MAINVIEW® for DB2®

User Guide

Volume 1: Views

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- 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

Contents

Figures

Tables

About This Book

This book describes how to use the online functions of MAINVIEW for DB2. It can be used by the DB2 database administrator, system programmer, or performance analyst to control resource usage and performance. Before using this book, you must be familiar with the IBM DB2 program product.

The batch reporting functions are described in the *MAINVIEW for DB2 Performance Reporter User Guide*.

How This Book Is Organized

This book is organized into three volumes:

- Volume 1: Views
- Volume 2: Analyzers/Monitors
- Volume 3: Traces

These parts are included in Volume 1:

- An overview of how to use MAINVIEW for DB2. It includes
  - An introduction describing the major functions of MAINVIEW for DB2
  - Instructions for logging on to MAINVIEW for DB2
- How to use views and wizards
- How to manage views
- A description of the views you can use to analyze DB2 performance

These parts are included in Volume 2:

- An overview of how to use the MAINVIEW for DB2 services that run in full-screen mode. It includes
  - A description of the Primary Option Menu and how to access the MVDB2 functions
  - The DB2 analyzer, monitor, and trace display services and their parameters organized alphabetically (in a tabular format with page references to the detailed service descriptions)
  - A description of the analyzers, monitors, and traces, and how they are used
  - The MVDB2 general commands and services
- The DB2 resource analyzer display services
- The DB2 resource and workload monitor data collection services

These parts are included in Volume 3:

- How to use the trace facility

- The DB2 application trace display services

Appendixes, a glossary, and an index are included in all volumes.

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

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

The following books are referenced in this edition:

- *DB2 Administration Guide* from IBM
- *DB2 Command and Utility Reference* from IBM
- *DB2 Diagnosis Guide and Reference* from IBM
- *CICS/ESA Problem Determination Guide* from IBM
- *MVS/ESA Application Development Macro Reference* from IBM
- *MAINVIEW® Solutions Guide*
- *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.

