

MAINVIEW[®] for DB2[®]

Customization Guide

Version 7.1

June 12, 2001



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Customer Support

You can obtain technical support by using Response Online™ (comprehensive information from the Web) or Response On Demand™. To expedite your inquiry, please see “Before Contacting BMC Software,” below.

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- find the most current information about BMC Software products
- search a database for problems similar to yours and possible solutions
- order or download product documentation
- report a problem or ask a question
- subscribe to receive e-mail notices when new product versions are released
- find worldwide BMC Software support center locations and contact information, including e-mail addresses, fax numbers, and telephone numbers

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In the USA and Canada, if you need technical support and do not have access to the Web, call 800 538 1872. Outside the USA and Canada, please contact your local support center or your local sales office for assistance.

Before Contacting BMC Software

Before you contact BMC Software, have the following information available so that a technical support analyst can begin working on your problem 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 program temporary fix (PTF)
 - system hardware configuration
 - serial numbers
 - related software (database, application, and communication) including type, version, and service pack or PTF
- 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, such as `file system full`
 - messages from related software

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About This Book

This book contains procedures for customizing the MAINVIEW for DB2 product to your site's needs. The MAINVIEW for DB2 product is integrated with the basic MAINVIEW architecture that allows authorized users to interrogate any MVS, CICS, IMS, or DB2 subsystem in a VTAM network from a single terminal.

This book is intended for the system programmer who needs to know how to modify the basic MVDB2 product installation to include more functions or site-specific changes.

To install and customize MAINVIEW for DB2, follow the instructions in the

1. *OS/390 and z/OS Installer Guide* and *MAINVIEW[®] Installation Requirements Guide* to load the product libraries.
2. *MAINVIEW[®] Common Customization Guide* to tailor BBI-based functions for MAINVIEW for DB2.
3. *MAINVIEW for DB2 Customization Guide* to tailor MAINVIEW for DB2 to your site's requirements.

Note: You *must* customize the BBI subsystem prior to customizing MAINVIEW for DB2.

Throughout the body of this book, occurrences of MVDB2 refer to MAINVIEW for DB2. The DMR acronym for the product is used occasionally in this book and in many online panels and messages.

How This Book Is Organized

There are five parts to this book:

[Part 1, "Preparing for Customization" on page 1](#)

Contains release updates that must be considered before using the current release of the product.

[Part 2, "Customizing MAINVIEW for DB2 Functions" on page 11](#)

Contains the instructions for changing the basic product installation to suit your site's needs.

[Part 3, "Implementing Product Security" on page 55](#)

Contains the instructions for allowing user access to MVDB2 product services.

[Part 4, "Appendixes/Glossary" on page 63](#)

Contains instructions for receiving help from Customer Support. It also contains tables describing the BBSAMP and BBPARM data set members and guidelines to estimate storage for Performance Reporter data. A glossary of terms for BMC Software products is also included.

[Part 5, "Index" on page 81](#)

Contains the index.

Conventions Used in This Book

The following syntax notation is used in this manual. Do not type the special characters.

- Brackets [] enclose optional parameters or keywords.
- Braces { } enclose a list of parameters; one must be chosen.
- A vertical line | separates alternative options; one can be chosen.
- An underlined parameter is the default.
- AN ITEM IN CAPITAL LETTERS indicates exact characters; usage can be all uppercase or lowercase.
- Items in lowercase letters are values you supply.

Recommended Reading

Before using this customization guide, the product must be installed as described in the *OS/390 and z/OS Installer Guide*. The *MAINVIEW Installation Requirements Guide* and *MAINVIEW Common Customization Guide* also should be used in conjunction with this customization guide.

The following books are referenced in this edition:

- *Using MAINVIEW[®]*
- *Quick Start with MAINVIEW[®]*
- *OS/390 and z/OS Installer Guide*
- *MAINVIEW[®] Installation Requirements Guide*
- *MAINVIEW[®] Common Customization Guide*
- *MAINVIEW[®] Alternate Access Implementation and User Guide*
- *Implementing Security for MAINVIEW[®] Products*
- *MAINVIEW[®] Administration Guide*
- *MAINVIEW[®] for DB2[®] Release Notes*
- *Getting Started with MAINVIEW[®] for DB2[®] and RxD2[™]*
- *MAINVIEW[®] for DB2[®] User Guide Volume 1: Views*
- *MAINVIEW[®] for DB2[®] User Guide Volume 2: Analyzers/Monitors*
- *MAINVIEW[®] for DB2[®] User Guide Volume 3: Traces*
- *MAINVIEW[®] for DB2[®] Performance Reporter User Guide*
- *RxD2[™] User Guide*
- *MAINVIEW[®] for DB2[®] Customization Guide*

Related Reading

This book is included as part of the MAINVIEW library, which documents all your MAINVIEW products and the tasks associated with using these products.

MAINVIEW Library

The MAINVIEW library documents these products:

- CMF® MONITOR Online (CMF)
- IMSplex System Manager™ (IPSM)
- MAINVIEW® Alarm Manager (MVALARM)
- MAINVIEW® AutoOPERATOR™ (AO)
- MAINVIEW® Explorer
- MAINVIEW® FOCAL POINT™
- MAINVIEW® for CICS (MVCICS)
- MAINVIEW® for DB2® (MVDB2)
- MAINVIEW® for DBCTL (MVDBC)
- MAINVIEW® for IMS (MVIMS)
- MAINVIEW® for IP (MVIP)
- MAINVIEW® for MQSeries (MVMQS)
- MAINVIEW® for OS/390 (MVMVS)
- MAINVIEW® for UNIX System Services (MVUSS)
- MAINVIEW® for VTAM (MVVTAM)
- MAINVIEW® for Websphere
- MAINVIEW® VistaPoint™ (MVVP)
- Plex Manager (PLEXMGR)

The MAINVIEW library is organized into these three categories:

- Installer documentation
- Administrator documentation
- User documentation

Each book within these categories contains information about specific types of tasks. The following figure shows how this book relates to the other books in the MAINVIEW library.

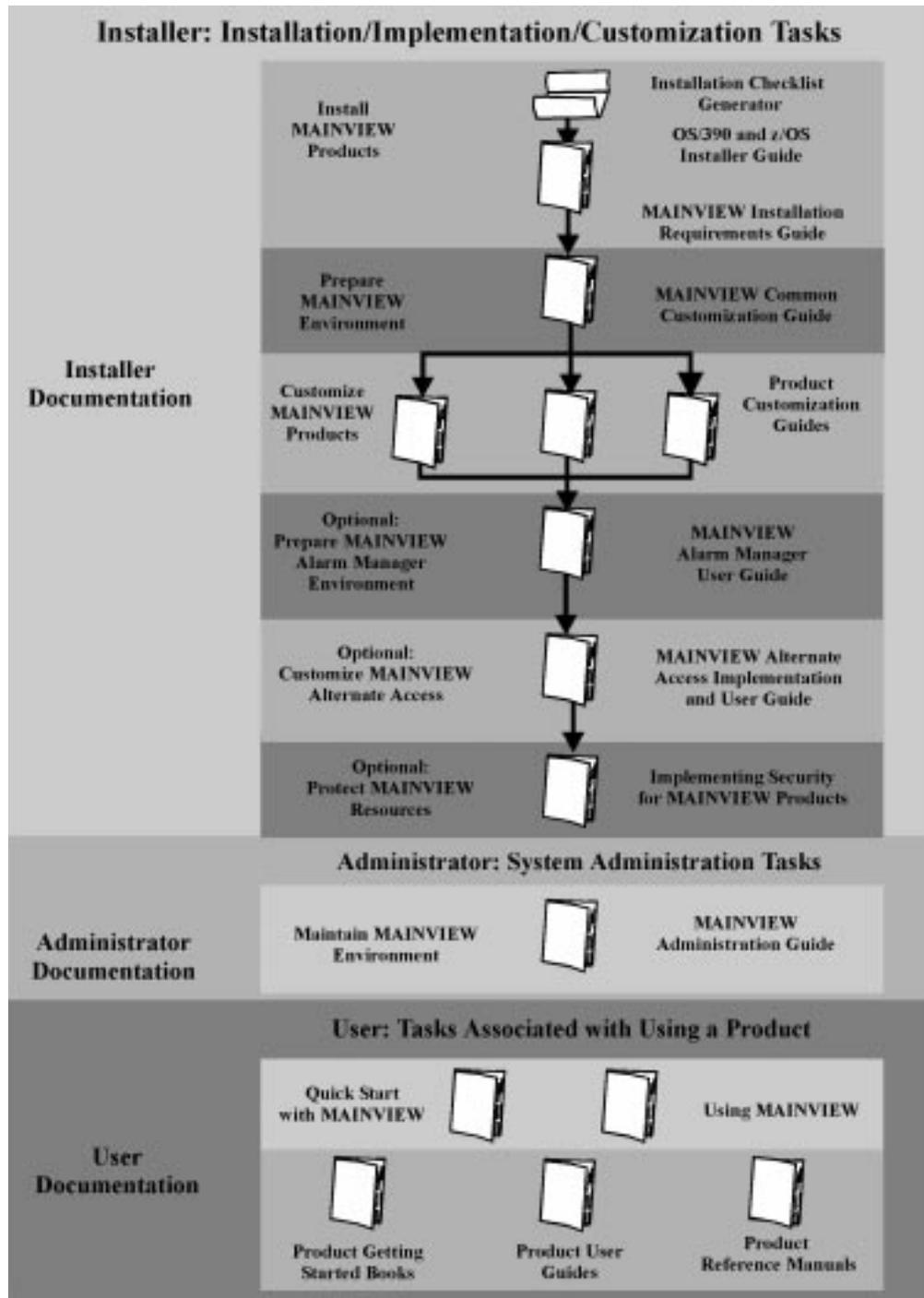


Figure 1. Organization of MAINVIEW Documentation

The following books in the MAINVIEW library are used with all MAINVIEW products:

- *Quick Start with MAINVIEW* gives a brief overview to help you quickly get started using all your MAINVIEW products.
- *Using MAINVIEW* gives a more detailed description of how to use your MAINVIEW products. If you have more than one MAINVIEW product, this book will help you understand how all your MAINVIEW products work. This book will also help you use your products together and take advantage of the integration of all MAINVIEW products.
- The *OS/390 and z/OS Installer Guide* and *MAINVIEW Installation Requirements Guide* give instructions for basic installation of the product libraries.
- The *MAINVIEW Common Customization Guide* and the *MAINVIEW Administration Guide* provide customization and administration instructions for all MAINVIEW products.
- The *MAINVIEW Alternate Access Implementation and User Guide* describes how to use the MAINVIEW Alternate Access component. This component provides EXCP and VTAM communication to BMC Software products through ISPF without requiring a TSO subsystem to be active.
- The *MAINVIEW Alarm Manager User Guide* describes how to generate alarms when thresholds from MAINVIEW product views are exceeded.
- *Implementing Security for MAINVIEW Products* describes how to implement security for MAINVIEW for DB2 with the external security manager installed at your site.
- The *MAINVIEW Explorer Implementation and User Guide* explains how to install and use MAINVIEW Explorer, which provides access to MAINVIEW products from a Web browser running on a Windows workstation.

MAINVIEW for DB2 Library

The following documentation gives specific information about the MAINVIEW for DB2 and RxD2 products:

- *MAINVIEW for DB2 Release Notes* summarize the new features in this release of MAINVIEW for DB2 and RxD2. These notes enable you to quickly see what is new.
- The *MAINVIEW for DB2 Master Index* includes index entries for all the product-specific books in the MAINVIEW for DB2 library. This index shows where you can find information for specific topics in individual MAINVIEW for DB2 and RxD2 manuals.
- *Getting Started with MAINVIEW for DB2 and RxD2* is an introduction for new users of these products. The book helps you use these products to solve problems more effectively in a short time.
- The *MAINVIEW for DB2 User Guide* (Volumes 1, 2, and 3) describes how to use the online views, analyzer, monitor, and trace services for the DB2 database administrator, system programmer, or performance analyst.
- The *MAINVIEW for DB2 Performance Reporter User Guide* describes how to create statistical batch reports about application activity and DB2 performance and resource usage for the database administrator, system programmer, or performance analyst.

- The *RxD2 User Guide* describes how to install and use the RxD2 product, which provides access to DB2 from REXX. This product also provides tools to query the DB2 catalog, issue dynamic SQL, test DB2 applications, analyze EXPLAIN data, generate DDL or DB2 utility JCL, edit DB2 table spaces, perform security administration, and much more. MAINVIEW for DB2 contains numerous hyperlinks to RxD2.
- The *MAINVIEW for DB2 Customization Guide* provides product-specific tailoring instructions. Use this book in conjunction with the *MAINVIEW Installation Requirements Guide* and the *MAINVIEW Common Customization Guide* during the customization process.
- Online tutorials are available by selecting option T from the MAINVIEW for DB2 Primary Option Menu or by pressing HELP (PF1/13) from the product application panels.

Part 1. Preparing for Customization

This part discusses preparations for customization. Chapters 1 and 2 describe customization considerations and release and product compatibility. Chapters 3 and 4 describe update considerations for existing users moving from MAINVIEW for DB2 Release 6.1.0 to Release 7.1.0.

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Chapter 1. Customization Considerations

Release 7.1 of MAINVIEW for DB2 is packaged with BBI 2.6 and 3.3. Release 7.1 is compatible with other products packaged with BBI 2.6 and 3.3.

Installation Considerations

MAINVIEW for DB2 (MVDB2) is a group 3 product. The installation steps are unchanged from MVDB2 6.1.

Note: BMC Software has implemented an enhanced version of its Product Authorization utility. This enhanced version provides BMC Software customers with additional analysis tools and a standardized customer interface.

You now need to obtain an authorization password before installing MAINVIEW for DB2 7.1.00. A *Password Request Form* is included in the shipment with your product tapes. Fax this form to BMC Software to obtain your new passwords.

Additional information can be found in the *Installation and Maintenance Guide for Enterprise Servers*.

Chapter 2. Product Compatibility

This chapter discusses product compatibility with previous releases of MAINVIEW for DB2 and with RxD2.

Cross-System Compatibility with Previous Releases

All windows-mode and full-screen-mode MAINVIEW for DB2 functions are fully available for multiple-system support communication between Release 7.1 and earlier releases. Compatibility is handled automatically.

Downward Compatibility

MVDB2 7.1 can process trace log data sets (TLDSs) created on MVDB2 7.1, 6.1, 5.1, or 4.1. The one restriction is that the release level of the target DB2 in the Trace History application cannot be lower than the DB2 release of the TLDS. That is, an MVDB2 6.1 BBI-SS PAS that only monitors DB2 5.1 cannot read a DB2 6.1 or 7.1 TLDS. A BBI-SS PAS that monitors DB2 7.1 can read TLDSs for DB2 7.1, 6.1, 5.1, and 4.1.

Upward Compatibility

An MVDB2 6.1 terminal session can access all MVDB2 7.1 trace functions (including history traces) through a cross-system connection to an MVDB2 7.1 BBI-SS PAS. However, an MVDB2 6.1 terminal session cannot process an MVDB2 7.1 trace log data set within an MVDB2 6.1 BBI-SS PAS.

Compatibility with RxD2

MVDB2 7.1 is compatible with RxD2/FlexTools 2.1. Hyperlinks are invoked through expand buttons in MVDB2 displays to provide quick access to corresponding RxD2 displays or functions, such as EXPLAIN for an SQL statement. The target DB2 is passed from MVDB2 to RxD2.

