELETE to delete service objectives.
Enter CANCEL to cancel service objective specification.

--- Note ---
To reset all current objectives to 0, type DELETE on the COMMAND line.

2 In the Response time of field, type the acceptable response time, in seconds, for a percentage of all transactions completed. The response time can contain up to four characters, including a decimal point, and can be expressed in terms of whole seconds or fractions of seconds. Valid examples include

1

.08

5.05

3000

3 In the for field immediately following the Response time of field, specify a percent of the total transactions to be completed within the previously entered time period.

4 Enter an additional response time and percentage of total transactions in the next two fields.
BMC Software recommends that you specify the first response time as the minimum-accepted response time for the majority (but not all) of TSO jobs, and then specify the second response time as a longer time period covering a greater percentage of jobs, as shown in Figure 28 on page 71.

In the **Between** and **and** fields, type the time period for which the objectives are to be monitored, using the format *hh:mm*, where *hh* is a value from 00 to 23. The default is from 00:00 to 00:00, which means that the workload’s service objectives are not monitored and do not appear on either the WOBJ or WOBJS views.

If you specified INACTV in the Initial status field on the workload characterization panel, be sure to use the R command to activate data collection before MainView for z/OS begins monitoring the workload’s service objectives. For example, if you want the MainView for z/OS product to monitor the WKLD1 service objectives from 8:00 A.M. to 5:00 P.M., use the R line command for WKLD1 before 8:00 A.M. If you do not, MainView for z/OS will not collect data for WKLD1 and thus will not have any information for WOBJ, WRT, or any other workload-related views.

When finished, perform **one** of the following tasks:

- Type **END** to return to WKLIST and save the service objectives automatically.
- Type **CANCEL** to exit the panel without saving the objectives.

**Checking the results**

After you have set your service objectives for a workload, you can use view WOBJ to see how well the system is meeting its objectives.
On the COMMAND line, type **WOBJ** to display the WOBJ view, as shown in Figure 29 on page 73.

**Figure 29: WOBJ view**

<table>
<thead>
<tr>
<th>DDMMYY</th>
<th>HH:MM:SS</th>
<th>COMMAND</th>
<th>SCROLL</th>
<th>CURR WIN</th>
<th>ALT WIN</th>
<th>WI=WOBJ</th>
<th>SYSC</th>
<th>DDMMYY</th>
<th>HH:MM:SS</th>
<th>VMVVS</th>
<th>D=44</th>
</tr>
</thead>
<tbody>
<tr>
<td>MainView WINDOW INTERFACE (Vv.r.mm)</td>
<td>---------</td>
<td>---------</td>
<td>--------</td>
<td>----------</td>
<td>---------</td>
<td>---------</td>
<td>------</td>
<td>--------</td>
<td>----------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>COMMAND ===&gt;</td>
<td></td>
<td>1</td>
<td>ALT WIN ===&gt;</td>
<td></td>
<td></td>
<td>W1=WOBJ</td>
<td>SYSC</td>
<td>*</td>
<td>DDMMYY</td>
<td>HH:MM:SS</td>
<td>VMVVS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C</th>
<th>Workload</th>
<th>Typ</th>
<th>AS</th>
<th>% Service Objective</th>
<th>Tran</th>
<th>Tran</th>
<th>Job</th>
<th>Jobs</th>
<th>Rate</th>
<th>Total</th>
<th>Total</th>
<th>/Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>STCNRM</td>
<td>SCL</td>
<td>29</td>
<td>130.0</td>
<td>***************+</td>
<td>0.42</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSONRM</td>
<td>SCL</td>
<td>4</td>
<td>101.0</td>
<td>***************+</td>
<td>0.42</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STCLOW</td>
<td>SCL</td>
<td>6</td>
<td>100.0</td>
<td>***************+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BATNRM</td>
<td>SCL</td>
<td>2</td>
<td>100.0</td>
<td>***************+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYSTEM</td>
<td>SCL</td>
<td>15</td>
<td>77.00</td>
<td>***************+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STC</td>
<td>WKL</td>
<td>40</td>
<td>46.00</td>
<td>************+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYSTEM</td>
<td>WKL</td>
<td>33</td>
<td>26.00</td>
<td>*****</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSO</td>
<td>WKL</td>
<td>4</td>
<td>25.00</td>
<td>*****</td>
<td>0.42</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BATCH</td>
<td>WKL</td>
<td>2</td>
<td>25.00</td>
<td>*****</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STCPAS</td>
<td>SCL</td>
<td>4</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STCPRD</td>
<td>SCL</td>
<td>1</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CICSHOT</td>
<td>SCL</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BATHOT</td>
<td>SCL</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STCSYS</td>
<td>SCL</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYSSTC</td>
<td>SCL</td>
<td>18</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

WOBJ shows you what percentage of the service-level objectives was met during the past interval. One row of data is displayed for each workload for which service-level objectives have been set. In the example, STCNRM is very successful, meeting its service-level objectives by 130 percent, while TSO has been able to meet only 25 percent of its objectives.

If a workload is consistently falling far short of its objectives, make the following checks:

- Hyperlink on the workload name, which takes you to JDELAY so that you can see if any address spaces in the workload are delayed.
- Review the workload’s service-level objectives in WKLIST to make sure that they are realistic.
- Reorganize your address spaces into different workloads. (For example, if a few jobs use many resources compared to the others in that workload, consider moving the resource-consuming jobs into a separate workload with separate objectives.)
If MainView Explorer is installed on your system, you can access MainView for z/OS views through a web browser. For example, Figure 30 on page 74 illustrates the WOBJ view accessed in this manner. Refer to MainView User Guide for information about using MainView Explorer to access MainView products.

Figure 30: WOBJ view accessed using MainView Explorer

Examples

This section contains examples to help you understand how to define workloads and establish service objectives for them.

The steps for creating workload definitions are essentially the same, regardless of the workload type:

1. Specify the name, type, and description for the workload on the Add Workload panel.

2. Specify selection criteria on the workload characterization panel.
3 Establish service objectives for the workload (except for Started Task workloads).

The following step-by-step examples show you how to create three different types of workloads:

- TSO
- batch
- composite

**Example 1 TSO workload**

Suppose you want to create a workload that will monitor all TSO transactions in the Accounting department as a single entity. You might want to use WKLIST to accomplish this goal.

1 Display the WKLIST view.

2 On the COMMAND line, type **ADD** to display the Add Workload panel.

   **Figure 31: Add Workload panel**

<table>
<thead>
<tr>
<th>BMC Software</th>
<th>ADD WORKLOAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMAND</td>
<td>--------------</td>
</tr>
<tr>
<td>Enter Workload Name, Type and Description.</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>====&gt;</td>
</tr>
<tr>
<td>Type</td>
<td>(ASCH, BAT, OMVS, STC, TSO, COMP)</td>
</tr>
<tr>
<td>Description</td>
<td>====&gt;</td>
</tr>
<tr>
<td>Press END when all entries are complete.</td>
<td></td>
</tr>
<tr>
<td>Enter CANCEL to CANCEL request.</td>
<td></td>
</tr>
</tbody>
</table>

3 In the **Name** field, type a descriptive name for the workload—for example, **ACCTTSO**.

4 In the **Type** field, type **TSO**.

   The workload will contain only TSO address spaces.

5 In the **Description** field, type a description for the workload.

   Descriptions appear on the WKLIST view to help you identify the contents of each workload.
Your screen now looks like Figure 32 on page 76.

**Figure 32: Completed Add Workload panel**

<table>
<thead>
<tr>
<th>BMC Software</th>
<th>--------------</th>
<th>ADD WORKLOAD</th>
<th>---------------------</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMAND</td>
<td>===&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enter Workload Name, Type and Description.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>===&gt; ACCTTSO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>===&gt; TSO (ASCH, BAT, OMVS, STC, TSO, COMP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>===&gt; Acct TSO users</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Press END when all entries are complete.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enter CANCEL to CANCEL request.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6 Press END to display the Characterize TSO Workload panel, as shown in Figure 33 on page 76.

**Figure 33: Characterize TSO Workload panel for ACCTTSO**

<table>
<thead>
<tr>
<th>BMC Software</th>
<th>--------------</th>
<th>CHARACTERIZE TSO WORKLOAD ---------------------</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMAND</td>
<td>===&gt;</td>
<td></td>
</tr>
<tr>
<td>Enter O to specify workload service objectives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workload</td>
<td>===&gt; ACCTTSO</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>===&gt; Acct TSO Users</td>
<td></td>
</tr>
<tr>
<td>Initial status</td>
<td>===&gt; ACTIVE (Initial collection status, Active/Inactv)</td>
<td></td>
</tr>
<tr>
<td>Specify the following selection criteria:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Userid</td>
<td>===&gt; *</td>
<td></td>
</tr>
<tr>
<td>Service class</td>
<td>===&gt;</td>
<td></td>
</tr>
<tr>
<td>Accounting Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data</td>
<td>===&gt;</td>
<td></td>
</tr>
<tr>
<td>Field #</td>
<td>===&gt; Offset</td>
<td>(Include/Exclude Address space if account data matches)</td>
</tr>
<tr>
<td>I/E</td>
<td>===&gt;</td>
<td></td>
</tr>
<tr>
<td>Enter END when all entries are complete.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enter CANCEL to cancel workload characterization.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7 Look at the fields on this panel:

- The contents of the **Workload** and **Description** fields are simply what you specified on the Add Workload panel.