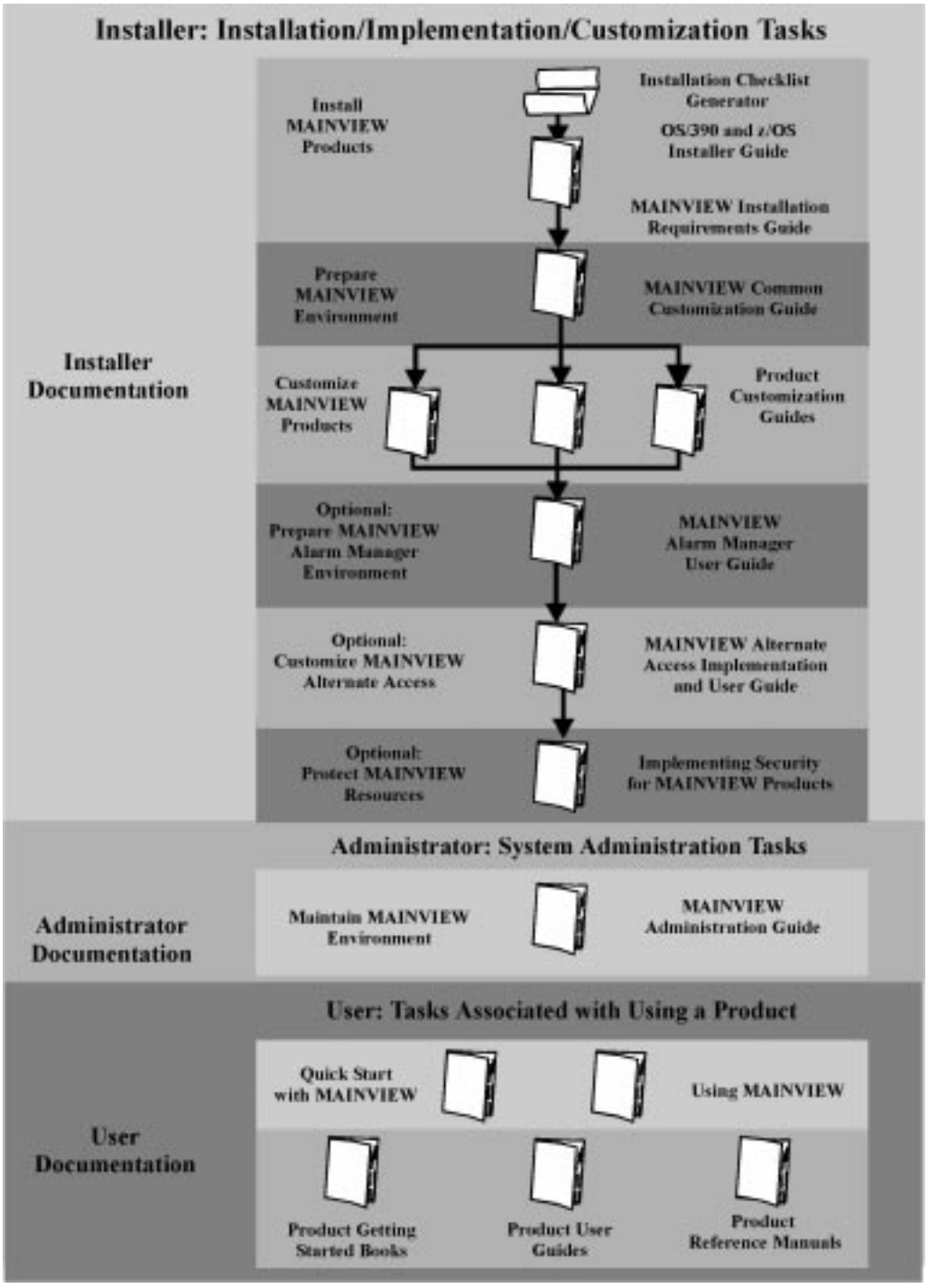


Figure 1. Organization of MAINVIEW Documentation

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. Using MAINVIEW for DB2

This part gives an overview of how you can use MAINVIEW for DB2 to manage your DB2 systems.

Chapter 1. Introduction

MAINVIEW for DB2 provides powerful realtime application performance analysis and monitoring for effective DB2 subsystem management. It comprises an easy-to-use, comprehensive set of services for database administrators, applications developers, and system programmers to track DB2 activity and status. Users can easily access any number of DB2 subsystems on multiple MVS systems in local and remote locations from a single terminal session, which can run under TSO, TSO/ISPF, VTAM or batch with an EXCP-supported terminal. It provides

- Online performance analysis and exception monitoring
- DB2 application tuning and workload analysis
- Historical reporting
- DB2 operations control
- MAINVIEW product integration

DB2 Online Performance Analysis

DB2 online performance analysis includes

- Current status and activity
- Exception monitoring
- DB2 Tuning Wizards
- Complete system management
- DB2 catalog and table access

Current Status and Activity

MAINVIEW for DB2 provides displays of DB2 status, current thread status—both summary and detail, locking, EDM and buffer pools, table spaces, I/O activity, logging, and DSNZPARM data necessary to analyze system performance and bottlenecks. This information is always available at very low overhead cost even when DB2 processing suspends.

These displays are easily accessible through both windows mode and full-screen mode applications. Hyperlinks and an EXPAND function allow the user to move quickly from summary to detail information. Windows mode technology provides context-sensitive help with extensive DB2 tuning information. In addition, screen customization, graphics, and multiple windows provide the flexibility for each user to present the data exactly as needed to solve any monitoring or analysis task.

Exception Monitoring

Key values can be set up for continuous background monitoring and exception reporting based on user-defined thresholds. The history of the monitored values, such as buffer pool utilization or number of transactions processed per workload, is available online in historical plots. Special exceptions can be defined to detect applications using excessive resources (runaway queries), with different user-defined exception criteria for TSO, IMS, CICS, DBATs, or batch jobs. The available options are described in the *MAINVIEW for DB2 Customization Guide*. Global exception displays show current status and a history of exception messages is available in the chronological Journal log.

DB2 Tuning Wizards

DB2 Tuning Wizards are designed to help you cope with today's complex systems and time pressures, turning data overload into usable knowledge about your DB2 systems. Wizards take advantage of the power of windows mode without requiring that you be an expert in all its usage techniques.

Each wizard is a set of views that leads you through all of the related information about a specific area of DB2 performance, providing critical DB2 tuning help and recommendations at just the point where they are needed. It presents the critical data in context with quick access to further details if needed.