CAF Compatibility

The BBI-SS PAS can connect to both DB2 6.1 and DB2 7.1 subsystems if the proper CAF compatibility PTFs are available from IBM and applied to DB2 6.1. See [Chapter 6, “DB2 Target System Considerations”](#) on page 15 for more information.

Chapter 3. Update Considerations

This chapter describes update considerations for existing users moving from MAINVIEW for DB2 Release 6.1 to Release 7.1. *AutoCustomization is recommended.*

Note: All of the sections in this chapter apply if you previously had only group 1 (full-screen-mode) products.

Allocating a Sufficient Terminal Session Region Size

MAINVIEW for DB2 requires a minimum terminal session or user address space region size of 4MB (4096K). It is recommended that you set the region size to 6MB if you anticipate running MAINVIEW for DB2 while doing other work from an ISPF split-screen. Also, a 6MB region size is recommended if you anticipate transferring between multiple products while MAINVIEW for DB2 is active.

Using an External Security Manager (ESM)

External security managers (ESMs) grant access to MAINVIEW products through the MVS security authorization facility (SAF) interface. The SAF interface provides access to RACF, CA-TOP SECRET, or CA-ACF2 ESMs. Refer to *Implementing Security for MAINVIEW Products* for instructions to create resource definitions that can be used by your site's ESM.

Implementing EXCP or VTAM Terminal Sessions

BMC Software uses MAINVIEW Alternate Access to provide session communication for all existing and future MAINVIEW products. This facility establishes communication between MAINVIEW products and EXCP or VTAM through ISPF without requiring an active TSO session.

Authorizing ISPF Split-Screen Support

MAINVIEW for DB2 must be able to support multiple occurrences of MAINVIEW windows. As an example, transfers between MAINVIEW products are done with an ISPF split-screen. TSF authorization must be added to provide ISPF split-screen support.

Errors may result without adequate split-screen support. Error messages usually occur after an attempt to transfer between products or to divide the screen with the ISPF SPLIT command. Use the following messages as diagnostic aids to resolve problems that occur as a result of inadequate split-screen support.

- **PS2010E - INSUFFICIENT STORAGE TO RUN THE SESSION**

The terminal session region size is too small and cannot support an adequate number of transfer sessions.

If you are a TSO user, you must log off TSO and then log on with a larger region size. Your site's TSO administrator may have to give you authorization to increase your region size.

If you are a VTAM or EXCP terminal user, change the REGION= parameter in the JCL to 4096K or larger.

- **TS0023E - NOT SUPPORTED IN CURRENT ENVIRONMENT**

BBLOAD DD statements specify data sets that are not APF-authorized. If you are able to run MAINVIEW products but receive this message during a product transfer, BBLOAD specifies different data sets than does BBILINK.

Add the unauthorized data sets to the APF list and restart the terminal session. You can add data sets to the APF list with RESOLVE or MAINVIEW for MVS's SYSPROG APF service.

- **TS0025E - PMGLAUTH REQUIRED FOR TRANSFER SUPPORT**

PMGLAUTH program is not in the TSO-authorized commands list nor is it in a LINKLIST or STEPLIB data set.

Add PMGLAUTH to the AUTHTSF list in SYS1.PARMLIB(IKJTSOxx) and log on again. You can add PMGLAUTH to the AUTHTSF list with RESOLVE or MAINVIEW for MVS's SYSPROG AUTHTSO command.

If PMGLAUTH is in the TSF list and you still receive message TS0025E, type PMGLAUTH from a TSO READY prompt and check to see if the message COMMAND NOT FOUND appears. The appearance of this message means that PMGLAUTH is not in a LINKLIST or STEPLIB data set. Do one of the following:

- Concatenate BBLINK to the STEPLIB in your logon procedure.
- Copy PMGLAUTH to an existing LINKLIST data set.
- Add BBLINK to your system LINKLIST.

Chapter 4. Performance Reporter Considerations

This chapter describes the migration considerations for the Performance Reporter component for existing users moving from MAINVIEW for DB2 Release 6.1 to Release 7.1.

DB2 Tables

MVDB2 7.1 provides new table definitions that include many new columns of DB2 Version 7 information.

In addition, the DMRABDTL and DMRABSUM tables have been added with new detail and summary accounting buffer records.

If you already have Performance Reporter installed, you should define these new tables with unique names; for example, in a new database (Step 5, page 39) and/or with a different CREATOR (Step 6, page 40).

Table Migration

If you wish to migrate the data from previous tables to the new tables, BBSAMP member DPJMIGR contains a sample job to migrate tables from MVDB2 6.1 to MVDB2 7.1. The job consists of steps to unload MVDB2 6.1 tables, convert the unloaded data to MVDB2 7.1 format, and load MVDB2 7.1 tables. Multiple tables can be migrated in a single run. Migration from MVDB2 5.1 tables is not supported.

Two separate files are needed for each step to separate unloaded data of the same record types. Summary accounting records and TYPE=BUFFER records are in a separate file than detail accounting records and TYPE=STAT records and are processed by a separate migration step.

Note: If very large tables are to be migrated, it is possible to use the UNLDSTART and UNLDEND parameters in the first unload step to break the work into multiple jobs that process only a subset of the data.

Customization

AutoCustomization includes an optional step to migrate data from MVDB2 6.1 tables to MVDB2 7.1 tables. Use of ALTER is not supported.

Part 2. Customizing MAINVIEW for DB2 Functions

This part describes how to tailor MAINVIEW for DB2 to your site's needs. BBI customization is discussed in the *MAINVIEW Common Customization Guide*.

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Chapter 5. Using Product Libraries

Several distributed libraries are included with MAINVIEW for DB2, including a parameter library (BBPARM), a sample library (BBSAMP), and a profile library (BBPROF). Use the contents of these distributed libraries as models to create site-customized product libraries, either manually or with AutoCustomization.

Warning

The distributed libraries should never be modified. If you change them, subsequent SMP maintenance will overwrite your changes.

Throughout the MAINVIEW documentation set, references to these libraries use the distributed name. However, when you need to make changes, be sure to use the corresponding library that has been customized for your site. [Table 1](#) lists the distributed name, the corresponding customized library created by AutoCustomization, and leaves space for you to note any other corresponding library that may have been created for your site.

Table 1. Product Libraries

Distributed Library Name	Library Created by AutoCustomization	Other Site-Customized Copy
BBPARM	UBBPARM	
BBSAMP	UBBSAMP	
BBPROF	SBBPROF	

See “Using MAINVIEW Product Libraries” in the *MAINVIEW Common Customization Guide* or “Using Product Libraries” in the *MAINVIEW Administration Guide* for more information about all the product libraries.

Chapter 6. DB2 Target System Considerations

The following notes answer questions about your DB2 target system and the BBI-SS PAS:

- MVDB2 libraries are *not* required in your DB2 system.
- One BBI-SS PAS can monitor multiple DB2 systems (see BBPARM member BBIJNT00).
Note: MVDB2 7.1 supports DB2 7.1, 6.1, 5.1 and 4.1. An MVDB2 PAS can support monitoring of DB2 subsystems at two different DB2 releases. To do this, the appropriate Call Attach (CAF) compatibility level must be available in the DB2 load library used in the PAS. Contact IBM for further information on the two releases you want to access. Depending on the release level, this may require upward-compatible PTFs and the use of the lower version load library. With DB2 7.1, downward compatibility may be available.
- The BBI-SS PAS establishes a Call Attach Facility (CAF) connection to DB2 that detects DB2 startups and shutdowns, and establishes a DB2 thread to use the DB2 Instrumentation Facility Interface (IFI) for workload requests.
- The BBI-SS PAS must load several DB2 modules. It first searches the data set specified in the DSNLOAD DD (if present), then STEPLIB and the system link list. The DSNLOAD DD is not required.

Chapter 7. DB2 Authorization

The BBI-SS PAS must be GRANTed authorization to issue trace control commands and capture data through the DB2 Instrumentation Facility Interface (IFI). The SQL statement text is

```
GRANT TRACE, MONITOR1, MONITOR2, DISPLAY TO authid;
```

In addition, to issue DB2 commands from MVDB2, you must GRANT the privileges required for the types of DB2 commands you want to issue from the BBI-SS PAS.

Note: The Cancel Thread capability from DUSER for threads from DB2 4.1 or higher requires SYSADM, SYSOPR, or SYSCTRL authority.

- Other system privileges are

```
RECOVER
STOPALL
STOSPACE
SYSADM
SYSOPR
SYSCTRL
```

- Database privileges are

```
DBADM ON DATABASE
DISPLAYDB ON DATABASE
STARTDB ON DATABASE
STOPDB ON DATABASE
```

What the authorization ID is and how it is determined depends on the access security system being used. The rules are listed below.

- If no security management system is installed or if it is active, the BBI-SS PAS ID is used as the authorization ID for trace requests.
- If the security management system is active and the BBI-SS PAS is run as a job, the user ID of the job is used. This user ID can be established in a number of ways; for example:

RACF Add the USER= parameter to the JOB statement.

CA-ACF2 Add a /*LOGONID statement after the JOB statement.

- If security is active and the BBI-SS PAS is run as a started task, the options are more subtle:

RACF This is the value specified in the security system's Started Procedure Table (ICHRIN03) for the BBI-SS PAS procedure.

CA-ACF2 A /*LOGONID card can be added to the BBI-SS PAS startup procedure.

Note: One method to display the active authorization ID is to start the BBI-SS PAS and issue the DB2 command:

```
-DIS THD(*)
```

The authorization ID is displayed in the AUTHID column for the active BBI-SS PAS connection.

CA-TOP SECRET is capable of overriding this authorization ID with either nonprintable characters or the word *BYPASS*. If this occurs, issue the following CA-TOP SECRET commands to define the BBI-SS PAS ACID to CA-TOP SECRET. The ACID is the BBI-SS PAS authorization ID to DB2.

```
TSS CREATE (X) FACILITY(STC) *NOPW* DEPT(ZZZ) (X=STARTED TASK NAME)
TSS ADD(X) (Y=STEP OR JOB NAME)
TSS ADD(STC) PROC(Y) ACID(X)
```

Then, do the GRANTS listed previously.

Consult your security administrator to determine the authorization procedures for your particular security system.

Chapter 8. Customizing the Application Trace Facility

This chapter describes how to manually

- Specify trace defaults in BBPARM member DMRBEX00
- Set up and maintain a trace directory and trace log data sets
- Set up continuous workload history traces

A request for a trace can also request that the trace data be recorded to VSAM data sets for later viewing or printing. The logging of trace data requires a preallocated trace directory that must be identified to BBI. Setup of the trace directory can be done automatically by AutoCustomization, as described in the *OS/390 and z/OS Installer Guide* or manually, as described in this chapter. Trace log data sets can be preallocated as described in this chapter, or they can be dynamically allocated at the time of the trace request.

By defining one or more traces to start automatically, a continuous workload history is available for later viewing or printing.

Specifying Trace Defaults

The DMRBEX00 member of the BBPARM data set defines trace request defaults per DB2 system, which prime the options for the trace request data entry panels. This member is also used to control other product features, as described in [Chapter 9, “Customizing Background Processing” on page 29](#). That chapter also describes how to reset these values during operation.

This section describes the DMRBEX00 keywords that define option defaults for

- All trace requests
- A detail trace
- Trace logging

General Trace Options

The following keywords define the defaults for the trace display buffer size (STORAGE option) and trace duration (STOP option). These options apply for any trace and are presented when a trace is requested.

STORAGE Specifies the size of the display buffer for the requested trace. This value overrides the value defined in BBIISP00.

TRTIME=n Where n specifies the default duration of a trace in minutes (1 to 32,000). The default is no limit.

Note: If TRTIME is specified, the STOP keyword in the ATRAC Start DB2 Trace Request data entry panel is primed with this value. If a value is not specified, STOP is not primed. A STOP value that is not in the hh:mm:ss format is interpreted as a STOPCNT value in minutes.

The following DMRBEX00 keyword lets you set a limit to the total amount of storage allowed for a trace:

TRLIM=nK|nnnnnnnn Where n can be 1 to 8 characters as kilobytes (K) or bytes. It specifies the upper limit on the total storage that can be allocated for any one trace. If the storage is not specified in K (kilobytes), the value of n is in bytes. The default value is the product of the default TRBUFF and TRSIZE times 2.

Detail Trace Options

The following keywords define the defaults for the data collection buffers (TRSIZE and TRBUFF options) and limit the total amount of storage allowed for detail trace data collection:

A pool of buffers is maintained for each detail trace that is active and is GETMAINED in Extended Private Area. One of these buffers is allocated at CREATE THREAD time per active thread that is being traced. The following DMRBEX00 parameters or an ATRAC Start Trace request define the size and number of these buffers. The buffers can be specified per DB2 system.

The values for these DMRBEX00 keywords prime the ATRAC data entry panel:

TRBUFF=nnn Where nnn is the number of buffers to be allocated for a detail trace request. The number should be at least equal to the number of concurrent active threads being traced in DB2 plus 10%. The default is 20. If TRBUFF is specified with an ATRAC request, it overrides the TRBUFF value in DMRBEX00.

TRSIZE=nnnK Where nnn is the size in kilobytes of each buffer. This number is rounded to a multiple of 4K. This size times 2 determines the maximum amount of data that can be traced for one thread without trace logging. The default is 400K. If TRSIZE is specified with an ATRAC request, it overrides the TRSIZE value in DMRBEX00.

For example, DMRBEX00 could specify:

```
TARGET=DB2P
TRBUFF=20
TRSIZE=32K
```

Total pool size is 20*32K = 640K.

Note: If the trace is not logged, the data is truncated if more events are being traced for one transaction than fit in 2 buffers. To trace long-running batch programs, or to trace many lock events (DETAIL, LOCK), it may be necessary to increase TRSIZE or to log the trace.

Trace Logging Options

The following keywords define the defaults for a trace log data set allocation request:

TRPREFIX	<p>Defines the data set name prefix for trace log data sets if the value for the Log DSN option on the Start DB2 Trace Request panel is specified without quotation marks.</p> <p>If a value for TRPREFIX is not defined, the ID of the user requesting the trace is used.</p>
TRREUSE	<p>Where Y (YES) requests data to be overwritten if a log data set is not reset. N (NO) indicates that data is not to be overwritten. The default is Y.</p> <p>If the request specifies a 1 for the number of logs and N is defined for TRREUSE, data is not recorded. If the request specifies a 1 and Y is defined for TRREUSE, previous data recorded in the log is overwritten.</p>
TRVOLS=(x, y. . .)	<p>Where x or y indicates the ID of the default volume(s) for trace log data set allocation. Up to seven volumes can be specified. The default value specified in DMRBEX00 with the TRVOLS keyword is SYSDA.</p>
TRCYL	<p>Defines the primary allocation default in cylinders (CYLS option) for trace log data sets. The default value is 3.</p>
TRSUFFIX	<p>Defines the default suffix to add to the trace cluster DSN (Data DSN Suffix option) to make the data set name for the data component. The default value is D.</p>
TRSMSSCL	<p>Defines the default name of the SMS storage class for trace log data set allocation. There is no default value.</p>
TRMSDCL	<p>Defines the default name of the SMS data class for trace log data set allocation. There is no default value.</p>
TRMSMCL	<p>Defines the default name of the SMS management class for trace log data set allocation. There is no default value.</p>

Setting Up and Maintaining a Trace Directory

Before a request for trace logging can be started, a trace directory must be preallocated and initialized. This section describes how to set up the trace log directory using sample members in the BBSAMP data set and BBPARM member BBIISP00 (see [Chapter 5, “Using Product Libraries”](#) on page 13).