- The default value in the **Initial Status** field is ACTIVE, meaning that MainView for z/OS will begin collecting data for ACCTTSO as soon as the product is initialized. As long as this status remains ACTIVE, you can use workload activity and workload delay views to track the progress of ACCTTSO through the system. (To change the status later, use the S command as described in “Changing name, description, and current status of a workload” on page 104.)

- You can use the next few fields to specify selection criteria for ACCTTSO. To create ACCTTSO, MainView for z/OS scans through each TSO address space and tries to find a match with what you specify in these fields. If a match is found, that address space is included in the workload.

If every TSO user ID in Accounting had something in common—for example, they all began with the letter A—you could specify A* in the **Userid** field to ensure that only Accounting TSO IDs were included in ACCTTSO.

However, in most cases the members of a department are identified by a unique accounting code. You can type this code in the **Accounting Information**
fields. MainView for z/OS compares the code to the information in the ACCT keyword that is specified on the JOB or EXEC statement to try to find a match.

8 In the Data field, type ACCTNG. (Assume that ACCTNG is the data string that is common to all members of the Accounting department at your company.)

9 Because this data string appears in the fifth field of the JCL JOB statement, type 5 in the Field # field.

10 Because the character string begins at offset 2, type 2 in the Offset field.

11 To include all jobs into the workload that match this data string, type I (Include) in the I/E field.

The screen now looks like Figure 34 on page 77.

**Figure 34: Completed Characterize TSO Workload panel**

BMC Software ------------ CHARACTERIZE TSO WORKLOAD---------------------

COMMAND ===> _

Enter 0 to specify workload service objectives
Workload - ACCTTSO
Description - Acct TSO Users
Initial status ===> ACTIVE (Initial collection status, Active/Inactv)
Specify the following selection criteria:
  Userid ===> *
  Service class ===> Accounting Information
  Data ===> ACCTNG
  Field # ===> 5 Offset ===> 2
  I/E ===> I (Include/Exclude Address space if account data matches)
Enter END when all entries are complete.
Enter CANCEL to cancel workload characterization.

12 On the COMMAND line, type O and press Enter.

The TSO Service Objective Specification panel is displayed, on which you can set service objectives for ACCTTSO, as well as specify the time period during which you want the MainView for z/OS product to monitor your new workload, as shown in Figure 35 on page 77.

**Figure 35: TSO Service Objective Specification panel**

BMC Software ------------ SPECIFY TSO SERVICE OBJECTIVE---------------------

COMMAND ===> _

Workload - ACCTTSO
Description - Acct TSO Users
Response time of ===> 0 seconds
   for ===> 0 percent of all transactions
   and ===> 0 seconds
   for ===> 0 percent of all transactions
   Between ===> 00:00 (Begin time hh:mm)
   and ===> 23:59 (End time hh:mm)
Enter END when all entries are complete.
Enter DELETE to delete service objectives.
Enter CANCEL to cancel service objective specification.

Chapter 4 Defining workloads and service objectives  77
13 Examine each group of fields:

- **Response time fields**
  You can use these fields to specify the service-level objectives for the workload in terms that users themselves understand. Your service objectives for ACCTTSO might look something like this:

<table>
<thead>
<tr>
<th>Response time of</th>
<th>1 second</th>
<th>for 90% of all transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>and</td>
<td>3 seconds</td>
<td>for 100% of all transactions</td>
</tr>
</tbody>
</table>

These values tell MainView for z/OS that you want 90 percent of all TSO transactions in this workload to complete in one second or less, and that you want 100 percent of all transactions to complete in no more than three seconds.

- **Begin and end time fields**
  Your Accounting TSO users are mainly active between the hours of 7:00 A.M. and 8:00 P.M., so you type

<table>
<thead>
<tr>
<th>Between</th>
<th>07:00 (Begin time hh:mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>and</td>
<td>20:00 (End time hh:mm)</td>
</tr>
</tbody>
</table>

These values tell MainView for z/OS to keep track of how well ACCTTSO is meeting its service objectives from 7:00 A.M. to 8:00 P.M. During this time, you will be able to use views like WOBJ and WRT to see how well ACCTTSO is meeting its objectives.

14 Press **PF3** twice to exit the TSO Service Objective Specification panel and return to WKLIST, as shown in Figure 36 on page 78.
As you can see, ACCTTSO has been added to WKLIST in alphabetical order by workload name. ACCTTSO remains on WKLIST until you delete it or change its name.

Other information that you can discern from WKLIST is as follows:

- The **Obj** field for ACCTTSO has a value of **YES**, which reflects the fact that you did indeed specify service objectives for the workload.

- The **Istatus** (Initial Status) field for ACCTTSO is **Active**, which means that MainView for z/OS will begin collecting data for the workload as soon as the product itself becomes active—regardless of when you access the product.

- The **Cstatus** (Current Status) field is also **Active**, which means that MainView for z/OS is currently collecting data for ACCTTSO.

### Example 2 Batch workload

Your next task is to create a workload to monitor all nightly batch updates that are submitted by the Accounting department between the hours of 7:00 P.M. and 6:00 A.M. These batch jobs are divided into four categories:

- jobs that finish in two minutes or less (initiator class A)
- jobs that finish in one hour or less (class B)
- jobs that finish in two hours or less and do not require a tape mount (class K)
- jobs that finish in more than two hours, or jobs that do require a tape mount (class Q)

Begin by examining each step that is involved in creating the first workload that contains jobs in initiator class A:

**To create a workload to monitor all nightly batch updates**

1. Display the WKLIST view.
2 On the COMMANDline, type ADD to display the Add Workload panel, as shown in Figure 37 on page 80.

Figure 37: Add Workload panel to create a batch workload

| BMC Software ----------- ADD WORKLOAD ------------------------------- |
| COMMAND ----> |
| Enter Workload Name, Type and Description. |
| Name ----> |
| Type ----> (ASCH, BAT, OMVS, STC, TSO, COMP) |
| Description ----> |
| Press END when all entries are complete. |
| Enter CANCEL to CANCEL request. |

3 Enter the following data:

a In the Name field, type **ACCTCLSA** — to designate this workload as Accounting jobs running in class A.

b In the Type field, type **BAT** — to identify the workload as a batch workload.

e In the Description field, type a description of the workload.

Your screen looks like Figure 39 on page 80.

Figure 38: Add Workload panel for ACCTCLSA

| BMC Software ----------- ADD WORKLOAD ------------------------------- |
| COMMAND ----> |
| Enter Workload Name, Type and Description. |
| Name ----> ACCTCLSA |
| Type ----> BAT (ASCH, BAT, OMVS, STC, TSO, COMP) |
| Description ----> Acct jobs in class A 7pm-6am |
| Press END when all entries are complete. |
| Enter CANCEL to CANCEL request. |

4 Press PF3 (END) to display the Characterize Batch Workload panel, which looks like Figure 40 on page 82.

Figure 39: Characterize Batch Workload panel for ACCTCLSA

| BMC Software ----------- CHARACTERIZE BATCH WORKLOAD ------------------------------- |
| COMMAND ----> |
| Enter O to specify workload service objectives |
| Workload - ACCTCLSA |
| Description - Acct jobs in class A 7pm-6am |
| Initial status ----> ACTIVE (Initial collection status, Active/Inactv) |
| Specify the following selection criteria: |
| Jobname ----> * |
| Job class ----> |
| Service class ----> |
| Programmer name ----> |
| Accounting Information Data ----> |
| Field # ----> Offset ----> |
| I/E ----> (Include/Exclude Address space if account data matches) |
| Press END when all entries are complete. |
| Enter CANCEL to cancel workload characterization. |
5 Look at the fields on this panel:

- The contents of the **Workload** and **Description** fields are what you specified on the Add Workload panel.

- The default value in the **Initial Status** field is ACTIVE, meaning that MainView for z/OS will begin collecting data for this workload as soon as the product itself is initialized.

  However, for this workload, you are interested only in those jobs that are active between 7:00 P.M. and 6:00 A.M., so there is no need to collect data on Accounting batch jobs on an on-going basis.

6 Change this status to **INACTV**. MainView for z/OS will not begin collecting data for ACCTCLSA until 7:00 P.M. (which you will specify later).

You can use the next few fields to specify selection criteria for ACCTCLSA.

7 In the **Job class** field, type **A** to select all batch jobs running in class A.

   As in the preceding example, you need to type the appropriate accounting code in the **Accounting Information** fields to select only those batch jobs that are submitted by members of the Accounting department. Remember that the data you specify here is compared to the information about the ACCT keyword on the JCL JOB or EXEC statement.

8 In the **Data** field, type **ACCTNG**.

9 In the **Field #** field, type **5** to indicate that ACCTNG appears in the fifth field of the JCL JOB statement.

10 In the **Offset** field, type **2** to indicate the character string’s position within the field.

11 To *include* all jobs into the workload that match the JCL JOB statement, type **I** (Include) in the **I/E** field.
The screen now looks like Figure 40 on page 82.

**Figure 40: Completed Characterize Batch Workload panel**

BMC Software .......................... CHARACTERIZE BATCH WORKLOAD ..........................
COMMAND ===> _
Enter 0 to specify workload service objectives
Workload - ACCTCLSA
Description - Acct jobs in class A 7pm-6am
Initial status ===> INACTV (Initial collection status, Active/Inactv)
Specify the following selection criteria:
Jobname ===> *
Job class ===> A
Service class ===> 
Programmer name ===> 
Accounting Information
Data ===> ACCTNG
Field # ===> 5 Offset ===> 2
I/E ===> I (Include/Exclude Address space if account data matches)
Enter END when all entries are complete.
Enter CANCEL to cancel workload characterization.