Dynamic decision panels provide a consistent approach. Questions show the diagnostic paths, identifying ***what*** each path shows and ***why*** they could be important. Key indicators on the decision panels show whether a path is worth following, based on relevant current and long-term measurements.

Complete System Management

MAINVIEW for DB2 reports on key information from MVS, IMS, and CICS to assist in understanding the total DB2 environment. It is also part of a family of integrated products for performance monitoring and automated operations of DB2, IMS, CICS, MQSeries, and MVS.

DB2 Catalog and Table Access

MAINVIEW for DB2 is also integrated with RxD2/FlexTools, a comprehensive set of flexible DB2 tools that provides complete DB2 catalog management, security administration, extensive EXPLAIN and SQL test facilities, and DB2 object maintenance. These functions can be invoked directly from MAINVIEW for DB2. RxD2/LINK, the base architecture of the product, provides a standard interface to DB2 from IBM's SAA REXX language.

DB2 Application and Workload Analysis

MAINVIEW for DB2 provides both application and workload analysis.

Application Trace

The major concern in most DB2 installations is how to understand and control application and ad-hoc query SQL performance. MAINVIEW for DB2 addresses these concerns with a flexible application trace facility that can be used both by DBAs and application developers. The application trace facility provides all the data necessary to detect and solve SQL problems and review applications before production migration. Trace requests are managed automatically through DB2's Instrumentation Facility Interface (IFI).

Each trace request can be tailored to collect only the data required, from low-overhead summary traces (DB2 accounting records) through detail traces of SQL statements plus scans, I/Os, DDF events, and locks.

The traced data is viewed in integrated displays so that it is easy to see which scans, sorts, or I/Os are caused by which SQL statements without manual correlation. Summary displays provide high-level quick answers such as which SQL statement is consuming the most elapsed or CPU time. A chronological event trace shows a replay of the exact sequence of traced events. Details can be hidden to improve understanding of event flow or revealed when needed for detailed analysis.

Trace requests can be focused to narrow trace data collection by selecting specific workloads by such criteria as plan or authorization ID. Additional exception filters, such as *elapsed time greater than 10 seconds*, also can be defined so that only trace data that needs to be analyzed is retained.

Workload Analysis

Workload analysis can be automated with low-overhead workload monitors and traces. Proactive monitoring reduces the effort required to stay on top of how DB2 is performing and collects the historical data you need online. Workload monitors set up by workload group can detect service-level exceptions. Summary traces with different exception filters for CICS, IMS, TSO, and batch can save key data needed for later analysis of problem transactions or queries.

In windows mode, you can define workload groups and track service-level objectives based on thread elapsed or in-DB2 elapsed time. Default workloads are defined for transaction and query workloads based on DB2 attach type. You can further refine these workloads into application groups using DB2 identifiers such as plan name or connection.

Historical Analysis

Historical data can be tracked with trace logs, online views, and offline batch reports from DB2 tables.

Trace Logs

The trace logging facility allows logging of both summary and detail trace data to external VSAM data sets. All trace log data sets are tracked in an online trace directory. These data sets can be viewed online or printed in batch for offline review.

Online Views

A historical perspective on the data in online windows mode views is shown in two ways. First, when data is collected for a query to present a view, the data often covers both current interval and session data since DB2 started. Second, windows mode supports historical logging of data each interval. Interval records are written to the online historical data sets to capture the status of the monitored targets each time an interval completes. This data can be retrieved in the same views generally used for current-time data. This includes complete DB2 statistics data, I/O and lockout information, and the data collected by monitors.

DB2 Tables

Complete batch reporting on the DB2 statistics and accounting records is supported by creating DB2 tables. Each table can be tailored to contain only the columns you need. The detail accounting records can be summarized before loading into DB2. MAINVIEW for DB2 provides predefined batch and QMF reports, and the full power of SQL, QMF, and GDDM is available for user-defined reporting. The accounting data tables can be summarized into daily, weekly, or monthly tables to support long-term reporting without excessive DASD usage. Both summarization and purge routines are provided. Detail tables and reports are provided for audit data.