Note: If a security management system is installed, you may need to grant the BBI-SS PAS authority to dynamically allocate trace log data sets.

Defining and Initializing a Trace Directory Data Set

There is one trace directory per BBI-SS PAS. The trace directory is a VSAM linear data set containing one entry for each trace log data set. Each entry indicates the date and time of data set creation, the current status of the data set, the trace target, and other related information. Entries can be added to or deleted from the directory to allow trace logs to be moved between systems.

Use the following BBSAMP sample member to define and initialize the trace directory:

JXT001 Defines and initializes the trace directory.

1. Add your job card.
2. Update the symbolics as necessary.
3. Submit the job.

Identifying the Trace Directory to BBI

Use the following BBPARM member:

BBIISP00 Identifies the trace directory to BBI:

TRDIR=dsn, SUBSYS=ssss

where

dsn Represents the data set name of a trace directory for MAINVIEW for DB2 trace logging (there is no default name). The directory must be allocated and initialized before any trace can be started with trace logging. BBSAMP member JXT001, described previously, creates the trace directory.

ssss (Optional.) Subsystem name to which this trace directory applies.

Verifying Trace Directory Entries

Trace directory entries are not updated automatically by events occurring outside of the BBI-SS PAS, such as data set deletion or archival. So, you may occasionally need to synchronize the trace directory information with the actual status of the data sets. Use the following BBSAMP member to verify, purge, or print directory entries.

Note: Since every entry in the trace directory is dynamically allocated and read to verify its current status, this process could run for some time.

JXT003 Checks for the existence of a trace log data set in the system catalog. The use of PARM determines the action to be taken.

1. Add your job card.
2. Update the symbolics as necessary.
3. Specify the processing option for PARM:

Blank If PARM is not specified (default), an uncataloged entry is marked as INV (INVALID).

ARCVOL= If ARCVOL (Archive Volser) is specified, this value is matched against the volser in the system catalog for each entry in the directory. If matched, the data set is not verified. This allows a site to bypass recalling all trace log data sets from archives.

LIST Lists the directory entries that are changed. If NOVERIFY is specified or implied, all entries are listed (equivalent to LISTALL).

LISTALL Lists all entries.

NOLIST Does not list changed entries.

PURGE Deletes any data sets in the directory that are invalid trace data sets.

NOPURGE Does not delete invalid data sets (marked as INV (INVALID) in the directory).

VERIFY Verifies each of the entries in the trace directory.

Note: If VERIFY is specified, the defaults are LIST, WRITE, and NOPURGE.

NOVERIFY Does not verify entries in the trace directory.

WRITE Updates the trace directory with status changes.

NOWRITE Does not update the trace directory with changes detected.

Note: If no PARM is specified, no action is taken.

4. Submit the job.

Managing Trace Log Data Sets

This section describes how to create and manage trace log data sets manually using sample members from the BBSAMP data set.

Defining a Trace Log Data Set

You can define different trace logs as often as you need them, or you can let the BBI-SS PAS allocate them for you dynamically (see the JXT011 sample job description in the *MAINVIEW for DB2 User Guide*).

Archiving a Trace Log Data Set

A trace request can be defined to archive a log data set automatically when it is full, as described in the DZTBARC sample job description in the *MAINVIEW for DB2 User Guide*.

A trace log data set that is no longer active can be archived on demand by submitting this job manually.

Restoring an Archived Trace Log Data Set

Use BBSAMP member DZTBRL0D to restore an archived trace log data set.

Note: You also can add the linear data set to the online trace directory and view the contents online. Use the NEW command on the History Traces application (Option 5) as described in the *MAINVIEW for DB2 User Guide*.

Printing a Trace Log Data Set

Use BBSAMP member DZTBTRAC to print a trace log data set. See the *MAINVIEW for DB2 User Guide* for a description of this sample job.

Printing from an Online Application

You also can print a trace log data set from the History Traces application (Option 5) with the P line command when executing the terminal session from ISPF.

This process requires that you customize the skeleton JCL in member DZJPTRAC in the BBPROF data set. You can tailor this member to an individual user (UBBPROF data set) or site (SBBPROF data set). The data set must be defined in the CLIST used to execute the terminal session (MAINVIEW CLIST or a copy).

Use AutoCustomization to modify this member automatically or manually change the &DLIB variable to your BBLINK data set name.

Setting Up Standard Traces for Workload History

The BBIISP00 member of the BBPARM data set allows you to select a group of timer-driven monitor and trace requests to start automatically. These requests are defined in another member of the BBPARM data set. If you specify the default block request member BLKDMRW in BBIISP00 (TARGET=db2i d, BLK=BLKDMRW), a starter set of monitors and two summary traces are requested:

- `REQ=ATRAC THRDHIST TYPE=SUMMARY TITLE=' THREAD HISTORY' STORAGE=4000K`
* `LOGTRAC=Y TRNUMDS=3 TRSWTIME=24:00`

This is a summary trace of the complete DB2 workload. It should be run as a standard request to provide viewing and printing of thread history. It is accessed directly from Option 6, GRAPH. It adds very minimal overhead since it requires only the DB2 Accounting trace. The second line is set up as a comment to show you how you could define trace logging to a set of three data sets, automatically switching to a new data set at midnight. Depending on your DB2 workload volume and operations procedures, you may need to modify some of these keyword values or specify others. All options are defined in the *MAINVIEW for DB2 User Guide* in the “Set Keywords” table. Setting defaults for all traces, such as the volumes to be used for allocation, is described in [“Specifying Trace Defaults” on page 19](#).

Although there are many options available, there are basically two ways to set up a continuously logging trace, and you must evaluate your system characteristics before choosing which is better.

- The first method uses automatic allocation of one or more new trace log data sets each time the trace request is started (at BBI-SS PAS startup), as shown in the preceding example. No DSN is specified, so that the generated name will always be unique (specifying TRPREFIX in DMRBEX00 defines the hilevel node).

This method can be used if MVS and the BBI-SS PAS are rarely brought down. The only consideration is that if the log allocation fails, perhaps because of lack of space, the trace request also fails.

- The second method is to set up a group of preallocated logs (any number of them) that are continually reused. An archive job can be defined to run automatically (log full, log switched, or trace complete) to save the data and mark that log for reuse. Each time the BBI-SS PAS starts, and this trace request is started, the next available log with the oldest data is chosen automatically for output.

This method uses fewer online log data sets. However, if you require archiving, this method may require intervention after any unplanned outage of MVS or the BBI-SS PAS, since the archive job on the current log cannot run. If you do not require archiving, specify TRREUSE=Y to allow overwriting of a log without it being reset.

- `REQ=ATRAC BIGELAP TYPE=SUMMARY ELAP=10.0`

This is an example of an exception trace to capture only those transactions or queries that ran longer than 10 seconds. More exception filters can be added, or workload selection criteria can be added, such as DB2CONN=ci csj obname.

Setup Recommendations

There are several points you should consider before the Application Trace is heavily used.

- Set the dispatching priority of the BBI-SS PAS higher than DB2

This is most important for the DB2 DBM1 and MSTR address spaces. It is not necessary for IRLM. If the BBI-SS PAS does not get enough resources to complete its work in a reasonable time period, this can cause U3912 or U3920 timeout abends. These abends are recoverable, but disruptive.

This is recommended for most monitoring functions, but it is most important for detail traces. When a detail trace is requested by the user, MAINVIEW for DB2 starts a DB2 trace using the Instrumentation Facility Interface (IFI). DB2 GETMAINS a buffer in ECSA and uses this to pass the detail data to MAINVIEW for DB2. If MAINVIEW for DB2 processing cannot keep up with the DB2 activity (transferring the filled buffer), trace data is lost.

- Evaluate whether to increase the BBI-SS PAS region size

The data buffers MAINVIEW for DB2 uses to collect and store trace data are all GETMAINED in the Extended Private Area (EPVT) of the BBI-SS PAS. The usual MVS default size of EPVT is 32 megabytes; this can be increased by specifying a larger REGION= parameter in the BBI-SS PAS startup JCL (SSJCL). This is an upper limit, not an allocation at startup; the extra storage is GETMAINED only when required for trace requests. If the BBI-SS PAS is monitoring multiple DB2s and you plan to run several concurrent detail traces, a size of 60 megabytes to 100 megabytes is recommended. Depending on the trace buffer specifications used, the usage of EPVT per DB2 (to support any number of summary traces and the maximum of four detail traces) can vary between 3 megabytes to 40 megabytes or more. Check the following buffer descriptions to estimate your average and maximum storage requirement.

- Adjust the trace buffer storage defaults per target DB2

There are four kinds of buffers:

- IFIBUFF

The buffer GETMAINED by DB2 in ECSA for each START TRACE IFI request. One is used for all summary traces, and one each can be assigned for each detail trace, up to the maximum of four. The default size of 32K is usually adequate.

Note: Currently, DB2 does not release this storage at trace completion, but does reuse it when another trace request uses the same OPx destination.

- STORAGE buffer

The online display buffer GETMAINED by MAINVIEW for DB2 in the BBI-SS PAS EPVT for each trace request, whether summary or detail. This buffer is kept as long as the trace is active or complete so you can view the data. It is freed when the trace is purged from the Current Traces list. The size of this buffer determines the amount of trace data you can view from a current trace (more data may be available from History Traces if the trace was logged). A default of 400K to 2000K (2 megabytes) is recommended. This can be defined per DB2 in BBPARM member DMRBEX00.

For a detail trace, the default size is automatically adjusted to at least 4 times TRSIZE.

- TEMPORARY USER DISPLAY buffer

One buffer is GETMAINED by MAINVIEW for DB2 in the BBI-SS PAS EPVT for each user viewing a trace display. It is slightly bigger than the STORAGE buffer. (This buffer is not under user control.)

- DETAIL TRACE EVENT CAPTURE buffers

Multiple buffers are GETMAINED by MAINVIEW for DB2 in the BBI-SS PAS EPVT for each detail trace request. The number and size are controlled by the TRBUFF and TRSIZE parameters. The buffers are released when the detail trace is stopped (data collection complete) or purged. These values are also specified per DB2 in DMRBEX00. The defaults are currently TRBUFF=20, TRSIZE=400K. TRSIZE=200K usually allows tracing of three to four concurrent threads at the SQL level; however, the defaults should be increased for the following conditions:

- Most tracing is of online transactions, where many concurrent threads must be traced
 - Increase TRBUFF to three times the expected number of threads
- Most tracing is of long-running applications, or more event types are often traced (SCANS, I/O, LOCKS)
 - Increase TRSIZE to 400K (and reduce TRBUFF if possible)

You need to balance all these parameters to control total storage usage. Review TR LIM to ensure that it allows for the allocations caused by the revised STORAGE, TRBUFF, and TRSIZE parameters.

- Adjust the default for trace log data set size

Increase TRCYL (default is three cylinders) when longer detail traces with many events per thread are run frequently (long-running jobs/extra event types). For this type of trace, logging is recommended. Without logging, data capture per thread is limited to two buffers of TRSIZE. With logging, multiple buffers can be written per thread and combined automatically when recalled online or printed. Note that some data can be lost for one thread if events span two data sets.

Chapter 9. Customizing Background Processing

This chapter describes how to customize the background processing for product functions set up by the administrator to run continuously without user intervention. This includes

- Exceptions and runaway query messages
- DB2 message logging
- Early warning monitors

Note: Workload history traces are described in [“Setting Up Standard Traces for Workload History” on page 25](#).

Parameter specifications in the DMRBEX00 member of the BBPARM data set customize the first two features, which are activated at BBI-SS PAS startup. To change any of the exception processing criteria when a BBI-SS PAS is active, edit the DMRBEX00 member and then issue the following BBI control command:

```
. RESET PARM DMRBEX00
```

to activate the changes. (See the *MAINVIEW Administration Guide*.)

Controlling Exception Messages from Background Samplers

Background sampling is used to detect exception conditions in critical DB2 system resources (such as the logs or buffer pools) and also to detect thread exceptions during execution (runaway queries) that could be serious enough to impact DB2 performance.

Exception messages are shown on the DB2 Exception panel (DB2EX service) while the condition exists, and are displayed chronologically on the LOG DISPLAY.

By default, exceptions are activated. To control the number and type of exceptions for which the background sampler scans, specify the criteria for any background sampler message in BBPARM member DMRBEX00. For any specified target (the default is the first target defined in BBPARM member BBIJNT00), you can inactivate or control the conditions for a specific message. In this example:

```
TARGET=DB2X  
MSG=DZ0630W, CPUTOT=2000, GPTOT=1000, CYCLES=3
```

if a TSO query is using more than 2 seconds of CPU time or if there are more than 1000 GETPAGES and if either or both of these two conditions have been true for the last four cycles, the message DZ0630W identifying that TSO user is displayed on the DB2 EXCEPTION panel and on the associated BBI-SS PAS's LOG DISPLAY panel.

Note: At present, a cycle is defined as approximately 5 seconds.

See BBPARM member DMRBEX00 for a complete description of options and syntax, and DMRBEXBB for definitions of each exception condition. DMRBEX00 also includes instructions for disabling a particular message or message threshold. See “Part 4. Monitors — Background Exception Sampler” in Volume 2 of the *MAINVIEW for DB2 User Guide* for a list of all exception messages and a description of the conditions being detected.

Restarting Background Samplers

You must restart your MAINVIEW for DB2 background samplers if they have stopped. To check on the status of the samplers and restart them:

1. Select Option 3 from the Primary Option Menu or type =3 on any COMMAND line to display the Active Timer Requests panel.
2. Type BG ON on the COMMAND line to display the background samplers on the Active Timer Requests panel. Scroll right to see the request status, as shown in [Figure 2](#).

BOOLE AND BABBAGE		----- ACTIVE TIMER REQUESTS -----				PERFORMANCE MGMT	
COMMAND ==> BG ON						TGT ==> DB2A	
LC	CMD:	S(SELECT),	W(SHOW),	M(MODIFY),	P(PURGE),	R(REPLICATE),	H(HELP) <<<
LC	SERV	PARM	TITLE	USER ID	TARGET	SEC AREA	STAT
	EXCA		DB2 BACKGROUND MONITOR	BK-GRND	DB2A		ACTV
	ACTVE		DB2 BACKGROUND MONITOR	BK-GRND	DB2A		ACTV
	QJST		DB2 BACKGROUND MONITOR	BK-GRND	DB2A		ACTV
	QTXA		DB2 BACKGROUND MONITOR	BK-GRND	DB2A		ACTV
	QBST		DB2 BACKGROUND MONITOR	BK-GRND	DB2A		ACTV
	UCPU		DB2 BACKGROUND MONITOR	BK-GRND	DB2A		ACTV
***** END OF REQUESTS *****							

Figure 2. Active Timer Requests Panel

3. Determine whether any background samplers need to be restarted.

The STAT column indicates the status for each sampler. A sampler must be restarted if its status is one of the following:

INV INValid. The request terminated because of an invalid parameter or measurement. Or, it may have timed out because of system overload.

LOCK LOCKed by the LOCK command or the service ABENDED.

4. Use the line command E (rEstart) to restart a stopped sampler.
5. To remove the background samplers from the Active Timer Requests display, type BG OFF.

Logging DB2 Messages

All DB2 messages issued to the system console from selected target DB2 subsystems can be captured and written to the BBI-SS PAS Journal log. This function is defined in BBPARM member DMRBEX00. The default is to not capture the DB2 messages (LOG=NO). To activate their capture for a specified target, specify LOG=YES. For example,

```
TARGET=DB2X
LOG=YES
TARGET=DB2Y
LOG=NO
```

logs the messages from DB2X and not from DB2Y.