12 On the COMMANDline, type O and press Enter to display the Specify Batch Service Objective panel, as shown in Figure 41 on page 82.

**Figure 41: Specify Batch Service Objective panel**

BMC Software .......................... SPECIFY BATCH SERVICE OBJECTIVE ..........................
COMMAND ===> _
Workload - ACCTCLSA
Description - Acct jobs in class A 7pm-6am
Turnaround time of ===> 0 minutes
for ===> 0 percent of all jobs
and ===> 0 minutes
for ===> 0 percent of all jobs
Between ===> 00:00 (Begin time hh:mm)
and ===> 23:59 (End time hh:mm)
JES queue time ===> N (Y/N, Include queue time in turnaround time)
Enter END when all entries are complete.
Enter DELETE to delete service objectives.
Enter CANCEL to cancel service objective specification.

13 Fill in each field as follows:

- Turnaround time fields
  According to the specifications that were given at the beginning of this example, the jobs in ACCTCLSA should not take longer than two minutes to complete. Fill in the fields as follows:

<table>
<thead>
<tr>
<th>Turnaround time of</th>
<th>====&gt;</th>
<th>1</th>
<th>minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>for</td>
<td>====&gt;</td>
<td>90% of all jobs</td>
<td></td>
</tr>
<tr>
<td>and</td>
<td>====&gt;</td>
<td>2</td>
<td>minutes</td>
</tr>
<tr>
<td>for</td>
<td>====&gt;</td>
<td>100% of all jobs</td>
<td></td>
</tr>
</tbody>
</table>

These values tell the MainView for z/OS product that 90 percent of the batch jobs in class A should complete in one minute and 100 percent should complete in no more than two minutes.
Begin and end time fields
You want MainView for z/OS to monitor ACCTCLSA between 7:00 P.M. and 6:00 A.M., so type the following:

<table>
<thead>
<tr>
<th>Between</th>
<th>===&gt;</th>
<th>19:00</th>
<th>(Begin time hh:mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>and</td>
<td>===&gt;</td>
<td>06:00</td>
<td>(End time hh:mm)</td>
</tr>
</tbody>
</table>

JES queue time
Keep the default value of N. (If you specify Y in this field, the amount of time that each job spends in a JES queue will be factored into how well the workload as a whole meets its service-level objectives.)

Press PF3 twice to exit the Specify Batch Service Objective panel and return to WKLIST.

ACCTCLSA is added to WKLIST in alphabetical order, which places it just before your other workload, ACCTTSO, as shown in Figure 42 on page 83.

Figure 42: WKLIST view with a newly created workload

```
DDMMYY    HH:MM:SS -------- MainView WINDOW INTERFACE (Vv.r.mm) ----------------
COMMAND  ===>                                                 SCROLL ===> CSR
CURR WIN ===> 1        ALT WIN ===> W1=WKLIST===========CXTSTH===*========DDMMMYYYY==HH:MM:SS=====MVMVS==D-----53
C Workload Type Description                   Istatu  Cstatu  Obj  Begin  End
- -------- ---- --------------------------    ------  ------ ---   -----  ---
ACCTCLSA BAT  Acct jobs in class A 7pm-6am  Inactv Inactv YES  19:00  06:00
ACCTTSO TSO  Acct TSO User                 Active  Actvtv  NO   07:00  20:00
ALLASC ASCH All ASCH Address Spaces          Active  Active  NO   00:00  00:00
ALLBAT BAT All Batch Address Spaces          Active  Active  NO   00:00  00:00
ALLOMVS OMVS All Open MVS Address Spaces     Active  Active  NO   00:00  00:00
ALLSTC STC All Started Tasks                 Active  Active  NO   00:00  00:00
ALLTSO TSO All TSO Address Spaces            Active  Active  NO   00:00  00:00
ALLWKLD COMP All Address Spaces              Active  Active  NO   00:00  00:00
APPC WKLD APPC Workload                      Active  Inactv  NO   00:00  00:00
APPCHOT SCLS APPC Hot Transactions           Active  Active  YES  00:00  23:59
APPNCNRM SCLS APPC Normal Transactions       Active  Active  YES  00:00  23:59
BATCH WKLD Batch Workload                   Active  Active  YES  00:00  23:59
BATHAL SCLS Batch Hal Jobs                   Active  Active  YES  00:00  23:59
BATHOT SCLS Batch Hot Jobs                   Active  Active  YES  00:00  23:59
BATNRM SCLS Batch Normal Jobs                Active  Active  YES  00:00  23:59
BATPROD SCLS Batch Production Jobs           Active  Active  YES  00:00  23:59
BPY3205 COMP test/3205                     Active  Inactv  NO   00:00  00:00
```

ACCTCLSA remains on WKLIST until you either delete it or rename it.

Other useful information about WKLIST is as follows:

- The **Obj** field for ACCTCLSA has a value of YES, which reflects the fact that you specified service objectives for the workload.

- The **Istatus** (Initial Status) field for ACCTCLSA is INACTV, which means that the MainView for z/OS product will not collect data for the workload by default, but will collect only when you use the R command to start data collection.
The **Cstatus** (Current Status) field is also **INACTV**. Because you want MainView for z/OS to collect data for ACCTCLSA while its service objectives are active— from 7:00 P.M. to 6:00 A.M.—you must explicitly start collection activity by using the R (Rename) line command either at or before 7:00 P.M.

Now that you have created the first workload for Accounting’s nightly batch updates, it should be a simple matter to create the other three workloads. The steps are exactly the same, except that you give each workload a different name (say, ACCTCLSB, ACCTCLSK, and ACCTCLSQ), specify different values in the **Job Class** field (B, K, and Q, respectively), and assign appropriate turnaround times to each workload.

When you have finished, WKLIST will look like **Figure 43 on page 84**.

**Figure 43: WKLIST view after creating several new workloads**

<table>
<thead>
<tr>
<th>Workload</th>
<th>Type</th>
<th>Description</th>
<th>Istatus</th>
<th>Cstatus</th>
<th>Obj</th>
<th>Begin</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTCLSA</td>
<td>BAT</td>
<td>Acct jobs in class A 7pm-6am</td>
<td>Inactv</td>
<td>Inactv</td>
<td>YES</td>
<td>19:00</td>
<td>06:00</td>
</tr>
<tr>
<td>ACCTCLSB</td>
<td>BAT</td>
<td>Acct jobs in class B 7pm-6am</td>
<td>Inactv</td>
<td>Inactv</td>
<td>YES</td>
<td>19:00</td>
<td>06:00</td>
</tr>
<tr>
<td>ACCTCLSK</td>
<td>BAT</td>
<td>Acct jobs in class K 7pm-6am</td>
<td>Inactv</td>
<td>Inactv</td>
<td>YES</td>
<td>19:00</td>
<td>06:00</td>
</tr>
<tr>
<td>ACCTCLSQ</td>
<td>BAT</td>
<td>Acct jobs in class Q 7pm-6am</td>
<td>Inactv</td>
<td>Inactv</td>
<td>YES</td>
<td>19:00</td>
<td>06:00</td>
</tr>
<tr>
<td>ACCTTSO</td>
<td>TSO</td>
<td>Acct TSO Users</td>
<td>Active</td>
<td>Active</td>
<td>NO</td>
<td>07:00</td>
<td>20:00</td>
</tr>
<tr>
<td>ALLASCH</td>
<td>ASCH</td>
<td>All APPC Address Space</td>
<td>Active</td>
<td>Active</td>
<td>NO</td>
<td>00:00</td>
<td>00:00</td>
</tr>
<tr>
<td>ALLBAT</td>
<td>BAT</td>
<td>All Batch Address Spaces</td>
<td>Active</td>
<td>Active</td>
<td>NO</td>
<td>00:00</td>
<td>00:00</td>
</tr>
<tr>
<td>ALLSTC</td>
<td>STC</td>
<td>All Started Tasks</td>
<td>Active</td>
<td>Active</td>
<td>NO</td>
<td>00:00</td>
<td>00:00</td>
</tr>
<tr>
<td>ALL</td>
<td>TSO</td>
<td>All TSO Address Spaces</td>
<td>Active</td>
<td>Active</td>
<td>NO</td>
<td>00:00</td>
<td>00:00</td>
</tr>
<tr>
<td>ALLWKLDS</td>
<td>COMP</td>
<td>All Address Spaces</td>
<td>Active</td>
<td>Active</td>
<td>NO</td>
<td>00:00</td>
<td>00:00</td>
</tr>
<tr>
<td>COMPO1</td>
<td>COMP</td>
<td>Test Workload</td>
<td>Active</td>
<td>YES</td>
<td></td>
<td>08:00</td>
<td>17:00</td>
</tr>
<tr>
<td>HOTBATCH</td>
<td>BAT</td>
<td>Hot Batch</td>
<td>Active</td>
<td>Active</td>
<td>NO</td>
<td>00:00</td>
<td>00:00</td>
</tr>
<tr>
<td>ENGBAT</td>
<td>BAT</td>
<td>All Engineering Batch Jobs</td>
<td>Active</td>
<td>Active</td>
<td>NO</td>
<td>00:00</td>
<td>00:00</td>
</tr>
</tbody>
</table>

### Example 3 Creating a composite workload

This next example shows you how to combine both TSO and batch workloads into a single composite workload that is devoted exclusively to Accounting. For resource-planning purposes, you want to create a composite workload to track all of Accounting’s system activity—both TSO and batch—as a single entity. Follow these steps:

1. Display the WKLIST view.
2 On the COMMAND line, type **ADD** to display the Add Workload panel, as shown in Figure 44 on page 85.