Operations Control/DB2 Console

MAINVIEW for DB2 provides several unique features that aid in operations control of DB2:

- DB2 console. A chronological journal log (LOG DISPLAY) of DB2 messages and MVDB2 exceptions allows you to go back in time to analyze earlier problems. From this log, DB2 commands can be issued and the responses viewed. The *MAINVIEW for DB2 Customization Guide* describes how to activate the logging of DB2 messages and the authorization required for a user to issue DB2 commands.
- Multiple systems support not only provides immediate user access to multiple DB2 systems on the same CPU but also to any number of DB2s on multiple MVS systems in local and remote locations.

  The windows mode technology also enables Single System Image (SSI) views that can pull together and even summarize data from multiple DB2 subsystems.

  This capability increases the span of control and saves time for all users managing more than one DB2. For example, a status overview display presents key indicators and exceptions for all DB2s, allowing for a quick check for potential problems. Any set of related DB2s, such as production or test, can be defined as a context for SSI monitoring.

  SSI views are even more important in a data sharing environment, since now a group of DB2 members that work together can finally be monitored as a whole. This not only simplifies sysplex management, but also increases understanding of this complex environment.
- Cycle screen refresh through full-screen status and exception displays from all these DB2 systems provides dynamic monitoring of multiple DB2s.
- Seamless integration with the BMC Software AutoOPERATOR products automates both DB2 operation and performance monitoring. Messages can initiate rules to take action, query the MVDB2 analyzer displays for additional information, or issue monitor commands. Exception messages can be sent to the MVS console to interface with other automated operator products.
- Total system status of all monitored values versus site thresholds can be seen at a glance in a graphic display with color support. Potential problems that have not yet resulted in exception conditions can thus be easily detected.
- User access through EXCP assures access even when TSO or VTAM does not respond.
- Security is provided per function and per DB2 system through user profiles and a user exit that controls access to thread activity displays.

MAINVIEW Product Integration

The MAINVIEW architecture integrates all the MAINVIEW performance products within a common communications framework that operates across multiple machines in multiple locations as shown in Figure 2. This integrated architecture allows a single terminal session using one or more MAINVIEW products to monitor and manage multiple local or remote targets, whether MVS itself (sysplex and non-sysplex) or subsystems like CICS, IMS, MQSeries, and DB2.

MAINVIEW for DB2 runs in the same architecture as the other MAINVIEW products. You can access all installed products from the MAINVIEW Selection Menu in one terminal session and quickly transfer directly from one product to another. See *Using MAINVIEW* for further information.