Note: This cannot be changed dynamically, because it is queried only at initialization time. The RESET command does not change this parameter.

To process the DB2 messages when an AutoOPERATOR product is installed with MVDB2, specify rules with

```
ORIGIN=DB2
```

Setting Up and Refining Standard Early Warning Monitors

Monitors are timer-driven services that measure key DB2 resource or workload variables over time. Exception conditions are detected based on user-specified thresholds, which allow early warning of system problems. Recent history of the measurements is kept online for trend analysis. Warning messages are sent to the DB2 Exception panel (DB2EX service) and to the LOG DISPLAY, just like the background sampler exceptions.

A standard set of monitors can be defined to be automatically started per DB2 subsystem. The BBIISPO0 member of BBPARM allows the specification of another BBPARM member containing a block of predefined monitor and trace requests. The standard customization steps in AutoCustomization, or the manual procedures described in the *MAINVIEW Common Customization Guide*, define a sample set of monitors to be activated (member BLKDMRW).

After these monitors have been activated and have collected sufficient history, the warning thresholds should be reviewed and adjusted for each DB2 target, so that the proper exceptions will be triggered, as follows:

1. Select the plot of recent history for each active monitor from the Active Timer Requests panel (Option 3).
2. Compare the threshold (shown with a vertical line of Ws if defined) to the average values measured (top three lines of the graph), and also to the maximum ever measured (shown at the bottom of the graph, either alone or as the highest value in the range distribution).
3. Adjust the threshold so that a warning is triggered only when the condition is serious enough to warrant attention.

There are other monitor services that could be added over time to the standard set. As other problem conditions are encountered in DB2 or the system profile changes, spend a few minutes on prevention by reviewing the available monitors and background samplers to define an early warning that could reduce or avoid future occurrences of system degradation.

Chapter 10. Customizing DB2 Services

DBI has a modular, table-driven design so you can more easily tailor DB2 to meet specific needs. This chapter describes how to modify the analyzer, monitor, and trace services. The focus of this chapter is on security—how to restrict which services a user sees.

Modifying a Service

The services are defined in service tables that specify their characteristics. You can modify service characteristics dynamically by altering the service table entries. Service tables are located in BBLINK library load modules.

Use BBPARM member IMFSTD00 (service table definition member) to change the characteristics of any service. Any changes placed in IMFSTD00 are used to dynamically modify services when your system is started.

The two characteristics that can be changed are the security and title specifications. See [Chapter 14, “Security for Analyzer, Monitor, and Trace Services” on page 59](#) before changing these specifications.

Note: You can restrict users to see only those services they are allowed to access. This restriction enhances security by simplifying the choices presented to the user. BBSAMP member DMRSTD00 is an example of how to set up the security codes by DB2 functional area (such as user activity or buffer pools) and relate these codes to user groups (such as DBAs or system programmers). See [“Service Selection Lists by User Group” on page 59](#).

Service Table Definition

Use BBPARM member IMFSTD00 to change the specifications of existing services. The following rules apply when creating IMFSTD00:

- A BBIPARM DD statement must exist in the BBI-SS PAS jobstream and it must contain the member IMFSTD00.
- All 80 columns of each statement may be used for specifying the various keywords and their values. Sequence numbers may be placed in columns 73 to 80, but there must be at least one blank between the last specification and the sequence number.
- All the keywords needed to modify a given service can be specified either on one statement or split over multiple statements.
- A specific keyword and its value or values must be contained in the same specification statement.
- Comments are designated with an asterisk (*) in column 1. Comment statements can be interspersed with specification statements.
- Comments are allowed within specification statements if one blank separates the specification from the comment.
- Commas can be used as delimiters in statements; leading blanks are ignored.

- The REQUEST keyword must appear first in a statement and must be followed immediately by the SERVICE keyword and then by the DB2REL keyword.
- If any syntax errors are found in a request to modify a service, the accepted keywords up to the error are used to execute a partial change to the service table.

Table 2 lists the valid keyword parameters for IMFSTD00 and describes the syntax for each.

Table 2. Service Table Keywords and Parameters

Keyword	Keyword Description	Parameters
REQUEST	Identifies the start of a new service table entry change.	MODIFY Specifies that an existing service definition is to be changed.
SERVICE	Identifies the name of the service to be modified.	xxxxx Specifies a 1- to 5-character service name. It must be an existing service name.
DB2REL	Identifies the release level of the service to be modified.	nnnn Specifies the DB2 release as 0310 (DB2 3.1), 0410 (DB2 4.1), 0510 (DB2 5.1), or 0610 (DB2 6.1). This parameter is required and must follow the SERVICE parameter.
TITLE	Identifies the title to be given to a service.	x.....x Specifies a 1- to 24-character title, which changes the existing title. Begin and end the title with single quotation marks if it contains blanks or commas.
ACCESS	Identifies the access code required to use this service.	A Any alphabetic character A through Z. Specifies the access code that is matched with the user's authorized access code. See the PMACC= keyword in BBPARM USERID members.

For example:

REQUEST=MODIFY, SERVICE=DB2EX, DB2REL=0220, ACCESS=B

changes the security access code of an existing service.

Chapter 11. Customizing Performance Reporter

To produce batch reports, you must customize the MAINVIEW for DB2 Performance Reporter component.

BMC Software provides AutoCustomization procedures, described in the *OS/390 and z/OS Installer Guide*, so that you can tailor your product automatically. This is the **preferred method**. The Performance Reporter is defined as a separate AutoCustomization dialog to simplify its use whenever you are ready to set up your batch processing.

This chapter describes the steps for tailoring your product manually. If you need any help during AutoCustomization, refer to the manual customization step described in this chapter. If you have installed your product using AutoCustomization, you do not need to read this chapter.

[Appendix C, “Estimating Storage for Performance Reporter Data” on page 69](#) describes how to determine the storage needed for statistics and accounting data. [Table 3](#) briefly lists each of the customization steps.

Table 3. Performance Reporter Customization Checklist

___	1. Specify operational defaults, page 37
___	2. Specify Performance Reporter defaults, page 37
___	3. Obtain SYSADM/SYSCTRL privilege, page 37
___	4. Define STOGROUP usage (DPCSTOW), page 38
___	5. Define database usage (DPCDB), page 39
___	6. Generate CREATE TABLE statements, page 40
___	7. Create DB2 objects (DPJCREAT), page 44 .
___	8. Migrate DB2 Tables, page 45 .
___	9. Bind the processing plan (DPJBIND), page 46
___	10. Bind the reporting plan (JXRPBIND), page 47
___	11. Tailor extract/summarization JCL (DPRSMF), page 48
___	12. Tailor summarization JCL (DPRSUM), page 49
___	13. Tailor report JCL (DPRREPT), page 50
___	14. Set up QMF queries (DZPRQINS), page 51

Data Set Usage

AutoCustomization creates UBBPARM and UBBSAMP data sets that are copies of the distributed BBPARM and BBSAMP. (See [Chapter 5, “Using Product Libraries” on page 13.](#)) Modifications made to members in these user libraries are not overlaid by later maintenance to the SMP target libraries. If you are customizing your product manually, you should create UBBPARM and UBBSAMP data sets and copy BBPARM to UBBPARM and BBSAMP to UBBSAMP.

DB2 Object Names

The sample members used in the following steps are set up using default DB2 object names. If you change any of these names to follow site conventions, you must change every occurrence of that object name in other sample members. Each step creating an object refers to the other members where this name is used. However, the easiest way to ensure that all occurrences are changed is to use the provided utility (DZPRUCNV) that scans the required data sets and changes all identified text strings. To use this program, modify the DZPRUPRM and DZPRUJCL samples in UBBSAMP. (See [Chapter 5, “Using Product Libraries” on page 13.](#))

DZPRUJCL Modify the JCL in DZPRUJCL to site standards.

DZPRUPRM This sample contains change statements for each object name, which are initially set up as

`OLD=default-obj ect - name, NEW=default-obj ect - name`

You need to update only the NEW keyword value to specify the object name you want. You can read through the steps and specify all the changes at once or run the utility as many times as you want, specifying one or more changes to be made. This utility can also be used to modify job defaults in each of the following definition jobs; for example, DB2 subsystem ID.

You need to change P=NOWRITE to P=WRITE on the DZPRUJCL PROC statement to cause updates to occur.

Step 1: Specify Operational Defaults

This step defines the parameters needed for the allocation of all jobs used for MAINVIEW for DB2. If this step was done during AutoCustomization for MAINVIEW for DB2, a COMPLETED status is shown. A COMPLETED status means you do not need to go through this step.

Step 2: Specify PERFORMANCE Defaults

This step defines the parameters needed for dynamic allocation of other jobs used during Performance Reporter customization.

1. As an option, create a member containing a valid JCL job card in a data set that is not a BMC Software product target or distribution library, such as UBBSAMP.

This member can then be added to each sample job used for Performance Reporter customization as instructed in the steps that follow.

2. Define a unit ID for temporary data set allocation parameters and a unit ID for permanent data set allocation parameters.

Step 3: Obtain SYSADM/SYSCTRL Privilege

1. Obtain the necessary privileges on the DB2 system that is to contain the DB2 objects referenced in the following steps.

Step 4: Define STOGROUP Usage

You have various options for STOGROUP usage:

- Create a new STOGROUP for Performance Reporter.
 1. Edit member DPCSTOW in UBBSAMP.
 - a. Replace the characters, STVLQQ, to specify one (or more) VOLSER.
 - b. Replace Y characters with the high-level index name (VCATNAME) for the VSAM data sets to be created by DB2.
 - c. Change the STOGROUP default DMRPRSG1 name to site conventions if necessary.

If you change the STOGROUP name here, specify the same STOGROUP name in the samples used in [“Step 5: Define Database Usage” on page 39](#) and [“Step 6: Generate CREATE TABLE Statements” on page 40](#).

- Use an existing STOGROUP.

Specify the STOGROUP name, using the DZPRUCNV utility with the DZPRUJCL and DZPRUPRM samples.

Note: If you use AutoCustomization, an empty member, DPCSTOW, is created in the UBBSAMP data set. If you do not use AutoCustomization, all DPCSTOW references in the following steps must be deleted manually.

- Do not use a STOGROUP.

Define all data sets for table spaces outside the context of DB2 with IDCAMS DEFINE statements for VSAM clusters using the proper DB2 naming conventions.

Note: If you use AutoCustomization, an empty member, DPCSTOW, is created in the UBBSAMP data set. If you do not use AutoCustomization, all DPCSTOW references in the following steps must be deleted manually.

- Use the default DB2 STOGROUP.

Note: If you use AutoCustomization, an empty member, DPCSTOW, is created in the UBBSAMP data set. If you do not use AutoCustomization, all DPCSTOW references in the following steps must be deleted manually.

Step 5: Define Database Usage

This step defines a unique database for the Performance Reporter tables. Use one of these options:

- Create a new database for Performance Reporter.
 1. Edit member DPCDB in UBBSAMP.
 - a. If you changed the STOGROUP name in “[Step 4: Define STOGROUP Usage](#)” on [page 38](#), change the STOGROUP name in this sample to the same name.
 - b. Optional. Change the default DMRPRDB1 database name to conform to your site’s naming conventions if necessary.

To change the default name to your site standards, use the DZPRUCNV utility with the DZPRUJCL and DZPRUPRM samples.

- Use an existing database.

Note: If you use AutoCustomization, an empty member, DPCDB, is created in the UBBSAMP data set. If you do not use AutoCustomization, all DPCDB references in the following steps must be deleted manually.
- Use the default DB2 database.

Note: If you use AutoCustomization, an empty member, DPCDB, is created in the UBBSAMP data set. If you do not use AutoCustomization, all DPCDB references in the following steps must be deleted manually.

Step 6: Generate CREATE TABLE Statements

This step generates the CREATE statements for the tables, table spaces, and indexes required for Performance Reporter.

- Optional. Change the default names in the samples shown in [Table 4](#) to conform to your site's naming conventions if necessary (see [Chapter 5, "Using Product Libraries"](#) on page 13).

To change the default names to your site standards, use the DZPRUCNV utility with the DZPRUPRM and DZPRUJCL samples.

Note: For those users who are migrating from a previous release, the DMRABDTL, DMRABSM2 and DMRABSUM tables have been added with new detail and summary accounting buffer records.

Table 4. List of Performance Reporter Tables

Default Table Name Description	Default Table Space Name	Create Table Member (UBBSAMP)	Report Members (BBPARM)	QMF Members (BBSAMP)
DMRPR.DMRACDTL (detail accounting table)	DMRPRTAD	DPCTACDT	ACxxxxxx	QACxxxxx
DMRPR.DMRACSUM (summary accounting table)	DMRPRTAS	DPCTACSM	SAxxxxxx	QSAxxxxx
DMRPR.DMRACSM2 (summary-2 accounting table)	DMRPRTA2	DPCTACS2	SAxxxxxx	QSAxxxxx
DMRPR.DMRABDTL (detail buffer accounting table)	DMRPRTID	DPCTABDT	ACxxxxxx	QACxxxxx
DMRPR.DMRABSUM (summary buffer accounting table)	DMRPRTIS	DPCTABSM	SAxxxxxx	QSAxxxxx
DMRPR.DMRABSM2 (summary-2 buffer accounting table)	DMRPRTI2	DPCTABS2	SAxxxxxx	QSAxxxxx
DMRPR.DMRADDTL (detail DDF accounting table)	DMRPRTDD	DPCTADDT	ACxxxxx	QACCPDFx QACCPFFA QACDDFxx QACOVDFx
DMRPR.DMRADSUM (DDF summary accounting table)	DMRPRTDS	DPCTADSM	SAxxxxxx	QSACPDFx QSADDFLx QSADDFRxx QSAOVDFx
DMRPR.DMRADSM2 (DDF summary-2 accounting table)	DMRPRTD2	DPCTADS2	SAxxxxxx	QSACPDFx QSADDFLx QSADDFRxx QSAOVDFx
DMRPR.DMRAPDTL (detail package accounting table)	DMRPRTPD	DPCTAPDT	ACxxxx	QACxxxx

Table 4. List of Performance Reporter Tables (Continued)

Default Table Name Description	Default Table Space Name	Create Table Member (UBBSAMP)	Report Members (BBPARM)	QMF Members (BBSAMP)
DMRPR.DMRAPSUM (package summary accounting table)	DMRPRTPS	DPCTAPSM	SAxxxx	QSAxxxx
DMRPR.DMRAPSM2 (package summary-2 accounting table)	DMRPRTP2	DPCTAPS2	SAxxxx	QSAxxxx
DMRPR.DMRSTAT (detail statistics table)	DMRPRTSS	DPCTST	STxxxxxx	QSTxxxxx QSTOVRxx
DMRPR.DMRBFDFT (detail buffer statistics table)	DMRPRTBD	DPCTBFDFT	STxxxxxx	QSTxxxx
DMRPR.DMRSTDF (DDF statistics table)	DMRPRTSF	DPCTSD	STOVDFT STOVRxx	QSTOVDFT QSTOVRxx
DMRPR.DMRAUSUM (audit summary table)	DMRPRAUS	DPCTAUSM	AUSUM AUDTL	QAUSUM QAUDTL
DMRPR.DMRAUFAL (authorization failures table)	DMRPRAUF	DPCTAUFL	AUFAIL	QAUFAIL
DMRPR.DMRAUGRV (authorization control - GRANTs / REVOKEs table)	DMRPRAUG	DPCTAUGR	AUDGRV	QAUDGRV
DMRPR.DMRAUDDL (DDL access table)	DMRPRAUD	DPCTAUDL	AUDDL	QAUDDL
DMRPR.DMRAUDML (DML access table)	DMRPRAUM	DPCTAUDM	AUDML	QAUDML
DMRPR.DMRAUDMB (DML at BIND table)	DMRPRAUB	DPCTAUSB	AUDMLB	QAUDMLB
DMRPR.DMRAUCHG (authorization ID change table)	DMRPRAUC	DPCTAUCH	AUCHNG	QAUCHNG
DMRPR.DMRAUUTL (utility access table)	DMRPRAUU	DPCTAUUT	AUUTIL	QAUUTIL

2. If you changed the STOGROUP name in “[Step 4: Define STOGROUP Usage](#)” on page 38, change the STOGROUP name in these sample members to the same name.