**Figure 44: Create a composite workload using Add Workload panel**

| BMC Software -------------- ADD WORKLOAD --------------------------------- |
| COMMAND => |
| Enter Workload Name, Type and Description. |
| Name ===> |
| Type ===> (ASCH, BAT, OMVS, STC, TSO, COMP) |
| Description ===> |
| Press END when all entries are complete. |
| Enter CANCEL to CANCEL request. |

3 Fill in each field as follows:

- To indicate that this workload tracks all Accounting activity, type **ACCTALL** in the **Name** field.

- To identify the workload as a composite workload, type **COMP** in the **Type** field.

- In the **Description** field, type a description of the workload, as shown in Figure 45 on page 85.

**Figure 45: Add Workload panel for ACCTALL**

| BMC Software -------------- ADD WORKLOAD --------------------------------- |
| COMMAND => |
| CSR |
| Enter Workload Name, Type and Description. |
| Name ===> ACCTALL |
| Type ===> COMP (ASCH, BAT, OMVS, STC, TSO, COMP) |
| Description ===> All Accounting work |
| Press END when all entries are complete. |
| Enter CANCEL to CANCEL request. |

4 Press **PF3** (END) to display the Characterize Composite Workload panel, which looks like Figure 46 on page 85.

**Figure 46: Characterize Composite Workload panel for ACCTALL**

<p>| BMC Software -------------- CHARACTERIZE COMPOSITE WORKLOAD --------------------------------- |
| OPTION =&gt; |
| Valid line commands are: |
| D - Delete selected workload |
| A - Add workloads to this composite |
| Description - ACCTALL |
| Initial status ===&gt; ACTIVE (Initial collection status, Active/Inactv) |
| The sum of all Weighting % fields must be 100. Current total = 0 % |</p>
<table>
<thead>
<tr>
<th>Name Description Weighting %</th>
</tr>
</thead>
</table>

------------------- BOTTOM OF DATA

5 Look at the information on this panel:
Like the other workload characterization panels, the contents of the **Workload** and **Description** fields are simply what you specified on the Add Workload panel.

In addition, the default value in the **Initial Status** field is **ACTIVE**, which means that MainView for z/OS will begin collecting data for this workload as soon as the product is initialized.

The **Name**, **Description**, and **Weighting** fields will contain data after you select some workloads for ACCTALL.

Because you want the MainView for z/OS product to collect data for ACCTALL only during a specified time period, change the **Initial Status** value to **INACTV**.

In the **OPTION** field, type **A** and press **Enter**.

The Composite Workload Characterization panel is displayed, which looks like Figure 47 on page 86.

Figure 47: Composite Workload Characterization panel

This panel lists all of the workloads on WKLIST.

To include a workload into ACCTALL, type **S** next to the workload.
You are interested in only those workloads belonging to the Accounting department, so your screen should look like Figure 48 on page 87.

**Figure 48: Add a workload into ACCTALL**

BMC Software ---- COMPOSITE WORKLOAD CHARACTERIZATION --------- ROW 1 OF 96

**COMMAND ===>**

**Valid line commands are:**

<table>
<thead>
<tr>
<th>S</th>
<th>Select workload for inclusion</th>
</tr>
</thead>
</table>

**Workload** - COMP01

<table>
<thead>
<tr>
<th>Description</th>
<th>Test composite workload</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>S</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>s</td>
<td>ACCTCLSA</td>
<td>Acct jobs in class A 7pm-6am</td>
</tr>
<tr>
<td>s</td>
<td>ACCTCLSB</td>
<td>Acct jobs in class B 7pm-6am</td>
</tr>
<tr>
<td>s</td>
<td>ACCTCLSK</td>
<td>Acct jobs in class K 7pm-6am</td>
</tr>
<tr>
<td>s</td>
<td>ACCTCLSQ</td>
<td>Acct jobs in class Q 7pm-6am</td>
</tr>
<tr>
<td>s</td>
<td>ACCTTSO</td>
<td>Acct TSO Users</td>
</tr>
</tbody>
</table>

| ALLASCH | All APPC Address Spaces |
| ALLBAT | All Batch Jobs |
| ALLMVS | All Open MVS Address Spaces |
| ALLSTC | All Started Tasks |
| ALLTSO | All TSO Address Spaces |
| ALLWKLDS | All Address Spaces |
| COMPO1 | Comp Test Workload |

9 Press **Enter**. Each selected line is flagged with an asterisk (*) to indicate that the workload has been selected.

10 Press **PF3** to exit this panel and return to the first Characterize Composite Workload panel. This panel now lists all of the selected workloads for ACCTALL, as shown in Figure 49 on page 87.

**Figure 49: All selected workloads for ACCTALL**

<table>
<thead>
<tr>
<th>Description</th>
<th>All Accounting work</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Initial status</th>
<th>INACTV (Initial collection status, Active/Inactv)</th>
</tr>
</thead>
</table>

The sum of all Weighting % fields must be 100. Current total = 0 %

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTCLSA</td>
<td>Acct jobs in class A 7pm-6am 0</td>
</tr>
<tr>
<td>ACCTCLSB</td>
<td>Acct jobs in class B 7pm-6am 0</td>
</tr>
<tr>
<td>ACCTCLSK</td>
<td>Acct jobs in class K 7pm-6am 0</td>
</tr>
<tr>
<td>ACCTCLSQ</td>
<td>Acct jobs in class Q 7pm-6am 0</td>
</tr>
<tr>
<td>ACCTTSO</td>
<td>Acct TSO Users 0</td>
</tr>
</tbody>
</table>

********** BOTTOM OF DATA

Your next task is to assign a weighting factor to each workload so that the total is 100. The weighting factor tells MainView for z/OS how much each individual workload counts towards the composite workload’s overall performance.

For example, suppose you determine that you want to use the following criteria when establishing weighting factors:
The TSO activity, monitored by ACCTTSO, is roughly twice as important as all of the combined batch workloads.

The success of ACCTTSO in meeting its service objectives should count for at least 60 percent of how well ACCTALL is doing as a whole.

All batch workloads are equally important.

Assign weighting factors to each workload as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Start Time</th>
<th>End Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acct TSO Users</td>
<td>07:00</td>
<td>20:00</td>
</tr>
<tr>
<td>Acct jobs in class A 7pm-6am</td>
<td>19:00</td>
<td>06:00</td>
</tr>
<tr>
<td>Acct jobs in class B 7pm-6am</td>
<td>19:00</td>
<td>06:00</td>
</tr>
<tr>
<td>Acct jobs in class K 7pm-6am</td>
<td>19:00</td>
<td>06:00</td>
</tr>
<tr>
<td>Acct jobs in class Q 7pm-6am</td>
<td>19:00</td>
<td>06:00</td>
</tr>
</tbody>
</table>

For more information about how weighting factors work, turn to “How weighting factors work” on page 89.

WKLIST should now look like Figure 50 on page 88.

Figure 50: WKLIST view with ACCTALL

ACCTALL remains on WKLIST until you either delete it or rename it.

Other useful information is as follows:

- The Obj field for ACCTALL has a value of YES, meaning that at least one of the constituent workloads of ACCTALL has service objectives established for it, which you know is true.
The **Istatus** (Initial Status) field for ACCTALL is **INACTV**, meaning that MainView for z/OS will not collect data for the workload by default.

The **Cstatus** (Current Status) field is also **INACTV**. Because you want MainView for z/OS to collect data for ACCTALL while its service objectives are active—from 7:00 A.M. to 6:00 A.M.—you must explicitly start collection activity by using the R (Rename) line command either at or before 7:00 A.M.

---

**Note**

Starting collection services for a composite workload automatically starts collection for its constituent workloads. However, the reverse is not true; even if the constituent workloads are currently active, you must still explicitly start a composite workload.

---

**How weighting factors work**

Understanding how weighting factors and service objectives work for composite workloads can be tricky.

The following questions and answers pertaining to the previous example might help.

- **How were the weighting factors selected in “Example 3 Creating a composite workload” on page 84?**
  
  These weighting factors were selected on the basis of the previously stated criteria, as follows:
  
  — ACCTTSO is assigned a weighting factor of 68 percent, roughly twice as much as all other workloads combined (32 percent), and at least 60 percent of ACCTALL’s total weight.
  
  — All batch workloads are equally important, worth 8 percent of ACCTALL’s total weight.

- **What do the weighting factors mean?**
  
  These weighting factors mean that even if three of the batch jobs are meeting 100 percent of their service objectives, but ACCTTSO is meeting only 20 percent, ACCTALL as a whole will not be doing well. Remember, ACCTTSO counts for a full 60 percent of ACCTTSO’s total performance.

- **How will the service objectives of ACCTALL be monitored?**
  
  A composite workload’s service objectives are monitored according to the time periods that are specified by its constituent workloads. In this case, the service objectives for ACCTTSO are monitored from 7:00 A.M. to 8:00 P.M., while the objectives for the batch work are monitored from 7:00 P.M. to 6:00 A.M. Therefore, the service objectives of ACCTALL will be monitored from 7:00 A.M. to 6:00 A.M.
This chapter explains how to protect various components of the MainView for z/OS product. For additional information about security, refer to MainView Security Reference Manual. For specific information about SYSPROG Services, refer to “Protecting CSMON and SYSPROG services” on page 93 and MainView SYSPROG Services User Guide and Reference.