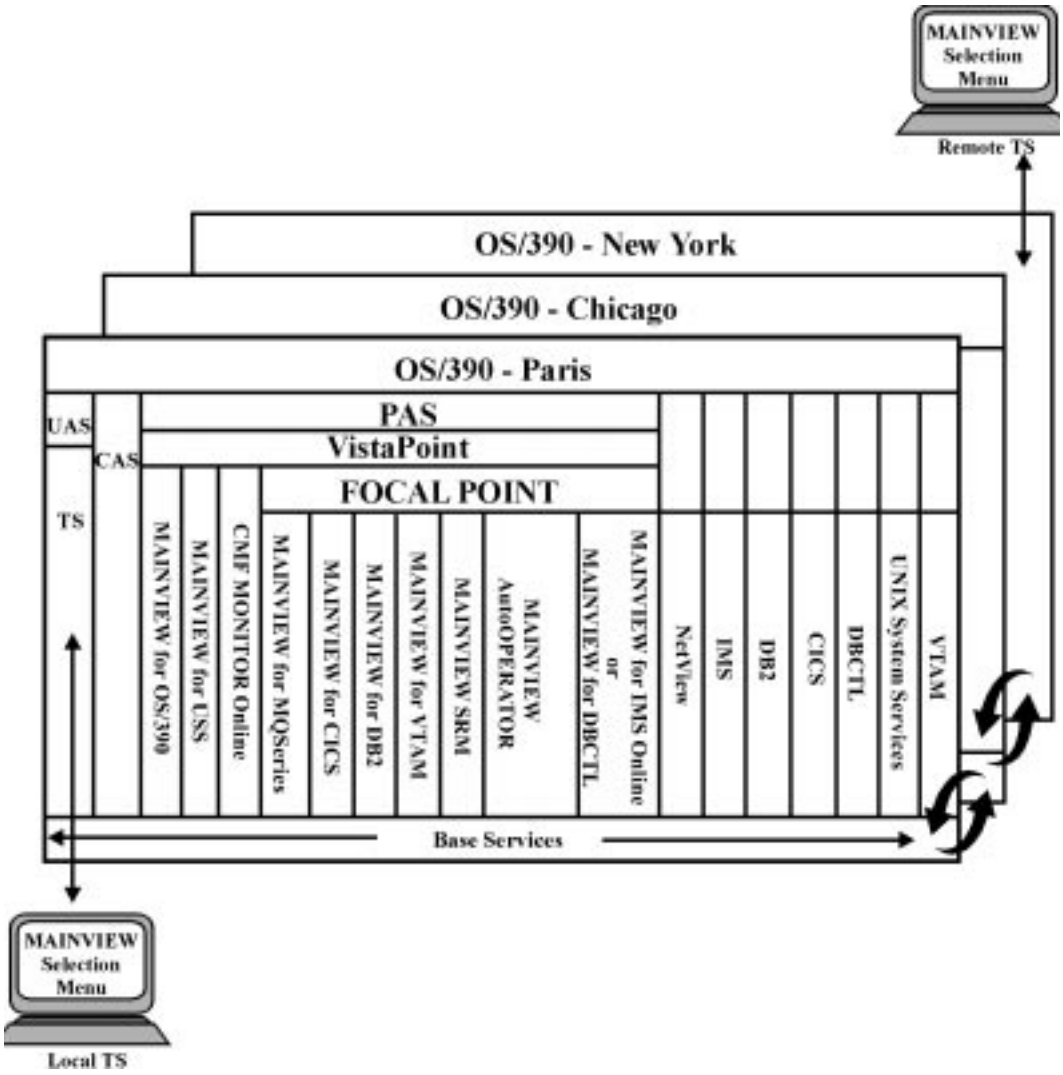


Figure 2. MAINVIEW Architecture

The elements of this architecture include

UAS User Address Space

Address space where a terminal session (TS) executes. A TS accesses MAINVIEW views and services. A TS can start in an address space locally where products are running or remotely in an address space on another system.

CAS Coordinating Address Space

Manage communication with other local and remote CASs and enables direct communication between a TS and a PAS.

PAS Product Address Space

Contains data collectors and runs MAINVIEW products as follows:

MVS PAS	CMF MONITOR MAINVIEW for OS/390 MAINVIEW for UNIX System Services MAINVIEW VistaPoint for MVS workloads
BBI-SS PAS	MAINVIEW AutoOPERATOR MAINVIEW for CICS MAINVIEW for DB2 MAINVIEW for DBCTL MAINVIEW for IMS MAINVIEW for MQSeries MAINVIEW for VTAM MAINVIEW for WebSphere MAINVIEW VistaPoint for CICS, DB2, and IMS workloads
MVALARM PAS	MAINVIEW Alarm Manager
Storage PAS	MAINVIEW Storage Resource Manager (SRM)

Base Services BMC Software Base Technology

Chapter 2. Signing On to MAINVIEW for DB2

Follow these steps to access MAINVIEW for DB2:

1. If your ISPF main menu contains an option for MAINVIEW products, select that option.[1]

   Alternatively, on the **COMMAND** line of any ISPF panel, type **TSO MAINVIEW**. (MAINVIEW is a CLIST that you or your product administrator created during MAINVIEW for DB2 AutoCustomization.)

   The MAINVIEW Selection Menu is displayed, as shown in Figure 3.

```
--------------------------- MainView Selection Menu -------------------------
OPTION  ===>                                              DATE   -- 01/03/14
                                                          TIME   -- 08:36:58
   0  Parameters    Specify MainView options              USERID -- JSMITH2
   1  PLEXMGR       MainView Plex administration          MODE   -- ISPF 5.0
   2  FOCAL POINT   Subsystem monitoring and alerts
   3  AutoOPERATOR  Automation and resource control
   A  MVALARM       MainView Alarm management
   T  InTune        Program analysis and tuning
   V  VistaPoint    Comprehensive view of applications and resources

 MainView for
   4  CICS          CICS performance and control
   5  DB2           DB2  performance and control
   6  IMS           IMS  performance and control
   7  MVS           MVS  performance and control
   8  MQSeries      MQSeries performance and control
   9  USS           UNIX System Services performance and control
  10  VTAM          VTAM Network performance and optimization
  11  TCP/IP        TCP/IP performance
  12  WEBSPHERE     WEBSPHERE performance
   X  EXIT          Terminate MainView


                      Copyright BMC Software, Inc. 2001
```

Figure 3. MAINVIEW Selection Menu

2. You can enter any installed MAINVIEW product from this menu. To access MAINVIEW for DB2, select option **5**, **DB2**.