3. Customize the table definitions.

The following table customization applies to all tables, both detail and summary.

a. Determine the data you do not want stored, such as

- Entire tables not used at your site

For example, the detail accounting table does not need to be created if you summarize accounting data and only load summary data.

- DDF data

If your site does not use DDF or DRDA, you do not need to create any DDF tables or reports.

- Package accounting data

If your site does not run with accounting trace class 7/8 active, you do not need to create any package accounting tables.

- Data collected by Performance Reporter that is not used in any Performance Reporter reports and that is not needed for special reports at your site

“Part 3. Performance Data Tables” of the *MAINVIEW for DB2 Performance Reporter User Guide* describes the data used in the Performance Reporter reports.

- Columns in Performance Reporter tables that are meaningful only if data sharing is used at your site
- Columns in Performance Reporter tables not used for reporting at your site
- COMMENT ON statements for Performance Reporter columns
- CREATE INDEX columns not used in any sample reports

b. Use the samples starting with a DPCT prefix (TABLE CREATE members) to remove

- Unwanted tables

Remove the utility statements that create the table, table space, and table index, and grant SELECT ACCESS to that table to PUBLIC.

Note: The member names must also be removed in the DPJCREAT sample (see “[Step 7: Create DB2 Objects](#)” on page 44).

- Columns not used in any distributed report

In each member, there is a column name, DMRAUTOCUST, that marks the beginning of optional columns for that table. AutoCustomization uses this to delete the remaining column definitions if you request only the columns used in the distributed reports.

- Data sharing and global locking columns

In each member, there is a column name, DMRACSHARE, that marks the beginning of data sharing and global locking columns for that table. AutoCustomization uses this to delete the columns up to the DMRAUTOCUST column definition if you request to exclude data sharing columns.

- Unwanted columns

Remove the control statement that creates the column name.

Note: If you remove a column name, you must also remove the corresponding COMMENT ON statement.

This table customization applies to all tables, both detail and summary.

Note: New column names are *not* supported. While it is possible to remove existing columns, it is not possible to add new ones.

- COMMENT ON statements

Remove any or all COMMENT ON statements. AutoCustomization can optionally remove all COMMENT ON statements for you.

- Unused CREATE INDEX columns

In each member, there is a CREATE INDEX statement with index column names. Index column names after DATETIME are not used in any sample Performance Reporter reports and may be removed if not used by any special reports at your site. Any index column names preceding and including DATETIME must be kept to avoid duplicate keys in Performance Reporter processing. AutoCustomization can optionally remove unused CREATE INDEX statement column names for you.

- c. Examine the space allocations done by each DPCTxxxx sample for compatibility with your expected volumes.
- d. COMPRESS YES is specified. Review for applicability in your environment.

Step 7: Create DB2 Objects

This step submits a job to execute the CREATE statements for the DB2 objects generated in the preceding steps.

1. Edit member DPJCREAT in UBBSAMP and run DBJCREAT on the same DB2 system where the objects are to be created:

DPJCREAT Is a two-step allocation job. The first step allocates a spin file for the SMF Extractor job. The second step defines the storage group, database, table spaces, tables, and indexes used to store the performance data. And, DPJCREAT also grants SELECT authority to PUBLIC.

- a. Add your job statement.
- b. Change the HIDP parameter to the high-level qualifier of your BMC Software product libraries.
- c. Verify that the HIDB2 parameter is the correct prefix for your DB2 library names.
- d. Specify the UNIT and VOL parameters. These parameters are used to allocate a small permanent data set used by the SMF extractor.
- e. Submit the job.

Step 8: Migrate DB2 Tables

This step optionally submits jobs to migrate existing Performance Reporter accounting and statistics tables to the new release of MAINVIEW for DB2.

Steps to load DB2 tables use the DB2 Load Utility, DSNUTILB. You must modify your JCL if your installation uses a different utility. The utility must be able to interpret LOAD control statements in the same format that DSNUTILB uses.

Note: AutoCustomization includes an optional step to migrate data from MVDB2 6.1 tables to MVDB2 7.1 tables. Use of ALTER is not supported.

1. Migrate existing Performance Reporter tables to new Performance Reporter tables using the following job:

DPJMIGR Is a four-step job. The first step unloads data from existing DB2 tables. The second and third steps convert the data to new formats. The final step loads data into new DB2 tables.

- a. Edit member DPJMIGR in UBBSAMP.

- b. Run on DB2 system(s) with existing Performance Reporter tables and new Performance Reporter tables.

Note: You may need to split DPJMIGR into two jobs if the DB2 systems are not on the same MVS system.

Be very careful to specify the parameters and control statements correctly to match your “FROM” and “TO” systems. The old MVDB2 version must be used in the UNLOAD step to correctly process the previous format of the tables. The new MVDB2 version must be used to create the load statements for the LOAD into the new tables.

Depending on which DB2 subsystems are being accessed in the steps, the DB2 version may be the same or different. The DB2 SDSNLOAD must match the accessed DB2 at each stage (see parameters FROMDB2 and TODB2). You must specify the control statements in the UNLOAD step to select the originating DB2 and select which data you want. The parameter LDSYS in the procedure defines the target DB2 subsystem for the LOAD.

Step 9: Bind the Processing Plan

This step binds the plan that processes all performance data (SMF extract, summarization, or purge).

1. Edit members DPJBIND in UBBSAMP and bind the processing plan using these jobs:

DPJBIND Binds the summary/purge program defined by DPCBIND.

- a. Add your job statement.
- b. Update the symbolics as necessary.
- c. Submit the job.

Note: This job must be rerun when maintenance is applied that changes the DBRMs DPSPURGD or DPSQLDAD. Any such maintenance has a HOLD FOR ACTION code requesting that the bind job be run.

Step 10: Bind the Reporting Plan

This step binds the plan that produces reports.

1. Edit member JXRPBIND in UBBSAMP and bind the reporting plan using this job:

JXRPBIND Binds the report program and grants execute authority for the reporting plan to public.

- a. Add your job statement.
- b. Update the symbolics as necessary.
- c. Update the name of the DB2 system using the SYSTEM parameter in the DSN command.
- d. Verify the plan name for program DSNTIAD in the RUN statement.
- e. Submit the job for DBRM JXRDSQL.

Note: This job must be rerun when maintenance is applied that changes DBRMs, DPSPURGD, or DPSQLDAD. Any such maintenance has a ++HOLD. . . REASON(ACTI ON) . . . code indicating that after updating, the bind job must be run.

Step 11: Tailor Extract/Summarization JCL

This step tailors the SMF extract and summarization job, DPRSMF.

1. Edit member DPRSMF in UBBSAMP to tailor DPRSMF for your periodic production (see the *MAINVIEW for DB2 Performance Reporter User Guide* for a description of DPRSMF). Accounting records can be loaded in summary and/or detail tables.

Steps to load DB2 tables use the DB2 Load Utility, DSNUTILB. You must modify your JCL if your installation uses a different utility. The utility must be able to interpret LOAD control statements in the same format that DSNUTILB uses.

- DPRSMF Is a run time job that extracts accounting and statistics records from SMF, reformats them, and loads them into DB2.
- a. Add your job statement.
 - b. Change the HIDP parameter to the high-level qualifier of your BMC Software product libraries.
 - c. Verify that the HIDB2 parameter is the correct prefix for your DB2 library names.
 - d. Specify the data set name of the unloaded SMF data set for the SMF parameter.
 - e. Specify the UNIT name to allocate temporary work space.
 - f. Specify the target DB2 system for the SYSTEM parameter.
 - g. Specify the ID of a DB2 load utility for the UID parameter.
 - h. Change the value of the SSID parameter to the target DB2 subsystem ID in the first input control statement for Step 3 of the procedure.
 - i. Modify the table name if changes are made in [“Step 6: Generate CREATE TABLE Statements”](#) on page 40.
 - j. Modify tablespace and database name in REPAIR step if changes are made in [“Step 5: Define Database Usage”](#) on page 39 or [“Step 6: Generate CREATE TABLE Statements”](#) on page 40.

Step 12: Tailor Summarization JCL

This job tailors the optional summarization job, DPRSUM. DPRSUM can be used to purge old data from the performance tables.

1. Edit member DPRSUM in UBBSAMP to tailor DPRSUM for your periodic production (see the *MAINVIEW for DB2 Performance Reporter User Guide* for a description of DPRSMF). Accounting records can be loaded in summary and/or detail tables.

Steps to load DB2 tables use the DB2 Load Utility, DSNUTILB. You must modify your JCL if your installation uses a different utility. The utility must be able to interpret LOAD control statements in the same format that DSNUTILB uses.

- | | |
|--------|--|
| DPRSUM | Summarizes accounting data and/or purges outdated data from the performance data tables. |
|--------|--|
- a. Add your job statement.
 - b. Change the HIDP parameter to the high-level qualifier of your BMC Software product libraries.
 - c. Verify that the HIDB2 parameter is the correct prefix for your DB2 library names.
 - d. Specify the UNIT name to allocate temporary work space.
 - e. Specify the target DB2 system for the SYSTEM parameter.
 - f. Specify the ID of a DB2 load utility for the UID parameter.
 - g. Examine and change the control statements as necessary to implement your data storage strategy.
 - h. Modify the table name if changes are made in [“Step 6: Generate CREATE TABLE Statements”](#) on page 40.

Step 13: Tailor Report JCL

This job produces all the Performance Reporter reports. Delete any reports you do not want.

1. Edit member DPRREPT in UBBSAMP to tailor DPRREPT for your periodic production (see the *MAINVIEW for DB2 Performance Reporter User Guide* for a description of DPRSMF).

- | | |
|---------|--------------------------|
| DPRREPT | Runs the reporting jobs. |
|---------|--------------------------|
- a. Add your job statement.
 - b. Change the HIDP parameter to the high-level qualifier of your BMC Software product libraries.
 - c. Verify that the HIDB2 parameter is the correct prefix for your DB2 library names.
 - d. Specify the UNIT name to allocate temporary work space.
 - e. Adjust the list of reports as needed for your site. The default generates all the Performance Reporter predefined reports.
 - f. Specify the target DB2 system for the SYSTEM parameter.
 - g. Modify the table names if changes are made in [“Step 6: Generate CREATE TABLE Statements”](#) on page 40.
 - h. Delete unwanted reports.
 - i. For information about batch verification, see [Chapter 12, “Batch Verification”](#) on page 53.

Step 14: Set Up QMF Queries

This step loads the sample Performance Reporter queries, forms, and procedures into your QMF environment if you are using QMF.

1. Edit member DZPRUQMF in UBBSAMP to conform to site standards, change the table creator, change any table names changed in “[Step 6: Generate CREATE TABLE Statements](#)” on page 40, and submit the job.

You need to add statements to INPRMLST for any table names changed. For example,

```
OLD=DMRACDTL, NEW=DMRACCTDTL
```

will change all occurrences of DMRACDTL to DMRACCTDTL in QMF queries.

2. If you have installed Performance Reporter QMF queries, forms, and procedures previously, use QDELETE to delete them:
 - a. Copy QDELETE from BBSAMP to UBBSAMP.

- b. Edit QDELETE to use the same owner name used in a previous Performance Reporter install.

- c. Enter QMF and import the delete procedure, DZPRQDEL, from BBSAMP.

Use the command:

```
IMPORT PROC FROM 'hilevel.BBSAMP(DZPRQDEL)'
```

- d. Use the EDIT PROC command to change the high-level data set qualifiers to meet your site's requirements.

- e. Press PF2 to run the procedure, or type the command:

```
RUN PROC
```

3. Enter QMF and import the install procedure, DZPRQINS, from BBSAMP.

Use the command:

```
IMPORT PROC FROM 'hilevel.BBSAMP(DZPRQINS)'
```

4. Use the EDIT PROC command to change the hilevel data set qualifiers to meet your site's requirements.

5. Press PF2 to run the procedure, or type the command:

```
RUN PROC
```

DZPRQINS imports all PERFORMANCE REPORTER objects (queries, forms, and procedures) necessary for QMF report generation. All objects are saved in QMF tables with the generic ownership ID DMRPR.

Chapter 12. Batch Verification

After the DPRSMF, DPRSUM, and DPRREPT jobs are tailored, as described on pages 48 through 50, they can be submitted and run as a verification job stream.

Running a verification job stream produces the three detail tables, one summary table, and a set of all distributed reports. The reports produced from the detail accounting data (reports ACxxxx) essentially are the same as those from the summary accounting data (reports SAxxxx).

Part 3. Implementing Product Security

This part describes how to authorize access to MAINVIEW for DB2 services.

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Chapter 13. Authorizing Security

MAINVIEW product security is enabled through the MVS system authorization facility (SAF) interface. SAF passes security requests to external security managers (ESMs). SAF security supports CA-ACF2, CA-TOP SECRET, or RACF.

Entity names define product resources that are secured by an ESM through the SAF interface. *Implementing Security for MAINVIEW Products* lists SAF entity names for MVDB2's full-screen services and actions in the chapter on Basic Security. Some are shared resources and are described in the section, "Securing Resources that Affect Multiple Products." This includes security for BBI-SS PAS resources like the journal, as well as control of DB2 commands, traces, and the display of SQL text. Look for all entries that list DMR as an affected product. There is also a section specifically for MVDB2 that describes how to control DB2 commands by command name.

Part 3, Enhanced Security, describes how to use Plex Manager security views to manage security parameter and resource class property members in the BBSECURE data set. This part includes a section on MVDB2 resources controlling access to windows mode table data and actions. Another section lists the MVDB2 views that access that table data.

Chapter 14. Security for Analyzer, Monitor, and Trace Services

Security access classes for analyzer, monitor, and trace services is defined in service tables that you can modify (see the ACCESS keyword in [“Service Table Definition” on page 33](#)).

The security level for each service is shown in the service selection applications that list analyzer and trace displays and data collection monitors.

Users are authorized to use the services through the PMACC resource (see *Implementing Security for MAINVIEW Products*).

Service Selection Lists by User Group

The service list displays selected from the Primary Option Menu can be restricted to display only the services for which the user has authority. This applies to

- Option 2 (ANALYZERS)
- The SM (START MONITORS) primary command
- Option 3 (MONITORS)

BBSAMP member DMRSTD00 is an example of how to set up the service security codes by DB2 functional area, such as user activity or buffer pools. Each service is assigned a security code according to its area. USERID members can then be created either for groups (such as DBAs or system programmers) or individuals to access only specific services by listing one or more security code(s). If the corresponding security code is not defined in the user's authorization member, the user does not see those services on the service selection displays; however, they are displayed on the EXPAND selection bar.