Protecting views and actions

MainView works with your IBM RACF®, CA-TOP SECRET, or CA-ACF2 security package to control access to both view data and actions.

Although the MainView Security Reference Manual fully explains how to use the security views and how they interact with your security package, there are a few things that you should understand now:

- MainView security is implemented through three views:

  — SERDEF
  
  This view lists all of the current security resource definitions on your system and lets you modify them.

  — SERDEFL
  
  This view lists all of the current security resource definitions on your system and lets you select or delete them.

  — SERDEFE
  
  This view shows details of one current security resource definition and lets you change, enable, or disable security checking for that resource.

- When you display SERDEF, you will see that the MainView for z/OS product has defined a separate resource rule for each of following items:

  — view data in general (Can the user see any data?)
— data that is provided by each view table (Can the user see the views that belong to this particular view table?)

— actions in general (Can the user use any actions?)

— actions for a view table (Can the user perform any actions that are associated with this view table?)

— each action (Can the user perform this particular action?)

- You can use SERDEF to secure the job actions CANCEL, KILL, CHANGE SERVICE CLASS, STOP, and DUMP.

Type SERDEF on the COMMAND line, and scroll down until you see the MVMVS Product Actions as shown in Figure 51 on page 92.

Figure 51: SERDEF view showing MVMVS Product Actions

<table>
<thead>
<tr>
<th>DDMMMYYYY HH:MM:SS</th>
<th>Command Line</th>
<th>MVMVS Action</th>
<th>Description</th>
<th>Enable</th>
<th>Change</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVMVS Product Action - Kill (MEMTERM)</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVMVS Product Action - MVS CANCEL</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVMVS Product Action - MVS STOP</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVMVS Product Action - Overtype SRVCLS</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVMVS Product Action - SVC Dump</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVMVS Product Action - Change SRVCLS</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope - Any Action</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope - Action - STOp a Monitor Set</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope provide I/O data</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope Primary Action - MVSCOPE</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope - Action - MONitor start</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope - Action - M command Jsre</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope - Action - M command Dsre</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope - Action - M command Dxre</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope - Action - M command Asiw</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope - Action - M command Wusr</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope - Action - M command Asre</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope - Action - M command WusrEnq</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope - Action - M command WusrHSM</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope - Action - M command WusrJES</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01JAN1919  09:00:00</td>
<td>SCROLL ==&gt; PAGE</td>
<td>MVScope - Action - M command WusrMSG</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note

- CHANGE SERVICE CLASS requires two separate rules— one rule for using the line command and another rule for overtyping a value.

- SERDEF rules for the CANCEL command have changed to a single rule for all methods of invoking the CANCEL action; formerly, there was a rule for each record type.

For example, you might decide to change the SERDEF rule for the KILL action to the following:
With this change, only users who are authorized to update SYS1.PARMLIB will be able to use the KILL action. For more information about using SERDEF, see the MainView Security Reference Manual and the MainView Security Guide.

- A view table is a family of views that display the same type of data. To find out which views are associated with a particular view table, see the MainView Security Reference Manual. Note that although individual actions can be secured, individual views cannot be secured. That is, when you grant or deny access to a view table, you grant or deny access to all views belonging to that table.

- With MainView security, you can add rules for MainView resources to your security package by using the default class and entity names for the resource. You can also change the class and entity names to conform to rules that you have already defined. For example, assume that you already have rules defined for your security package to control access to a resource that is identified by class DATASET and entity name SYS1.PROCLIB. Suppose that you want to use the same rule to control access to the MainView Address Space Table Data. All you have to do is enter CHAnge next to the Address Space Table Data entity on SERDEF, and then change the class to DATASET and the entity to SYS1.PROCLIB. MainView now uses your SYS1.PROCLIB rules for Address Space Table Data.

**Note**

Console access is also restricted through the MainView security views. That is, if you want to prevent users from entering commands at the console, be sure to restrict the entity on the SERDEF view.

---

## Protecting CSMON and SYSPROG services

Misuse of the COMMON STORAGE MONITOR (CSMON) and SYSPROG utilities can be potentially destructive to your system, so access to these two utilities is usually restricted to a select group of users.

The following sections explain how to secure services of SYSPROG and CSMON:

- “Using the BBX SAF interface” on page 94 explains how the BBX SAF security interface works.

- “Securing SYSPROG and CSMON by using the MainView security interface” on page 95 explains how to secure the SYSPROG and CSMON services when used in the MainView for z/OS environment by way of the MainView security interface.
“Securing SYSPROG Services from outside the MainView environment” on page 101 explains where you can find information to secure the SYSPROG utility when used in the TSO, batch, or Started Task environment.

**WARNING**
SYSPROG and CSMON services can be accessed through MainView for z/OS, through TSO as line commands, and in batch jobs and Started Tasks. To secure these services absolutely, you must secure SYSPROG by using the BBSEC member in SYS1.PARMLIB (the built-in BBX SAF interface).

Refer to MainView Security Reference Manual for complete instructions about securing MainView for z/OS components, including information about writing your own user exit to further customize your security scheme.

**Using the BBX SAF interface**

The BBX SAF security interface provides access to your RACF, CA-TOP SECRET, or CA-ACF2 external security manager (ESM).

The BBX SAF security interface is not part of the MainView architecture; it is used to secure BMC Software stand-alone products.

Access to your ESM must be achieved through the BBX SAF interface routine.

**How the BBX SAF interface works**

When you use the BBX SAF security interface to protect either COMMON STORAGE MONITOR functions or SYSPROG services, the MainView for z/OS product uses the following security-checking logic:

1. MainView for z/OS determines whether the type of service is List (which lists only system-resource information) or Update (which actually updates a system resource). Refer to BBSRC(ASYXA1SN) to determine which services are List and which services are Update.
   
   Some services, like the APF system programmer service, have both List and Update functions. For these services, MainView for z/OS examines the appropriate sub-operands to distinguish between a List request, such as APF (without operands), and an Update request, such as APF ADD.

1. MainView for z/OS calls the BBX SAF security interface, which builds a resource name based on parameters in the SYS1.PARMLIB member BBSEC, the service name, and the service function (Update or List).
2 The ESM—RACF, CA-TOP SECRET, or CA-ACF2—uses its database to determine whether the user is allowed access to the resource.

**Note**

SYSPROG and CSMON use the same security interface, whether running stand-alone or within MainView for z/OS. Thus, a common set of resource name specifications suffices for all environments.

---

**Securing SYSPROG and CSMON by using the MainView security interface**

You can use the MainView security interface to enable or disable security for the SYSPROG and CSMON utilities collectively—that is, you can either secure or not secure all SYSPROG and CSMON services.

Individual services (ZAP, EXIT, and so on) cannot be secured by using this interface. For information about securing individual SYSPROG services, see *MainView Security Reference Manual*.

This section explains how to use the MainView security interface to perform the following functions:

- enabling and disabling security for the SYSPROG and CSMON resource definitions
- changing the MainView resource definition for SYSPROG and CSMON services to correspond with a permit, profile, or rule that is already defined to your ESM

**WARNING**

Security for most MainView resources is enabled by default when shipped. If you are customizing MainView security for the first time and want to leave security for SYSPROG and CSMON services enabled, you do not need to perform the steps in “Enabling and disabling security for CSMON” on page 95.

---

**Enabling and disabling security for CSMON**

Because security for most MainView resources, including those resources for CSMON and SYSPROG services, is enabled by default, the following steps show you how to disable security for the CSMON services while leaving security intact for the SYSPROG services.

1 Access the MainView for z/OS product running on the system on which you want to secure the SYSPROG and CSMON utilities.
2 Display the SERDEF view by issuing the following command on the 
COMMAND line:

SERDEF SUFFIX(nn)

In this command, \( nn \) is the two-digit suffix of the security parameter library 
member that is being used by this instance of MainView for z/OS (the target 
PAS).

3 When the SERDEF view is displayed, scroll the cursor down until the MVMVS 
Primary Action - CSMON and MVMVS Primary Action - SYSPROG resources are 
visible. (See Figure 52 on page 96.)

Figure 52: SERDEF view for default (00) member

<table>
<thead>
<tr>
<th>Command Description</th>
<th>Enab</th>
<th>Change</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSM Detail Data - Table Data</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVScope CCW and I/O data - Table Data</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVScope I/O Interrupt - Table Data</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Step - Table Data</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical Control Unit - Table Data</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lpar/Domain - Table Data</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Term Addr Space - Table Data</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Term Device - Table Data</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Term Summary - Table Data</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVScope Monitor Set - Table Data</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVMVS Consoles - Table Data</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVMVS Consoles - Any Action</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVMVS Consoles - Action - Command</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVMVS Consoles List - Table Data</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVMVS Primary Action - CSMON</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVMVS DataSpace - Table Data</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVMVS and MVScope Jsre - Any Action</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVMVS and MVScope Dsre - Any Action</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVMVS - Action - STOp a Monitor Set</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVMVS Primary Action - SYSPROG</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4 On the COMMAND line, type EDIT and press Enter.

This command causes the \text{Edit mode status} field on the window information line 
to change from (00 BROWSE) to (00 EDIT).

\textbf{Note}

You must be in Edit mode before you can enable or disable a resource.
Move the cursor to the line command area of the MVMVS Primary Action - CSMON resource and type **DISABLE**, as shown in Figure 53 on page 97.