   The Parameter Confirmation panel appears, as shown in Figure 4 on page 12.

[1] If you are using MAINVIEW Alternate Access, see the *MAINVIEW Alternate Access Implementation and User's Guide* for information on accessing the MAINVIEW Selection Menu.

```
BMC Software ------------ Parameter Confirmation ----------- MainView for DB2
Command  ===>

  Confirm parameters for this session of MainView for DB2:

    Context  ===> ALL        Default context

    Screen   ===> MVDB2      Initial screen

    Mode     ===> WINDOW     Window/Full/FullScreen (Initial Mode)

    Confirm  ===> YES        Yes/No (Show this panel at next session startup)


  Press Enter to continue or press HELP for additional information.
```

Figure 4. MAINVIEW for DB2 Parameter Confirmation Panel

This panel prompts you to confirm the parameters for your MAINVIEW for DB2 session. The first time you sign on, the default parameters are

- a context of all active DB2 subsystems
- an initial screen of MVDB2, which displays an Easy Menu called EZDSSI
- a primary display mode of MAINVIEW windows mode

You can change the parameters for a session by changing the values on this confirmation panel. You can also change the default parameters for future sessions of MAINVIEW for DB2 by using option 0.1, Parameters–Windows Mode, of the MAINVIEW Selection Menu.

3. Press **Enter** to accept the default session parameters.

   The EZDSSI view appears, as shown in Figure 5.

```
W1 =EZDSSI===========(ALL======*=======)17MAR2001==14:49:11====MVDB2====D====1
                            DB2 SSI Easy Menu
   Status                                          Threads
 . Overview               +----------------------+  . Current Threads
 . Exceptions             |   Place cursor on    |  . DB2 Summary
 > Buffer Pools           |    menu item and     |  . Attach Summary
 > Status Menu            |     press ENTER      |  . Connect Summary
                          +----------------------+  . Plan Summary

   Data Sharing             Monitors
 . GBP Group Status       . In Warning                Tools And Menus
 . GBP Group Activity     . Summary By Area         . Set SSI Context
 . Global Lock Stats      . Active                  > Easy Menu
 . Global Lockouts        . Workload Objectives     > MAIN Menu
 . Volume I/Os (SSI)                                > Tuning Wizards
 > Page Set Menu                                    . Return...
```

Figure 5. EZDSSI Easy Menu—Monitor Multiple DB2s

Note: Depending on your MAINVIEW settings, you may see the Session Control Parameters panel first. This panel prompts you to specify (or confirm) the CAS subsystem ID to be used for this MAINVIEW session. If you are not sure what CAS ID to use, check with your system administrator.

Some MAINVIEW for DB2 online services operate in windows mode, while others operate in full-screen mode. The EZDSSI view is a good starting point for working in windows mode. It provides direct access to context-oriented services for groups of DB2 subsystems.

However, if you expect to make more use of the full-screen services for a single DB2 target, you should specify **FULLSCREEN** in the **Mode** field of the Parameter Confirmation panel. In that case, the MAINVIEW for DB2 Primary Option Menu, shown in Figure 6, is displayed when you sign on, rather than the EZDSSI view.