The SERVLIST keyword in BBPARM member BBIISP00 determines whether or not this feature is activated. The value for SERVLIST can be ALL or RESTRICT. ALL is the default; users see all services on the list displays. RESTRICT specifies only those services for which a user is authorized.

Command and Function Authorization

Users must be authorized to issue commands or use applications against a target DB2 subsystem.

Following is a summary of basic authorization resources for MAINVIEW for DB2. Most of these resources are also used by MVCICS and MVIMS. A description is in the “Basic Security” section of *Implementing Security for MAINVIEW Products*.

Parameter	Description
PMACCx	Service class authorization, global authorization, or request authorization (free, modify, purge, quiesce, reset, stop, or switch).
DB2CMD	Authority to issue DB2 commands.
TRACE.x	Authority to start any trace (a summary trace only or a detail trace of a specified level).
DB2TRACE.GENERIC	Authority to start a detail trace for the total workload.
TRALLOC	Authority to have the BBI-SS PAS dynamically allocate trace logs for this user.
DB2SQLxx	Authority to display all SQL statements, no SQL text, or SQL text only of threads with a requestor’s user ID.

There are also enhanced security resources that control access to windows mode data, commands, and views. There are resources for each table (data record) and its related group of views. There are also resources controlling the use of actions to issue OPERTUNE commands to change ZPARMs, and to activate or deactivate collection of SQL cache statistics. A description of these resources is in the “Enhanced Security” sections of *Implementing Security for MAINVIEW Products*.

Chapter 15. Thread Display Security Exit

In addition to the security provided by the DB2SQL keyword in the user ID members of the BBPARM data set, a security exit can also be coded. The exit can be coded in Assembler Language to set a return code to suppress the display of thread activity detail and/or SQL statement text in the Detail User Status (DUSER) and Application Trace displays. BBSAMP member DZSQLU can be used as a model. A message is displayed to indicate authorization failure.

The exit is loaded during BBI-SS PAS initialization and invoked before

- Current active thread information is displayed (DUSER and UTRAC)
- Trace summary services are displayed (LTRAC, TSTAT, and TSUMx)
- Trace thread services are displayed (STRAC and DTRAC)
- CANCEL THREAD command is processed (DUSER)

It is also invoked once at initialization and once at BBI-SS PAS termination to allow housekeeping.

Environment

The exit must be coded and linked as reentrant (RENT). The load module must be called DZSQLU and be present in the BBLINK load library before the BBI-SS PAS is initialized. It is entered in Key 8, AMODE-31, problem state, and is ESTAE-protected by the BBI-SS PAS.

The exit can invoke another security routine, such as RACF or ACF2.

Register Usage

On entry:

R0	Contains one of three values to indicate the type of entry to the exit:
0	Initialization call. A call is made to the exit during BBI-SS PAS initialization for exit setup. Only Word 1 of the parameter list is valid.
4	Authorization check. A call is made to the exit before each display of a thread by the DUSER or DTRAC services.
8	Termination call. A call is made to the exit during BBI-SS PAS termination for exit cleanup. Only Word 1 of the parameter list is valid.
R1	Contains the address of a nine-word parameter list (see “Parameter List” on page 62).
R2-R12	Unpredictable.
R13	Contains the address of an 18-word save area to be used by the exit.

- R14 Contains the return address.
- R15 Contains the entry point address of the module.

On exit:

- R15 Contains a return code that is only checked for a type 4 call:
 - 0 Honor DB2SQL keyword parameter in BBPARM member USERID for SQL text display.
 - 4 Display all data.
 - 8 Suppress a display of SQL text.
 - Other Suppress a display of entire thread.

Parameter List

The exit is entered with R1 addressing a nine-word parameter list:

- Word 1 Address of a fullword where the exit can store data between calls, such as the address of a control block.
- Word 2 Address of an 8-byte field containing the name of the plan executing the SQL statement.
- Word 3 Address of an 8-byte field containing the authorization ID of the user executing the plan.
- Word 4 Address of a 12-byte field containing the correlation ID.
- Word 5 Address of an 8-byte field containing the connection name.
- Word 6 Address of an 8-byte field containing the ID of the user requesting the display.
- Word 7 Address of a 5-byte field containing the name of the service invoked, such as DUSER or DTRAC.
- Word 8 Address of a 4-byte field containing the target DB2 system name.
- Word 9 Address of an 8-byte field containing the ID of the user starting the trace. This field is 0 for the DUSER and UTRAC service.

Note: The fields addressed by Word 2 to Word 9 must not be modified by the exit. When this exit is invoked for the trace summary displays, LTRAC, TSTAT, and TSUMx, Words 2 to 5 are 0.

Part 4. Appendixes/Glossary

This part contains the following appendixes and a glossary of terms for all MAINVIEW products.

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Appendix A. BBSAMP Data Set Members

To help you understand and use your BMC Software product easily, the BBSAMP data set contains members that you can edit for your site's use. These members contain macros, sample JCL, sample user exit routines, and sample statements for a variety of functions.

[Table 5](#) describes BBSAMP customization members for MAINVIEW for DB2.

Table 5. BBSAMP Data Set Customization Members for MAINVIEW for DB2

BBSAMP Member Name	Description
FACxxxxx FSAxxxxx FSTxxxxx	QMF forms for Performance Reporter.
DB2CMDxx	Samples for DB2 command security.
DMRSTD00	Sample service table definition to set up a security profile. In this example, each service is assigned a security code according to its functional area, such as user activity or buffer pool. Edit to reflect site-specific requirements. The authority granted to user IDs can then specify by security code which services a user can access.
DPxxxxxx DZPRxxxx	Sample members for Performance Reporter customization.
DPCTxxxx	Sample SQL to define table-related objects.
DPTRACE	Sample utility for printing trace data in batch mode.
DZxxxxxx	Sample installation members for Performance Reporter.
DZJPxxxx	Sample report statements for trace print.
DZSQLU	Sample thread display security exit.
DZTBxxxx	Sample JCL to print, archive, and restore trace log data sets.
JXTnnnn	Sample batch jobs to set up and maintain the trace directory and trace log data sets.
QACxxxxx QSAxxxxx QSTxxxxx	QMF queries for Performance Reporter.

Appendix B. BBPARM Data Set Members

Table 6 lists sample members in BBPARM that can be used to define product default parameters, initiate background processing, and generate predefined Performance Reporter accounting and statistics reports.

Table 6. BBPARM Data Set Members for MAINVIEW for DB2

BBPARM Member Name	Description
ACxxxxxx	Performance Reporter SQL to generate accounting reports.
SAxxxxxx	Performance Reporter SQL to generate summary accounting reports.
STxxxxxx	Performance Reporter SQL to generate statistics reports.
BLKDMRW	This member contains a sample set of multiple timer-driven service requests. The member name is specified with the BLK parameter in BBPARM member BBIISP00 to activate the requested services when the BBI-SS PAS starts.
DMRBEX00	<p>This member defines various parameters per DB2 target subsystem (TARGET):</p> <ul style="list-style-type: none"> • All DB2 messages issued to the system console from that DB2 subsystem can be logged to the BBI-SS PAS Journal (LOG) • Background sampler exceptions <ul style="list-style-type: none"> – Exception messages can be directed to the BBI-SS PAS Journal (default), to the system console (BMSGWTO for all messages, WTO for an individual message), or to a TSO ID (BMSGTSO for all messages, MTSO for individual messages). – Specific messages (MSG) can be deactivated (ACTIVE) or controlled (CYCLES). – Thresholds also can be set for individual runaway messages per attach type to determine if a thread is a runaway transaction. • Application trace options <p>Trace storage (STORAGE), size (TRLIM), and duration (TRTIME) also can be specified. In addition, the size (TRSIZE) and number (TRBUF) of the detail trace buffers can be specified, as well as several trace logging options.</p> • LOCKOUT records <p>The limit on the number of records kept for the Lockout History display can be set with the LOCKOUTS parameter.</p>
BBPTWK00	This member contains DB2 application workload definitions.

Appendix C. Estimating Storage for Performance Reporter Data

This appendix provides guidelines for estimating the amount of storage needed at your site for Performance Reporter statistics and accounting data.

The default table space allocations in BBSAMP member DPCSTOW require 200 cylinders of DASD. These allocations support a small Performance Reporter batch system that processes approximately 10,000 or more statistics records, 100,000 or more detail accounting records, and 10,000 or more summary accounting records.

If the tables are customized to delete unwanted columns, more records will fit in the same allocation. In that case, default table space allocations support 20,000 or more statistics records, 100,000 or more detail accounting records, and 10,000 or more summary accounting records.

For more accurate estimates, you must determine

1. Your processing volumes (number of accounting and statistical records created daily)
2. A summarization strategy (see “Summarization Strategy Considerations” in the *MAINVIEW for DB2 Performance Reporter User Guide*):
 - What granularity is needed (daily, weekly, monthly)?
 - What level of summarization keys are needed?
 - What is the correct retention period for the data in each table?
3. Which tables you want to maintain:
 - Do you need DDF tables?
 - Do you want to load detail accounting records?
 - How many summary tables do you want?
4. The size of the rows in the tables:
 - Are you deleting unwanted columns?

Use these guidelines to estimate storage:

Statistics records	For each statistics record processed, one statistics summary row and one buffer summary row are created. Two statistics summary rows fit in a 4K page in the detail statistics table (DMRSTAT). Nine buffer detail rows fit in a 4K page in the detail buffer statistics table (DMRSBFDT). Sixteen DDF statistics records can fit in a page.
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For example, if the default statistics interval of 30 minutes is used, 48 rows of each type are created for a full day's processing. This requires 16 pages for statistics summary rows and 10 pages for buffer summary rows per day for the statistics information for each system monitored. If 3 DDF destinations are active during the day, 3 x 48 or 144 DDF statistics rows are created, requiring 9 pages.

Accounting records Three accounting records fit in a 4K page in the detail accounting table (DMRACxxx). The DDF accounting records are smaller; eight of them can fit in a page. Seven package accounting records can fit in a page. The volume of these records depends on the activity in the DB2 system(s) monitored. For example, a production DB2 system with a fairly light load of 10,000 records per day requires 3,334 pages of storage per day. If 10 percent of these threads access a single DDF destination, 125 additional pages are required.

Note: The size of the rows can be reduced by deleting unwanted columns (see [“Step 6: Generate CREATE TABLE Statements” on page 40](#)).

Audit records Seventeen audit summary records fit in a 4K page in the audit summary table (DMRAUSUM). Seven records fit in a page in the authorization failures table (DMRAUFAL). Eight records fit in a page in the authorization control table (DMRAUGRV). Eight records fit in a page in the DDL access table (DMRAUDDL). Eighteen records fit in a page in the DML access table (DMRAUDML). Eight records fit in a page in the DML at BIND access table (DMRAUDMB). Ten records fit in a page in the authorization ID change table (DMRAUCHG). Sixteen records fit in a page in the utility access table (DMRAUUTL). The volume of these records depends on the activity in the DB2 system(s) monitored.

Glossary

This glossary defines BMC Software terminology. Other dictionaries and glossaries may be used in conjunction with this glossary.

Since this glossary pertains to BMC Software-related products, some of the terms defined may not appear in this book.

To help you find the information you need, this glossary uses the following cross-references:

Contrast with	Indicates a term that has a contrary or contradictory meaning.
See	Indicates an entry that is a synonym or contains expanded information.
See also	Indicates an entry that contains related information.

A

action. Defined operation, such as modifying a MAINVIEW window, that is performed in response to a command. *See* object.

active window. Any MAINVIEW window in which data can be refreshed. *See* alternate window, current window, window.

administrative view. Display from which a product's management tasks are performed, such as the DSLIST view for managing historical data sets. *See* view.

ALT WIN field. Input field that allows you to specify the window identifier for an alternate window where the results of a hyperlink are displayed. *See* alternate window.

Alternate Access. *See* MAINVIEW Alternate Access.

alternate form. View requested through the FORM command that changes the format of a previously displayed view to show related information. *See also* form, query.

alternate window. (1) Window that is specifically selected to display the results of a hyperlink. (2) Window whose identifier is defined to the ALT WIN field. *Contrast with* current window. *See* active window, window, ALT WIN field.

analyzer. (1) Online display that presents a snapshot of status and activity data and indicates problem areas. (2) Component of CMF MONITOR. *See* CMF MONITOR Analyzer.

application. (1) Program that performs a specific set of tasks within a MAINVIEW product. (2) In MAINVIEW VistaPoint, combination of workloads to enable display of their transaction performance data in a single view.

application trace. *See* trace.

ASCH workload. Workload comprising Advanced Program-to-Program Communication (APPC) address spaces.

AutoCustomization. Online facility for customizing the installation of products. AutoCustomization provides an ISPF panel interface that both presents customization steps in sequence and provides current status information about the progress of the installation.

automatic screen update. Usage mode wherein the currently displayed screen is refreshed automatically with new data at an interval you specify. Invoked by the ASU command.

B

batch workload. Workload consisting of address spaces running batch jobs.

BBI. Basic architecture that distributes work between workstations and multiple OS/390 targets for BMC Software MAINVIEW products.

BBI-SS PAS. *See* BBI subsystem product address space.

BBI subsystem product address space (BBI-SS PAS). OS/390 subsystem address space that manages communication between local and remote systems and that contains one or more of the following products:

- Command MQ for S/390
- MAINVIEW AutoOPERATOR
- MAINVIEW for CICS
- MAINVIEW for DB2
- MAINVIEW for DBCTL
- MAINVIEW for IMS Online
- MAINVIEW for MQSeries
- MAINVIEW VistaPoint (for CICS, DB2, DBCTL, and IMS workloads)

BBPARM. *See* parameter library.

BBPROC. *See* procedure library.

BBPROF. *See* profile library.

BBSAMP. See sample library.

BBV. See MAINVIEW Alternate Access.

BBXS. BMC Software Subsystem Services. Common set of service routines loaded into common storage and used by several BMC Software MAINVIEW products.

border. Visual indication of the boundaries of a window.

bottleneck analysis. Process of determining which resources have insufficient capacity to provide acceptable service levels and that therefore can cause performance problems.

C

CA-Disk. Data management system by Computer Associates that replaced the DMS product.

CAS. Coordinating address space. One of the address spaces used by the MAINVIEW windows environment architecture. The CAS supplies common services and enables communication between linked systems. Each OS/390 image requires a separate CAS. Cross-system communication is established through the CAS using VTAM and XCF communication links.

CFMON. See coupling facility monitoring.

chart. Display format for graphical data. See also graph.

CICSplex. User-defined set of one or more CICS systems that are controlled and managed as a single functional entity.

CMF MONITOR. Comprehensive Management Facility MONITOR. Product that measures and reports on all critical system resources, such as CPU, channel, and device usage; memory, paging, and swapping activity; and workload performance.

CMF MONITOR Analyzer. Batch component of CMF MONITOR that reads the SMF user and 70 series records created by the CMF MONITOR Extractor and/or the RMF Extractor and formats them into printed system performance reports.

CMF MONITOR Extractor. Component of CMF that collects performance statistics for CMF MONITOR Analyzer, CMF MONITOR Online, MAINVIEW for OS/390, and RMF postprocessor. See CMF MONITOR Analyzer, CMF MONITOR Online, MAINVIEW for OS/390.

CMF MONITOR Online. Component of CMF that uses the MAINVIEW window interface to present data on all address spaces, their use of various system resources, and the delays that each address space incurs while waiting for access to these resources. See CMF MONITOR, MAINVIEW for OS/390.