**Figure 53: Disabling security for the MainView for z/OS Primary Action—CSMON resource**

<table>
<thead>
<tr>
<th>DDMMMYYYY HH:MM:SS</th>
<th>MainView WINDOW INTERFACE (Vv.r.mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMAND =&gt;</td>
<td>SCROLL =&gt; CSR</td>
</tr>
<tr>
<td>CURR WIN =&gt; 1</td>
<td>ALT WIN =&gt;</td>
</tr>
<tr>
<td>&gt;WI -SERDEF---------SYSE---------*--------(00 EDIT)</td>
<td>MVMVS----D=--123</td>
</tr>
<tr>
<td>CMD Description</td>
<td>Enab Change Comment</td>
</tr>
<tr>
<td>HSM Detail Data - Table Data</td>
<td>Yes</td>
</tr>
<tr>
<td>MVScope CCW and I/O data - Table Data</td>
<td>Yes</td>
</tr>
<tr>
<td>MVScope I/O Interrupt - Table Data</td>
<td>Yes</td>
</tr>
<tr>
<td>Job Step - Table Data</td>
<td>Yes</td>
</tr>
<tr>
<td>Logical Control Unit - Table Data</td>
<td>Yes</td>
</tr>
<tr>
<td>Lpar/Domain - Table Data</td>
<td>Yes</td>
</tr>
<tr>
<td>Long Term Addr Space - Table Data</td>
<td>Yes</td>
</tr>
<tr>
<td>Long Term Device - Table Data</td>
<td>Yes</td>
</tr>
<tr>
<td>Long Term Summary - Table Data</td>
<td>Yes</td>
</tr>
<tr>
<td>MVScope Monitor Set - Table Data</td>
<td>Yes</td>
</tr>
<tr>
<td>MVMVS Consoles - Table Data</td>
<td>Yes</td>
</tr>
<tr>
<td>MVMVS Consoles - Any Action</td>
<td>Yes</td>
</tr>
<tr>
<td>MVMVS Consoles - Action - Command</td>
<td>Yes</td>
</tr>
<tr>
<td>MVMVS Consoles List - Table Data</td>
<td>Yes</td>
</tr>
<tr>
<td>DIS MVMVS Primary Action - CSMON</td>
<td>Yes</td>
</tr>
<tr>
<td>MVMVS DataSpace - Table Data</td>
<td>Yes</td>
</tr>
<tr>
<td>MVMVS and MVScope Jsre - Any Action</td>
<td>Yes</td>
</tr>
<tr>
<td>MVMVS and MVScope Dsre - Any Action</td>
<td>Yes</td>
</tr>
<tr>
<td>MVMVS - Action - STOp a Monitor Set</td>
<td>Yes</td>
</tr>
<tr>
<td>MVMVS Primary Action - SYSPROG</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Press **Enter**.

Notice that the **Enab** field for the MainView for z/OS Primary Action - CSMON resource has changed from **Yes** to **No**, as shown in Figure 54 on page 98, and MOD...
now follows EDIT in the Edit mode status field on the window information line to indicate that a modification has been made.

Figure 54: Disabling the MainView for z/OS Primary Action—CSMON resource

<table>
<thead>
<tr>
<th>Description</th>
<th>Enab</th>
<th>Change Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSM Detail Data - Table Data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>MVScope CCW and I/O data - Table Data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>MVScope I/O Interrupt - Table Data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Job Step - Table Data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Logical Control Unit - Table Data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Lpar/Domain - Table Data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Long Term Address Space - Table Data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Long Term Device - Table Data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Long Term Summary - Table Data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>MVScope Monitor Set - Table Data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>MVMS Consoles - Table Data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>MVMS Consoles - Any Action</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>MVMS Consoles - Action - Command</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>MVMS Consoles List - Table Data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>MVMS Primary Action - CSMON</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>MVMS DataSpace - Table Data</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>MVMS and MVScope Jsre - Any Action</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>MVMS and MVScope Dsre - Any Action</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>MVMS - Action - STOP a Monitor Set</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>MVMS Primary Action - SYSPROG</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

7 To save your change, type SAVE on the COMMAND line.

8 To reinstate security for this resource, type E (Enable) in the line command area of the MVMS Primary Action - CSMON resource.

Note
To enable or disable security simultaneously for both the MVMS Primary Action - CSMON and MVMS Primary Action - SYSPROG resources, you can enable or disable the Default - Primary Actions (All Views) resource, which provides high-level control over CSMON and SYSPROG services.

Changing SYSPROG and CSMON resource definitions
You can use the MainView security interface to control access to MainView resources with permits, profiles, or rules that are already defined to your ESM.

To use an existing permit, profile, or rule to secure the SYSPROG and CSMON utilities

1 Access the MainView for z/OS product running on the system on which you want to secure the SYSPROG and CSMON utilities.
Display the SERDEF view by issuing the following command on the COMMAND line:

SERDEF SUFFIX(nn)

In this command, nn is the two-digit suffix of the security parameter library member that is being used by this instance of MainView for z/OS (the target PAS).

On the COMMAND line, type EDIT and press Enter.

This action causes the Edit mode status field on the window information line to change from (00 BROWSE ) to (00 EDIT ).

Move the cursor to the line command area of the Default - Primary Actions (All Views) resource, and type CHAnge as shown in Figure 55 on page 99.

This resource provides high-level control over both the SYSPROG and CSMON services. When you change this resource definition, you are changing the individual resources that control access to these utilities.

Note
Implement changes to the Default - Primary Actions (All Views) resource only if you want to change both the CSMON and SYSPROG services collectively. To change only CSMON services, access the MVMVS Primary Action - CSMON resource; to change only SYSPROG services, access the MVMVS Primary Action - SYSPROG resource.

Figure 55: Issuing the CHAnge command in the SERDEF view

---

5 Press Enter.
The Change Resource Authorization Definition panel is displayed, as shown in Figure 56 on page 100.

Figure 56: Change Resource Authorization Definition panel

You can use this panel to change class name, entity name, access intent, or logging attributes for the Default - Primary Actions (All Views) resource.

If you have an existing permit, profile, or rule defined to your ESM that prohibits all users access to a group of resources, you can type the entity name for that group in the EntName field. When a user attempts to access this resource, the permit, profile, or rule that is defined to your ESM is used to determine whether access is granted or denied.

**Note**

Whatever values you change for the Default - Primary Actions (All Views) resource definition are changed automatically for the MVMVS Primary Action - CSMON and the MVMVS Primary Action - SYSPROG resources as well.

For this example, you have defined a permit, profile, or rule to your ESM that prohibits all users from accessing a group of resources, the entity name of which is BBM.NOACCESS.ALLUSERS.
6 Move the cursor to the **EntName** field and type **BBM.NOACCESS.ALLUSERS**, as shown in **Figure 57 on page 101**.

**Figure 57: Changing a MainView resource entity name**

<table>
<thead>
<tr>
<th>COMMAND</th>
<th>SCROLL</th>
<th>DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>#Default</td>
<td>Primary Actions (All Views)</td>
<td></td>
</tr>
<tr>
<td>MVMVS</td>
<td>Type</td>
<td>ACTION</td>
</tr>
<tr>
<td>Internal Object</td>
<td>Internal Action</td>
<td>ACTION</td>
</tr>
<tr>
<td>Y</td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>fields</td>
<td>parm 2</td>
<td>-</td>
</tr>
<tr>
<td>parm 3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>parm 4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Class $BBM</td>
<td>EntName BBM.NOACCESS.ALLUSERS</td>
<td></td>
</tr>
<tr>
<td>Intent READ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LogAuth A (A-Allow N-Never)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LogFail A (A-Allow N-Never)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>END to exit saving changes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CANCEL to exit without saving changes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HELP to view related help</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RESET to reset to initial data</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7 After you have made this change, press **PF3** (END) to return to the SERDEF view.

Notice that the appearance of this resource has changed, and the **EDIT** value on the window information line is now followed by **MOD** to indicate your modification.

8 On the COMMAND line, type **SAVE** to save your changes.

9 Recycle the CAS and, if necessary, recycle the PAS to activate your change in the security resource definition member.

**Note**

COMMON STORAGE MONITOR services cannot be secured through BBX SAF; they can only be secured as described in *MainView Security Reference Manual.*

---

Securing SYSPROG Services from outside the MainView environment

For information about how to secure SYSPROG and CSMON services outside the MainView environment, see the *MainView Security Reference Manual.*
Maintaining workload definitions

This chapter explains how to manage workload definitions after they have been defined.

Describing workload management tasks

The following table describes the tasks that you can perform from the WKLIST view.

The **Cmd Type** column tells you whether to enter the command in the line command column (LINE) or on the COMMAND line (CMD).

### Table 6: Tasks performed from the WKLIST view

<table>
<thead>
<tr>
<th>Task</th>
<th>Command</th>
<th>Cmd type</th>
<th>More information</th>
</tr>
</thead>
<tbody>
<tr>
<td>add a workload definition</td>
<td>ADD</td>
<td>CMD</td>
<td>“Creating workload definitions” on page 54</td>
</tr>
<tr>
<td>delete a workload definition</td>
<td>D</td>
<td>LINE</td>
<td>“Deleting a workload definition” on page 104</td>
</tr>
<tr>
<td>change a workload’s selection criteria or initial status</td>
<td>S</td>
<td>LINE</td>
<td>“Updating a workload definition” on page 105</td>
</tr>
<tr>
<td>specify service objectives for a workload</td>
<td>O</td>
<td>LINE</td>
<td>“Setting service objectives” on page 67</td>
</tr>
</tbody>
</table>

Assuming that you do not exit a dialog box by using the CANCEL command, all changes are saved automatically and will be in effect the next time that you access the product.

**Note**

Service class and WLM workloads are defined through WLM dialogs and thus are outside of the control of the MainView for z/OS product. WKLIST cannot be used to modify or delete these types of workloads.
Changing name, description, and current status of a workload

1. On the WKLIST view, type S (Select) in the line command column to the left of the workload name.

2. Press Enter. You will get an update screen for the workload.

3. Type the new information over the existing values.

4. Press Enter.

   The list is re-sorted alphabetically to reflect any changed names.

5. To permanently save the changes, type SAVE on the COMMAND line.

Deleting a workload definition

1. On the WKLIST view, type D in the line command column.

   The Confirm Delete Workload panel is displayed, as shown in Figure 58 on page 104.

   **Figure 58: Confirm Delete Workload panel**

   

<table>
<thead>
<tr>
<th>BMC Software</th>
<th>CONFIRM DELETE WORKLOAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMAND ---</td>
<td></td>
</tr>
<tr>
<td>Workload Name: FIRSTBAT</td>
<td></td>
</tr>
<tr>
<td>Type        : BAT</td>
<td></td>
</tr>
<tr>
<td>Description : First shift work</td>
<td></td>
</tr>
<tr>
<td>INSTRUCTIONS:</td>
<td>Press ENTER key to confirm delete request.</td>
</tr>
<tr>
<td></td>
<td>Enter END command to cancel delete request.</td>
</tr>
</tbody>
</table>

2. Press Enter to confirm the delete request, or type END to cancel it. You are returned to the WKLIST view.

   **Note**

   WLM and service class workloads cannot be deleted through WKLIST.
Updating a workload definition

To update a workload definition.

1. Display WKLIST.

2. In the line command column for the workload definition that you want to change, type S (Select).

   The workload characterization panel for that workload is displayed.

3. Make your changes according to the instructions in “Characterizing workloads” on page 57.
Maintaining the Exception Monitor

This chapter contains the information that you need to maintain a control statement member (a collection of one or more samplers) for use with the Exception Monitor.

For information about displaying messages, see the MainView for z/OS User Guide and Reference.

Displaying the Exception Monitor member list

To create, delete, or update control statement members, begin with the Exception Monitor - Member List panel.

To display the Exception Monitor - Member List panel

1. Display the EMSTAT view.
2. Place the cursor on the Mem Name field, and then press Enter.

The Exception Monitor - Member List panel is displayed, as shown in Figure 59 on page 107.

Figure 59: Exception Monitor - Member List panel

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Last Modified</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWSCPMJR</td>
<td>TEST MULTIPLE DEV SAMPLERS</td>
<td>MM/DD/YY 14:17</td>
<td>MAK1</td>
</tr>
<tr>
<td>PWSCPMJW</td>
<td>MONITOR SYSTEM PAGING</td>
<td>MM/DD/YY 11:03</td>
<td>WEC2</td>
</tr>
<tr>
<td>PWSCPMMK</td>
<td>TSO ANALYSIS</td>
<td>MM/DD/YY 08:30</td>
<td>IMS1</td>
</tr>
<tr>
<td>PWSCPMSU</td>
<td>test</td>
<td>MM/DD/YY 17:31</td>
<td>JAM1</td>
</tr>
<tr>
<td>PWSCPMMV</td>
<td>MVMVS Exception Samplers</td>
<td>MM/DD/YY 10:03</td>
<td>WEC2</td>
</tr>
</tbody>
</table>

* ****************************** Bottom of data *********************************

* OPTION  ===>                                              SCROLL ===>
PAGE
Valid line commands are:                    Valid OPTIONs are:
S - Select this member for update           C - Create new member
E - Execute AEWS with this member           A - Display/Update active AEWS
D - Delete this member from list            Samplers
P - Stop AEWS sampling

The Exception Monitor - Member List panel is displayed, as shown in Figure 59 on page 107.
The Exception Monitor - Member List panel displays all of the currently defined control statement members, their descriptions, the date they were last modified, and the user who created them. It also displays the current status of the Exception Monitor (ACTIVE or INACTIVE) in the upper right corner.

From the Exception Monitor - Member List panel, you can perform the tasks that are shown in Table 7 on page 108 by using the appropriate line command.

Table 7: Exception Monitor member list tasks

<table>
<thead>
<tr>
<th>Task</th>
<th>Line command</th>
<th>Option</th>
<th>More information</th>
</tr>
</thead>
<tbody>
<tr>
<td>create a control statement member</td>
<td>not applicable</td>
<td>C</td>
<td>“Creating control statement members” on page 108</td>
</tr>
<tr>
<td>delete a control statement member</td>
<td>D</td>
<td>not applicable</td>
<td>“Deleting a control statement member” on page 110</td>
</tr>
<tr>
<td>update a control statement member</td>
<td>S</td>
<td>not applicable</td>
<td>“Updating a control statement member” on page 113</td>
</tr>
<tr>
<td>display a list of active samplers</td>
<td>not applicable</td>
<td>A</td>
<td>“Displaying the list of active samplers” on page 111</td>
</tr>
<tr>
<td>set new thresholds for active and inactive samplers</td>
<td>S (inactive)</td>
<td>A (active)</td>
<td>“Setting new thresholds for a sampler” on page 115</td>
</tr>
<tr>
<td>change the interval amount</td>
<td>not applicable</td>
<td>not applicable</td>
<td>“Changing the Exception Monitor interval” on page 111</td>
</tr>
<tr>
<td>start the Exception Monitor</td>
<td>E</td>
<td>not applicable</td>
<td>“Manually starting and stopping the Exception Monitor” on page 48</td>
</tr>
<tr>
<td>stop the Exception Monitor</td>
<td>not applicable</td>
<td>P</td>
<td>“Manually starting and stopping the Exception Monitor” on page 48</td>
</tr>
</tbody>
</table>

Creating control statement members

1 From the Exception Monitor - Member List panel, type C (Create) on the OPTION line to display the Sampler Selection panel, shown in Figure 60 on page 109.
From this panel, you can select the samplers that you want to include in the new member.

**Figure 60: Sampler Selection panel**

<table>
<thead>
<tr>
<th>Command</th>
<th>More: +</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTERVAL</td>
<td>5</td>
</tr>
<tr>
<td>INTERVAL</td>
<td></td>
</tr>
<tr>
<td>(Number of report intervals between warnings)</td>
<td></td>
</tr>
<tr>
<td>MINUTES</td>
<td>2</td>
</tr>
<tr>
<td>MINUTES</td>
<td></td>
</tr>
<tr>
<td>(The number of minutes that an enqueue conflict must exist for a warning message to be issued)</td>
<td></td>
</tr>
</tbody>
</table>

Press ENTER to update parameters
END to cancel update request

The ENQ sampler monitors enqueue conflicts and issues a warning message when jobs have been waiting for enqueued resources for more than a specified interval.

Press HELP for more information

2 In the **Member Suffix** field, type a one- or two-digit alphanumeric suffix of your choice.

MainView for z/OS appends this suffix to the default prefix, PWSCPM.

3 In the **Description** field, type a description that does not exceed 40 characters.

4 Decide which samplers you want to include in the new control statement member.

**Note**

See the MainView for z/OS User Guide and Reference for a description of each sampler and the warning messages that it produces.

To search for a sampler by name, type L sampler on the COMMAND line, where *sampler* is the sampler’s name. The sampler is scrolled to the top of the screen.

5 Select a sampler by performing one of the following tasks:

- To select a sampler *without changing the default thresholds*, type A (Add) next to the appropriate name, and press Enter.
  
  SELECTED appears to the right of the sampler.

- To *set a threshold* for the sampler, type S (Sampler) next to the sampler name, and press Enter.

A sampler information panel for that sampler is displayed.
The sampler information panel for the ENQ Sampler is shown in Figure 61 on page 110.

Figure 61: ENQ Sampler Information panel

<table>
<thead>
<tr>
<th>OPTION</th>
<th>SCROLL</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWSCPM00 ACTIVE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Valid line commands are:
- S - Select sampler information panel
- A - Add sampler to this member

Valid OPTIONs are:
- L - Locate a sampler in the list

Sampler | Description
---------|----------------
ACPU     | ADDRESS SPACE CPU SAMPLER
AIO      | ADDRESS SPACE I/O UTILIZATION SAMPLER
AIOR     | ADDRESS SPACE I/O RATE SAMPLER
APAG     | ADDRESS SPACE PAGING SAMPLER
APGR     | ADDRESS SPACE PAGING RATE SAMPLER
ASRV     | ADDRESS SPACE SERVICE UNIT UTILIZATION SAMPLER
ASSR     | ADDRESS SPACE SERVICE UNIT RATE SAMPLER

6 Type the values that you want. Use the HELP command if you need more information.

7 To save your changes, press Enter (or press END to discard your changes and return to the Sampler Selection panel).

The sampler is now selected for inclusion into the new member.

8 When you are finished adding samplers, press END to exit the Sampler Selection panel and return to the Exception Monitor - Member List panel.

9 To start the Exception Monitor using the new member, use the E (Execute) command.

**Note**

If the Exception Monitor is already active, you must first use the P command to stop the Exception Monitor; then restart the Monitor by using the E command.

---

### Deleting a control statement member

**WARNING**

Use the D command with caution; a confirmation panel does not appear.

To delete a control statement member, display the Exception Monitor - Member List panel and use the D (Delete) line command.
Changing the Exception Monitor interval

This topic describes changing the Exception Monitor interval.