CMF Type 79 API. Application programming interface, provided by CMF, that provides access to MAINVIEW SMF-type 79 records.

CMFMON. Component of CMF MONITOR that simplifies online retrieval of information about system hardware and application performance and creates MAINVIEW SMF-type 79 records.

The CMFMON *online facility* can be used to view data in one or more formatted screens.

The CMFMON *write facility* can be used to write collected data as MAINVIEW SMF-type 79 records to an SMF or sequential data set.

CMRDETL. MAINVIEW for CICS data set that stores detail transaction records (type 6E) and abend records (type 6D). Detail records are logged for each successful transaction. Abend records are written when an abend occurs. Both records have the same format when stored on CMRDETL.

CMRSTAT. MAINVIEW for CICS data set that stores both CICS operational statistic records, at 5-minute intervals, and other records, at intervals defined by parameters specified during customization (using CMRSOPT).

column. Vertical component of a view or display, typically containing fields of the same type of information, that varies by the objects associated in each row.

collection interval. Length of time data is collected. See also delta mode, total mode.

command delimiter. Special character, usually a ; (semicolon), used to stack commands typed concurrently on the COMMAND line for sequential execution.

COMMAND line. Line in the control area of the display screen where primary commands can be typed. Contrast with line command column.

Command MQ Automation D/S. Command MQ agents, which provide local proactive monitoring for both MQSeries and MSMQ (Microsoft message queue manager). The Command MQ agents operate at the local node level where they continue to perform functions regardless of the availability of the MQM (message queue manager) network. Functionality includes automatic monitoring and restarts of channels, queue managers, queues and command servers. In cases where automated recovery is not possible, the agents transport critical alert information to a central console.

Command MQ Automation S/390. Command MQ component, which monitors the MQM (message queue manager) networks and intercedes to perform corrective actions when problems arise. Solutions include:

- Dead-Letter Queue management
- System Queue Archival
- Service Interval Performance solutions
- Channel Availability

These solutions help ensure immediate relief to some of the most pressing MQM operations and performance problems.

Command MQ for D/S. Command MQ for D/S utilizes a true client/server architecture and employs resident agents to provide configuration, administration, performance monitoring and operations management for the MQM (message queue manager) network.

Command MQ for S/390. See MAINVIEW for MQSeries.

COMMON STORAGE MONITOR. Component of MAINVIEW for OS/390 that monitors usage and reconfigures OS/390 common storage blocks.

composite workload. Workload made up of a WLM workload or other workloads, which are called *constituent workloads*.

constituent workload. Member of a composite workload. Constituent workloads in a composite usually belong to a single workload class, but sometimes are mixed.

contention. Occurs when there are more requests for service than there are servers available.

context. In a Plex Manager view, field that contains the name of a target or group of targets specified with the CONTEXT command. See scope, service point, SSI context, target context.

CONTEXT command. Specifies either a MAINVIEW product and a specific target for that product (see target context) or a MAINVIEW product and a name representing one or more targets (see *SSI context*) for that product.

control statement. (1) Statement that interrupts a sequence of instructions and transfers control to another part of the program. (2) Statement that names samplers and other parameters that configure the MAINVIEW components to perform specified functions. (3) In CMF MONITOR, statement in a parameter library member used to identify a sampler in the extractor or a report in the analyzer, or to describe either component's processing requirements to the operating system.

coupling facility monitoring (CFMON). Coupling facility views that monitor the activity of your system's coupling facilities.

CPO. Customized Product Offering. Delivery and installation technique that allows any combination of BMC Software SMP/E-maintainable products to be distributed on a product tape to a customer and installed quickly. The CPO product tape contains libraries required for product customization and execution, plus SMP distribution libraries and data sets needed for application of SMP maintenance.

current data. Data that reflects the system in its current state. The two types of current data are realtime data and interval data. Contrast with historical data. See also interval data and realtime data.

current window. In the MAINVIEW window environment, window where the main dialog with the application takes place. The current window is used as the default window destination for commands issued on the COMMAND line when no window number is specified. Contrast with alternate window. See active window, window.

D

DASD. Direct Access Storage Device. (1) A device with rotating recording surfaces that provides immediate access to stored data. (2) Any device that responds to a DASD program.

DASD ADVISOR. An interactive software tool that diagnoses DASD performance problems and makes recommendations to reduce overall service time. This tool measures and reports on the operational performance of IBM and IBM-compatible devices.

data collector. Program that belongs to a MAINVIEW product and that collects data from various sources and stores the data in records used by views. For example, MAINVIEW for OS/390 data collectors obtain data from OS/390 services, OS/390 control blocks, CMF MONITOR Extractor control blocks, and other sources. Contrast with extractor.

delta mode. (1) In MAINVIEW for DB2 analyzer displays, difference between the value sampled at the start of the current statistics interval and the value sampled by the current analyzer request. See also *statistics interval*. (2) In CMFMON, usage mode wherein certain columns of data reflect the difference in values between one sample cycle and the next. Invoked by the DELTA ON command. See also collection interval, sample cycle, total mode.

DFSMS. (Data Facility Storage Management System) Data management, backup, and HSM software from IBM for OS/390 mainframes.

DMR. See MAINVIEW for DB2.

DMS. (Data Management System) See CA-Disk.

DMS2HSM. Component of MAINVIEW SRM that facilitates the conversion of CA-Disk, formerly known as DMS, to HSM.

DSO. Data Set Optimizer. CMF MONITOR Extractor component that uses CMF MONITOR Extractor data to produce reports specifying the optimal ordering of data sets on moveable head devices.

E

EasyHSM. Component of MAINVIEW SRM that provides online monitoring and reporting to help storage managers use DFHSM efficiently.

EasyPOOL. Component of MAINVIEW SRM that provides control over data set allocation and enforcement of allocation and naming standards. EasyPOOL functions operate at the operating system level to intercept normal job processing, thus providing services without any JCL changes.

EasySMS. Component of MAINVIEW SRM that provides tools that aid in the conversion of DFSMS and provides enhancements to the DFSMS environment after implementation. EasySMS consists of the EasyACS functions, the SMSACSTE function, and the Monitoring and Positioning Facility.

element. (1) Data component of a data collector record, shown in a view as a field. (2) Internal value of a field in a view, used in product functions.

element help. Online help for a field in a view. The preferred term is *field help*.

Enterprise Storage Automation. Component of MAINVIEW SRM that integrates powerful event management technology and storage monitoring technology to provide significant storage automation capabilities and solutions. Storage occurrences are defined to generate events in the form of messages that provide an early warning system for storage problems and are routed to MAINVIEW AutoOPERATOR to be viewed.

Event Collector. Component for MAINVIEW for IMS Online, MAINVIEW for IMS Offline, and MAINVIEW for DBCTL that collects data about events in the IMS environment. This data is required for Workload Monitor and optional for Workload Analyzer (except for the workload trace service). This data also is recorded as transaction records (X'FA') and program records (X'F9') on the IMS system log for later use by the MAINVIEW for IMS Offline components: Performance Reporter and Transaction Accountant.

expand. Predefined link from one display to a related display. *See also* hyperlink.

extractor. Program that collects data from various sources and keeps the data control blocks to be written as records. Extractors obtain data from services, control blocks, and other sources. *Contrast with* data collector.

extractor interval. *See* collection interval.

F

fast path. Predefined link between one screen and another. To use the fast path, place the cursor on a single value in a field and press Enter. The resulting screen displays more detailed information about the selected value. *See also* hyperlink.

field. Group of character positions within a screen or report used to type or display specific information.

field help. Online help describing the purpose or contents of a field on a screen. To display field help, place the cursor anywhere in a field and press PF1 (HELP). In some products, field help is accessible from the screen help that is displayed when you press PF1.

filter. Selection criteria used to limit the number of rows displayed in a view. Data that does not meet the selection criteria is not displayed. A filter is composed of an element, an operator, and an operand (a number or character string). Filters can be implemented in view customization, through the PARM/QPARM commands, or through the Where/QWhere commands. Filters are established against elements of data.

fixed field. Field that remains stationary at the left margin of a screen that is scrolled either right or left.

FOCAL POINT. MAINVIEW product that displays a summary of key performance indicators across systems, sites, and applications from a single terminal.

form. One of two constituent parts of a view; the other is query. A form defines how the data is presented; a query identifies the data required for the view. *See also* *query*, *view*.

full-screen mode. Display of a MAINVIEW product application or service on the entire screen. There is no window information line. *Contrast with* windows mode.

G

global command. Any MAINVIEW window interface command that can affect all windows in the window area of a MAINVIEW display.

graph. Graphical display of data that you select from a MAINVIEW window environment view. *See also* chart.

H

hilevel. For MAINVIEW products, high-level data set qualifier required by a site's naming conventions.

historical data. (1) Data that reflects the system as it existed at the end of a past recording interval or the duration of several intervals. (2) Any data stored in the historical database and retrieved using the TIME command. *Contrast with* current data, interval data and realtime data.

historical database. Collection of performance data written at the end of each installation-defined recording interval and containing up to 100 VSAM clusters. Data is extracted from the historical database with the TIME command. *See* historical data.

historical data set. In MAINVIEW products that display historical data, VSAM cluster file in which data is recorded at regular intervals.

HSM. (Hierarchical Storage Management) Automatic movement of files from hard disk to slower, less-expensive storage media. The typical hierarchy is from magnetic disk to optical disk to tape.

hyperlink. (1) Preset field in a view or an EXPAND line on a display that permits you to

- Access cursor-sensitive help
- Issue commands
- Link to another view or display

The transfer can be either within a single product or to a related display/view in a different MAINVIEW product. Generally, hyperlinked fields are highlighted. (2) Cursor-activated short path from a topic or term in online help to related information. *See also* fast path.

I

Image log. Collection of screen-display records. Image logs may be created for both the BBI-SS PAS and the BBI terminal session (TS).

The BBI-SS PAS Image log consists of two data sets that are used alternately: as one fills up, the other is used. Logging to

the BBI-SS PAS Image log stops when both data sets are filled and the first data set is not processed by the archive program.

The TS Image log is a single data set that wraps around when full.

IMSplex System Manager (IPSM). MVIMS Online and MVDBC service that provides Single System Image views of resources and bottlenecks for applications across one or more IMS regions and systems.

interval data. Cumulative data collected during a collection interval. Intervals usually last from 15 to 30 minutes depending on how the recording interval is specified during product customization. *Contrast with* historical data.

Note: If change is made to the workloads, a new interval will be started.

See also current data and realtime data.

InTune. Product for improving application program performance. It monitors the program and provides information used to reduce bottlenecks and delays.

IRUF. IMS Resource Utilization File (IRUF). IRUFs can be either detailed (one event, one record) or summarized (more than one event, one record). A detailed IRUF is created by processing the IMS system log through a program called IMFLEDIT. A summarized IRUF is created by processing one or more detailed IRUFs, one or more summarized IRUFs, or a combination of both, through a sort program and the TASCOSTR program.

J

job activity view. Report about address space consumption of resources. *See* view.

journal. Special-purpose data set that stores the chronological records of operator and system actions.

Journal log. Collection of messages. Journal logs are created for both the BBI-SS PAS and the BBI terminal session (TS).

The BBI-SS PAS Journal log consists of two data sets that are used alternately: as one fills up, the other is used. Logging to the BBI-SS PAS Journal log stops when both data sets are filled and the first data set is not being processed by the archive program.

The TS Journal log is a single data set that wraps around when full.

L

line command. Command that you type in the line command column in a view or display. Line commands initiate actions that apply to the data displayed in that particular row.

line command column. Command input column on the left side of a view or display. *Contrast with* COMMAND line.

Log Edit. In the MAINVIEW for IMS Offline program named IMFLEDIT, function that extracts transaction (X'FA')

and program (X'F9') records from the IMS system log. IMFLEDIT also extracts certain records that were recorded on the system log by IMS. IMFLEDIT then formats the records into a file called the IMS Resource Utilization File (IRUF).

M

MAINVIEW. BMC Software integrated systems management architecture.

MAINVIEW Alarm Manager. In conjunction with other MAINVIEW products, notifies you when an exception condition occurs. MAINVIEW Alarm Manager is capable of monitoring multiple systems simultaneously, which means that MAINVIEW Alarm Manager installed on one system keeps track of your entire SYSPLEX. You can then display a single view that show exceptions for all MAINVIEW performance monitors within your OS/390 enterprise.

MAINVIEW Alternate Access. Enables MAINVIEW products to be used without TSO by providing access through EXCP and VTAM interfaces.

MAINVIEW AutoOPERATOR. Product that uses tools, techniques, and facilities to automate routine operator tasks and provide online performance monitoring, and that achieves high availability through error minimization, improved productivity, and problem prediction and prevention.

MAINVIEW control area. In the MAINVIEW window environment, first three lines at the top of the view containing the window information line and the COMMAND, SCROLL, CURR WIN, and ALT WIN lines. The control area cannot be customized and is part of the information display. *Contrast with* MAINVIEW display area, MAINVIEW window area.

MAINVIEW display area. *See* MAINVIEW window area.

MAINVIEW Explorer. Product that provides access to MAINVIEW products from a Web browser running under Windows. MAINVIEW Explorer replaces MAINVIEW Desktop.

MAINVIEW for CICS. Product (formerly MV MANAGER for CICS) that provides realtime application performance analysis and monitoring for CICS system management.

MAINVIEW for DB2. Product (formerly MV MANAGER for DB2) that provides realtime and historical application performance analysis and monitoring for DB2 subsystem management.

MAINVIEW for DBCTL. Product (formerly MV MANAGER for DBCTL) that provides realtime application performance analysis and monitoring for DBCTL management.

MAINVIEW for IMS (MVIMS) Offline. Product with a Performance Reporter component that organizes data and prints reports used to analyze IMS performance and a Transaction Accountant component that produces cost accounting and user charge-back records and reports.

MAINVIEW for IMS (MVIMS) Online. Product that provides realtime application performance analysis and monitoring for IMS management.

MAINVIEW for IP. Product that monitors OS/390 mission-critical application performance as it relates to IP stack usage. Collected data includes: connections, response time statistics, application availability, application throughput, and IP configuration.

MAINVIEW for MQSeries. Delivers comprehensive capabilities for configuration, administration, performance monitoring and operations management for an entire MQM (message queue manager) network.

MAINVIEW for OS/390. System management application (formerly MAINVIEW for MVS (prior to version 2.5)). Built upon the MAINVIEW window environment architecture, it uses the window interface to provide access to system performance data and other functions necessary in the overall management of an enterprise.

MAINVIEW for UNIX System Services. System management application that allows you to monitor the performance of the Unix System Services from a MAINVIEW window interface.

MAINVIEW for VTAM. Product that displays application performance data by application, transaction ID, and LU name. This collected data includes: connections, response time statistics, application availability, and application throughput.

MAINVIEW for WebSphere. Product that provides Web monitoring and management for applications integrated with IBM's WebSphere Application Server for OS/390.

MAINVIEW Selection Menu. ISPF selection panel that provides access to all MAINVIEW windows-mode and full-screen mode products.

MAINVIEW Storage Resource Manager (SRM). Suite of products that assist in all phases of OS/390 storage management. MAINVIEW SRM consists of components that perform automation, reporting, trend analysis, and error correction for storage management in OS/390.

MAINVIEW SYSPROG Services. *See* SYSPROG Services.

MAINVIEW VistaPoint. Product that provides enterprise-wide views of performance. Application and workload views are available for CICS, DB2, DBCTL, IMS, and OS/390. Data is summarized at the level of detail needed; e.g., reports may be for a single target, an OS/390 image, or an entire enterprise.