As described in “Understanding the Exception Monitor” on page 45, the Exception Monitor gathers information on a given resource based on the interval that you specify on the associated sampler. The default interval is 30 seconds. Therefore, if you type CPU 2 in your PWSCPMxx control statement member, the Exception Monitor gathers information on CPU utilization every 2 intervals—or every 60 seconds.

You can change the length of the interval from the default interval of 30 seconds to anywhere from 5 to 60 seconds, using the INT parameter. If you issue more than one INT parameter, the last one issued affects all active samplers.

Suppose you used the Exception Monitor - Member List panel to construct a PWSCPM xx member consisting of the following samplers:

BIO 2CQD 3INT 45CPU DOM 2INT 7

The first INT parameter, INT=45, is ignored. The Exception Monitor gathers information on each sampler as follows:

<table>
<thead>
<tr>
<th>For this sampler</th>
<th>Information Is gathered</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO</td>
<td>every 14 seconds (two 7-second intervals)</td>
</tr>
<tr>
<td>CQD</td>
<td>every 21 seconds (three 7-second intervals)</td>
</tr>
<tr>
<td>CPU</td>
<td>every 7 seconds</td>
</tr>
<tr>
<td>DOM</td>
<td>every 14 seconds (two 7-second intervals)</td>
</tr>
</tbody>
</table>

Displaying the list of active samplers

To find out what samplers are in the currently executing control statement member

1. Display the EMSTAT view.
2 Place the cursor on the Mem Name field, and then press Enter. The Exception Monitor - Member List panel is displayed, as shown in Figure 62 on page 112.

**Figure 62: Using Exception Monitor member list to display samplers**

```
DDMMMYYYY HH:MM:SS -------- MAINVIEW WINDOW INTERFACE (Vv.r.mm) ----------
COMMAND ===> SCROLL ===> PAGE
CURR WIN ===> 1 ALT WIN ===> W1 = EMSTAT ============= SYSD ========= DDMMMYYYY == HH:MM:SS == MVMS ===== D = 1
C Mem Name Current Total

+-----------------------------------------------------------------------------+
|------------------ EXCEPTION MONITOR - MEMBER LIST --------- ROW 1 TO 5 of 5 |
| OPTION ===> SCROLL ===> PAGE |
PWSCPMMO0 ACTIVE
Valid line commands are: Valid OPTIONS are:
S - Select this member for update       C - Create new member
E - Execute AEWS with this member       A - Display/Update active AEWS
D - Delete this member from list            Samplers

Name      Description                             Last Modified   User
-------------------------------
PWSCPMMJ  TEST MULTIPLE DEV SAMPLERS MM/DD/YY 14:17 MAK1
PWSCPMMW  MONITOR SYSTEM PAGING MM/DD/YY 11:03 WEC2
PWSCPMMK  TSO ANALYSIS MM/DD/YY 08:30 IMS1
PWSCPMMU  test MM/DD/YY 17:31 JAM1
PWSCPMMV  MVMS Exception Samplers MM/DD/YY 10:03 WEC2

***************************** Bottom of data ******************************
```

3 On the OPTION line, type A. (The A command is valid only when the Exception Monitor is active.)

The Active Samplers panel is displayed, as shown in Figure 63 on page 112.

**Figure 63: Active Samplers panel**

```
---------- EXCEPTION MONITOR - ACTIVE SAMPLERS -- Row 1 to 8 of 44
COMMAND ===> SCROLL ===> PAGE
PWSCPMMO0 ACTIVE
Valid line commands are:
S - Select sampler information panel to modify parameters

Sampling member: PWSCPMMO -

Name      Description
-------------------------------
ACPU      ADDRESS SPACE CPU SAMPLER
AIO       ADDRESS SPACE I/O UTILIZATION SAMPLER
APAG      ADDRESS SPACE PAGING SAMPLER
ASRV      ADDRESS SPACE SERVICE UNIT UTILIZATION SAMPLER
BCPU      BATCH CPU UTILIZATION SAMPLER
CPU       CPU UTILIZATION SAMPLER
CQD       CPU QUEUE DEPTH SAMPLER
CSA       CSA AND SQA UTILIZATION SAMPLER
DIQ       DASD I/O QUEUE SAMPLER
ENQ       ENQUEUE CONFLICT SAMPLER

The Active Samplers panel lists all of the samplers that are defined for the currently active control statement member.

4 Use the S line command to display the thresholds for any of the samplers and make changes to them, if desired.
Note
Any changes that are made from the Active Samplers list are saved and will be in effect the next time that you activate the control member statement.

Updating a control statement member

After you have created a control statement member, you can update it by

- adding samplers to the member
- deleting samplers from the member
- setting new thresholds for samplers in the member

All control statement member updates are made from the Exception Monitor - Sampler List panel.

To display the Exception Monitor - Sampler List panel

1. Display the Exception Monitor - Member List panel.
2. Type S next to the member that you want to update.

The Exception Monitor - Sampler List panel displays all of the samplers that are currently defined for that member. The sampler list for the PWSCPMCB member is shown in Figure 64 on page 113.

Figure 64: Exception Monitor sampler list

<table>
<thead>
<tr>
<th>VALID OPTIONS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>S - Select sampler information panel</td>
<td>A - Add samplers to this member</td>
</tr>
<tr>
<td>D - Delete sampler from this member</td>
<td>E - Start AEW with this member</td>
</tr>
</tbody>
</table>

From this panel, you can perform any of the following tasks:

- add a sampler (A)
Adding a sampler to a member

To add a sampler to a member.

1. From the Exception Monitor - Sampler List, type **A** on the **OPTION** line.

   The EMSTAT - Sampler Selection panel is displayed. The sampler list for the PWSCPMCB member is shown in Figure 65 on page 114.

   **Figure 65: Sampler selection panel for PWSCPMCB**

<table>
<thead>
<tr>
<th>OPTION</th>
<th>SCROLL</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSTAT - SAMPLER SELECTION - PWSCPMCB</td>
<td>PWSCPMCB ACTIVE</td>
<td></td>
</tr>
<tr>
<td>Valid line commands are: S - Select sampler information panel A - Add sampler to AEWS member</td>
<td>Valid OPTIONs are: L - Locate a sampler in the list</td>
<td></td>
</tr>
<tr>
<td>Sampler</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>Bottom of data ---------</td>
<td></td>
</tr>
</tbody>
</table>

2. Complete Step 4 on page 109 through Step 7 on page 110 in “Creating control statement members” on page 108.

3. When you are finished, press **END** to exit the Sampler Selection panel and return to the Sampler List panel.

4. To start the Exception Monitor using the member that you selected for update, type **E** in the line command field.

   **Note**
   If the Exception Monitor is already active, you must first return to the Exception Monitor - Member List panel and use the **P** command to stop the Exception Monitor; then restart the Monitor by using the **E** command.

Deleting samplers from a member

To delete a sampler from a member, type **D** next to the sampler on the Sampler List panel, and press **Enter**.
Setting new thresholds for a sampler

You can set new thresholds for any sampler in any member, whether the member is currently active or not.

To set new thresholds for a sampler

1. On the Sampler List panel, type A next to the active sampler or type S next to the inactive sampler for which you want to set new thresholds.

   The sampler information panel for that sampler is displayed.

2. Type the new values in the input fields.

3. When finished, perform one of the following tasks:
   - Press Enter to update the sampler with the new changes. If the sampler is currently active, any changes are valid only as long as the sampler remains active.
   - If you want to exit the panel without saving the changes, press END to return to the Sampler List panel as it was before you made any changes.
Function codes for single-node SAF resource rules

The following appendix describes the function codes for single-node SAF resource rules.

If you are using the single-node method for building SAF security resource rules, place two-character function codes in your security database to specify the services that you want to protect.

A complete list of the SYSPROG services and the corresponding function codes can be found in BBSRC(AXTXA1SN). Use the function codes only if you have specified OLDRULE=YES in member BBSEC. Refer to MainView Security Reference Manual and the MainView SYSPROG Services User Guide and Reference for additional information about securing SYSPROG services and the COMMON STORAGE MONITOR.

Note

The function codes and the FUNCTION parameter that is found in BBSRC(AXTXA1SN) are not equivalent.

The following tables list the function codes that you use to protect COMMON STORAGE MONITOR services.

Table 8: COMMON STORAGE MONITOR services

<table>
<thead>
<tr>
<th>To protect</th>
<th>Use this function code</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMON STORAGE MONITOR INITIALIZATION</td>
<td>IN</td>
</tr>
<tr>
<td>OVERVIEW service</td>
<td>OV</td>
</tr>
<tr>
<td>SUMMARY service</td>
<td>SU</td>
</tr>
</tbody>
</table>
Table 9: Commands (Common Storage Summary panel)

<table>
<thead>
<tr>
<th>To protect</th>
<th>Use this function code</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVER (OVERVIEW)</td>
<td>OV</td>
</tr>
<tr>
<td>STAT (STATUS)</td>
<td>ST</td>
</tr>
</tbody>
</table>

Table 10: Commands (Common Storage Areas panel)

<table>
<thead>
<tr>
<th>To protect</th>
<th>Use this function code</th>
</tr>
</thead>
<tbody>
<tr>
<td>S (DISPLAY)</td>
<td>SS</td>
</tr>
<tr>
<td>A (ALTER)</td>
<td>AR</td>
</tr>
<tr>
<td>F (FREE)</td>
<td>FR</td>
</tr>
</tbody>
</table>
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