MAINVIEW window area. Portion of the information display that is not the control area and in which views are displayed and windows opened. It includes all but the first three lines of the information display. *Contrast with* MAINVIEW control area.

monitor. Online service that measures resources or workloads at user-defined intervals and issues warnings when user-defined thresholds are exceeded.

MV MANAGER for CICS. *See* MAINVIEW for CICS.

MV MANAGER for DB2. *See* MAINVIEW for DB2.

MVALARM. *See* MAINVIEW Alarm Manager.

MVCICS. *See* MAINVIEW for CICS.

MVDB2. *See* MAINVIEW for DB2.

MVDBC. *See* MAINVIEW for DBCTL.

MVIMS. *See* MAINVIEW for IMS.

MVMQ. *See* MAINVIEW for MQSeries

MVMVS. *See* MAINVIEW for OS/390.

MVScope. MAINVIEW for OS/390 application that traces both CPU usage down to the CSECT level and I/O usage down to the channel program level.

MVSRM. *See* MAINVIEW Storage Resource Manager (SRM).

MVSRMHSM. *See* EasyHSM.

MVSRMSGC. *See* SG-Control.

MVSRMSGD. *See* StorageGUARD.

MVSRMSGP. *See* StorageGUARD.

MVVP. *See* MAINVIEW VistaPoint.

MVVTAM. *See* MAINVIEW for VTAM.

MVWEB. *See* MAINVIEW for WebSphere.

N

nested help. Multiple layers of help pop-up windows. Each successive layer is accessed by hyperlinking from the previous layer.

O

object. Anything you can manipulate as a single unit. MAINVIEW objects can be any of the following: product, secondary window, view, row, column, or field.

You can issue an action against an object by issuing a line command in the line command column to the left of the object. *See* action.

OMVS workload. Workload consisting of OS/390 OpenEdition address spaces.

online help. Help information that is accessible online.

OS/390 and z/OS Installer. BMC Software common installation system for mainframe products.

OS/390 product address space (PAS). Address space containing OS/390 data collectors, including the CMF MONITOR Extractor. Used by MAINVIEW for OS/390.

MAINVIEW for USS, and CMF MONITOR products. *See* PAS.

P

parameter library. Data set comprised of members containing parameters for specific MAINVIEW products or a support component. There can be several versions:

- The distributed parameter library, called BBPARAM
- A site-specific parameter library or libraries

These can be

- A library created by AutoCustomization, called UBBPARAM
- A library created manually, with a unique name

PAS. Product address space. Used by the MAINVIEW products. Contains data collectors and other product functions. *See* OS/390 product address space (PAS), BBI subsystem product address space (BBI-SS PAS).

performance group workload. MVS/SP-defined collection of address spaces. *See* service class workload, workload definition.

PERFORMANCE MANAGER. MAINVIEW for CICS online service for monitoring and managing current performance of CICS regions.

Performance Reporter (MVIMS Offline). MVIMS Offline component that organizes data and prints reports that can be used to analyze IMS performance.

Performance Reporter. Product component that generates offline batch reports. The following products can generate these reports:

- MAINVIEW for DB2
- MAINVIEW for CICS

Plex Manager. Product through which cross-system communication, MAINVIEW security, and an SSI context are established and controlled. Plex Manager is shipped with MAINVIEW window environment products as part of the coordinating address space (CAS) and is accessible as a menu option from the MAINVIEW Selection Menu.

pop-up window. Window containing help information that, when active, overlays part of the window area. A pop-up panel is displayed when you issue the HELP command.

PRGP workload. In MVS/SP 5.0 or earlier, or in compatibility mode in MVS/SP 5.1 or later, composite of service classes. MAINVIEW for OS/390 creates a performance group workload for each performance group defined in the current IEAIPsxx member.

procedure library. Data set comprised of members containing executable procedures used by MAINVIEW AutoOPERATOR. These procedures are execute command lists (EXECs) that automate site functions. There can be several versions:

- The distributed parameter library, called BBPROC
- A site-specific parameter library or libraries

These can be

- A library created by AutoCustomization, called UBBPROC
- A library created manually, with a unique name

The site-created EXECs can be either user-written or customized MAINVIEW AutoOPERATOR-supplied EXECs from BBPROC.

product address space. *See* PAS.

profile library. Data set comprised of members containing profile information and cycle refresh definitions for a terminal session connected to a BBI-SS PAS. Other members are dynamically created by MAINVIEW applications. There can be several versions:

- The distributed profile library, called BBPROF
- A site-specific profile library or libraries

These can be

- A library created by AutoCustomization, called SBBPROF
- A library created manually, with a unique name

The site library is a common profile shared by all site users. The terminal session CLIST creates a user profile automatically if one does not exist; it is called userid.BBPROF, where userid is your logon ID. User profile libraries allow each user to specify unique PF keys, CYCLE commands, target system defaults, a Primary Option Menu, and a unique set of application profiles.

Q

query. One of two constituent parts of a view; the other is form. A query defines the data for a view; a form defines the display format. *See also* form, view.

R

realtime data. Performance data as it exists at the moment of inquiry. Realtime data is recorded during the smallest unit of time for data collection. *Contrast with* historical data. *See also* current data and interval data.

Resource Analyzer. Online realtime displays used to analyze IMS resources and determine which are affected by specific workload problems.

Resource Monitor. Online data collection services used to monitor IMS resources and issue warnings when defined utilization thresholds are exceeded.

row. (1) Horizontal component of a view or display comprising all the fields pertaining to a single device, address space, user, etc. (2) Horizontal component of a DB2 table consisting of a sequence of values, one for each column of the table.

RxD2. Product that provides access to DB2 from REXX. It provides tools to query the DB2 catalog, issue dynamic SQL, test DB2 applications, analyze EXPLAIN data, generate DDL or DB2 utility JCL, edit DB2 table spaces, perform security administration, and much more.

S

sample cycle. Time between data samples.

For the CMF MONITOR Extractor, this is the time specified in the extractor control statements (usually 1 to 5 seconds).

For realtime data, the cycle is not fixed. Data is sampled each time you press Enter.

sample library. Data set comprised of members each of which contains one of the following:

- Sample JCL that can be edited to perform specific functions
- A macro that is referenced in the assembly of user-written services
- A sample user exit routine

There can be several versions:

- The distributed sample library, called BBSAMP
- A site-specific sample library or libraries

These can be

- A library created by AutoCustomization, called UBBSAMP
- A library created manually, with a unique name

sampler. Program that monitors a specific aspect of system performance. Includes utilization thresholds used by the Exception Monitor. The CMF MONITOR Extractor contains samplers.

SBBPROF. *See* profile library.

scope. Subset of an SSI context. The scope could be all the data for the context or a subset of data within the context. It is user- or site-defined. *See* SSI context, target.

screen definition. Configuration of one or more views that have been stored with the SAVEScr command and assigned a unique name. A screen includes the layout of the windows and the view, context, system, and product active in each window.

selection view. In MAINVIEW products, view displaying a list of available views.

service class workload. OS/390- or MAINVIEW for OS/390-defined collection of address spaces.

If you are running MVS Workload Manager (WLM) in goal mode, MAINVIEW for MVS creates a service class workload for each service class that you define through WLM definition dialogs.

If you are running MVS 4.3 or earlier, or MVS/SP 5.1 or later with WLM in compatibility mode, MVS creates a performance group workload instead of a service class. *See* performance group workload.

service objective. Workload performance goal, specified in terms of response time for TSO workloads or turnaround time for batch workloads. Performance group workloads can be measured by either objective. Composite workload service objectives consist of user-defined weighting factors assigned to each constituent workload. There are no OS/390-related measures of service for started task workloads.

service point. Specification, to MAINVIEW, of the services required to enable a specific product. Services may be actions, selectors, or views. Each target (e.g., CICS, DB2, or IMS,) has its own service point.

The PLEX view lists all the defined service points known to the CAS to which the terminal session is connected.

service request block (SRB). Control block that represents a routine to be dispatched. SRB mode routines generally perform work for the operating system at a high priority. An SRB is similar to a task control block (TCB) in that it identifies a unit of work to the system. *See also* task control block.

service select code. Code entered to invoke analyzers, monitors, and general services. This code is also the name of the individual service.

session. Total period of time an address space has been active. A session begins when monitoring can be performed. If the product address space (PAS) starts after the job, the session starts with the PAS.

SG-Auto. Component of MAINVIEW SRM that provides early warning notification of storage anomalies and automated responses to those anomalies based on conditions in the storage subsystem.

SG-Control. Component of MAINVIEW SRM that provides real-time monitoring, budgeting, and control of DASD space utilization.

single system image (SSI). Feature of the MAINVIEW window environment architecture that allows you to view and perform actions on multiple OS/390 systems as though they were a single system. The rows of a single tabular view can contain rows from different OS/390 images.

SRB. *See* service request block.

SSI. *See* single system image.

SSI context. Name created to represent one or more targets for a given product. *See* context, target.

started task workload. Address spaces running jobs that were initiated programmatically.

statistics interval. For MAINVIEW for DB2, cumulative count within a predefined interval (30-minute default set by the DB2STATS parameter in the distributed BBPARM member BBIISP00) for an analyzer service DELTA or RATE display. Specifying the DELTA parameter displays the current value as the difference between the value sampled by the current analyzer request and the value sampled at the start of the current interval. Specifying the RATE parameter displays the current value by minute (DELTA divided by the number of elapsed minutes).

StopX37/II. Component of MAINVIEW SRM that provides enhancements to OS/390 space management, reducing the incidence of space-related processing problems. The StopX37/II functions operate at the system level to intercept abend conditions or standards violations, thus providing services without any JCL changes.

StorageGUARD. Component of MAINVIEW SRM that monitors and reports on DASD consumption and provides historical views to help control current and future DASD usage.

summary view. View created from a tabular view using the Summarize option in view customization. A summary view compresses several rows of data into a single row based on the summarize criteria.

SYSPROG services. Component of MAINVIEW for OS/390. Over 100 services that detect, diagnose, and correct OS/390 system problems as they occur. Accessible from the OS/390 Performance and Control Main Menu. Note that this is also available as a stand-alone product MAINVIEW SYSPROG Services.

system resource. *See* object.

T

target. Entity monitored by one or more MAINVIEW products, such as an OS/390 image, IMS or DB2 subsystem, CICS region, or related workloads across systems. *See* context, scope, SSI context.

target context. Single target/product combination. *See* context.

TASCOSTR. MAINVIEW for IMS Offline program that summarizes detail and summary IMS Resource Utilization Files (IRUFs) to be used as input to the offline components.

task control block (TCB). Address space-specific control block that represents a unit of work that is dispatched in the address space in which it was created. *See also* service request block.

TCB. *See* task control block.

terminal session (TS). Single point of control for MAINVIEW products, allowing data manipulation and data display and providing other terminal user services for MAINVIEW products. The terminal session runs in a user

address space (either a TSO address space or a standalone address space for EXCP/VTAM access).

TDIR. *See* trace log directory.

threshold. Specified value used to determine whether the data in a field meets specific criteria.

TLDS. *See* trace log data set.

total mode. Usage mode in CMFMON wherein certain columns of data reflect the cumulative value between collection intervals. Invoked by the DELTA OFF command. *See also* collection interval, delta mode.

trace. (1) Record of a series of events chronologically listed as they occur. (2) Online data collection and display services that track transaction activity through DB2, IMS, or CICS.

trace log data set (TLDS). Single or multiple external VSAM data sets containing summary or detail trace data for later viewing or printing. The trace log(s) can be defined as needed or dynamically allocated by the BBI-SS PAS. Each trace request is assigned its own trace log data set(s).

trace log directory (TDIR). VSAM linear data set containing one entry for each trace log data set. Each entry indicates the date and time of data set creation, the current status of the data set, the trace target, and other related information.

transaction. Specific set of input data that initiates a predefined process or job.

Transaction Accountant. MVIMS Offline component that produces cost accounting and user charge-back records and reports.

TS. *See* terminal session.

TSO workload. Workload that consists of address spaces running TSO sessions.

U

UAS. *See* user address space.

UBBPARM. *See* parameter library.

UBBPROC. *See* procedure library.

UBBSAMP. *See* sample library.

user address space. Runs a MAINVIEW terminal session (TS) in TSO, VTAM, or EXCP mode.

User BBPROF. *See* profile library.

V

view. Formatted data within a MAINVIEW window, acquired from a product as a result of a view command or action. A view consists of two parts: query and form. *See also* form, job activity view, query.

view definition. Meaning of data that appears online, including source of data, selection criteria for data field inclusion and placement, data format, summarization, context, product, view name, hyperlink fields, and threshold conditions.

view command. Name of a view that you type on the COMMAND line to display that view.

view command stack. Internal stack of up to 10 queries. For each command, the stack contains the filter parameters, sort order, context, product, and timeframe that accompany the view.

view help. Online help describing the purpose of a view. To display view help, place the cursor on the view name on the window information line and press PF1 (HELP).

W

window. Area of the MAINVIEW screen in which views and resources are presented. A window has visible boundaries and can be smaller than or equal in size to the MAINVIEW window area. *See* active window, alternate window, current window, MAINVIEW window area.

window information line. Top border of a window. Shows the window identifier, the name of the view displayed in the window, the system, the scope, the product reflected by the window, and the timeframe for which the data in the window is relevant. *See also* window status field.

window number. Sequential number assigned by MAINVIEW to each window when it is opened. The window number is the second character in the window status field. *See also* window status field.

window status. One-character letter in the window status field that indicates when a window is ready to receive commands, is busy processing commands, is not to be updated, or contains no data. It also indicates when an error has occurred in a window. The window status is the first character in the window status field. *See also* window information line, window status field.

window status field. Field on the window information line that shows the current status and assigned number of the window. *See also* window number, window status.

windows mode. Display of one or more MAINVIEW product views on a screen that can be divided into a maximum of 20 windows. A window information line defines the top border of each window. *Contrast with* full-screen mode.

WLM workload. In goal mode in MVS/SP 5.1 and later, a composite of service classes. MAINVIEW for OS/390 creates a workload for each WLM workload defined in the active service policy.

workflow. Measure of system activity that indicates how efficiently system resources are serving the jobs in a workload.

workload. (1) Systematic grouping of units of work (e.g., address spaces, CICS transactions, IMS transactions) according to classification criteria established by a system

administrator. (2) In OS/390, group of service classes within a service definition.

workload activity view. Tracks workload activity as the workload accesses system resources. A workload activity view measures workload activity in terms of resource consumption and how well the workload activity meets its service objectives.

Workload Analyzer. Online data collection and display services used to analyze IMS workloads and determine problem causes.

workload definition. Workload created through the WKLIST view. Contains a unique name, a description, an initial status, a current status, and selection criteria by which address spaces are selected for inclusion in the workload. *See* Workload Definition Facility.

Workload Definition Facility. In MAINVIEW for OS/390, WKLIST view and its associated dialogs through which workloads are defined and service objectives set.

workload delay view. Tracks workload performance as the workload accesses system resources. A workload delay view measures any delay a workload experiences as it contends for those resources.

Workload Monitor. Online data collection services used to monitor IMS workloads and issue warnings when defined thresholds are exceeded.

workload objectives. Performance goals for a workload, defined in WKLIST. Objectives may include measures of performance such as response times and batch turnaround times.

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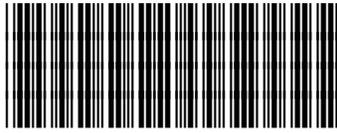
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