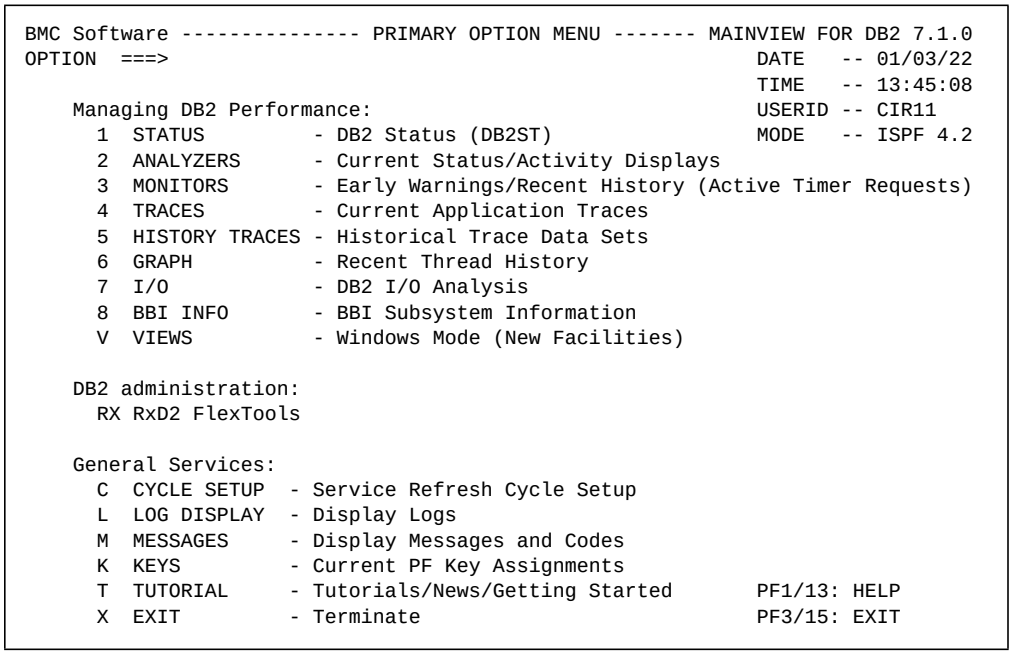


Figure 6. MAINVIEW for DB2 Primary Option Menu

See Volume 2 for information on working in full-screen mode.

Part 2. Using Views and Wizards

This part gives an overview of how to use MAINVIEW for DB2 views. For information on how to use MAINVIEW windows mode, see the *Using MAINVIEW* manual.

Chapter 3. Introduction to Views and Wizards

MAINVIEW for DB2 views exploit MAINVIEW windows-mode technology to display extensive DB2 data covering the analysis of

- DB2 subsystems
- Buffer pools and group buffer pools
- Page set status and I/O
- Lock contention lockout events
- Current thread activity
- ZPARMs
- Dynamic SQL cache

All of this data, except for the last three groups, is available not only for the current time period, but also with online history.

Context-sensitive help includes extensive DB2 tuning information, while screen customization, graphics, and multiple windows provide the flexibility for each user to present the data exactly as needed to solve any monitoring or analysis task.

The windows-mode technology also enables single system image (SSI) views that can pull together and even summarize data from multiple DB2 subsystems.

This capability increases the span of control and saves time for all users managing more than one DB2. For example, a status overview display presents key indicators and exceptions for all DB2s, allowing for a quick check for potential problems. Any set of related DB2s, such as production or test, can be defined as a context for SSI monitoring.

SSI views are even more important in a data sharing environment, since now a group of DB2 members that work together can finally be monitored as a whole. This not only simplifies sysplex management, but also increases understanding of this complex environment.

Note: The analyzer, monitor, and trace displays of MAINVIEW for DB2 are described in the other volumes of the *MAINVIEW for DB2 User Guide*. These services are referred to collectively as running in full-screen mode.

Chapter 4. Getting Started with Windows Mode

This chapter provides a short overview of windows mode from a DB2 point of view.

If you are new to windows mode, a short introduction is available in *Quick Start with MAINVIEW*, which you should read before using windows mode for the first time. More complete information is provided in *Using MAINVIEW*.

Accessing Windows Mode

The views in windows mode can be accessed in two ways:

- From the MAINVIEW Selection Menu, select Option 5 and then select windows mode directly (mode WINDOW). Or, select Option V from the MAINVIEW for DB2 Primary Option Menu (FULLSCREEN mode). This presents a menu of options to monitor all DB2s.
- From the MAINVIEW Selection Menu, select Option 1, Plex Manager, to access lists of available targets and products. In a view showing targets, like PLEXOVER, cursor select (in the Context or Product field) a DB2 subsystem target where the product is shown as MVDB2 to access a menu of options to monitor one DB2 at a time.

Examples of these menus are shown in Figure 7 on page 21 and Figure 8 on page 22.

Accessing Views

Windows-mode data is displayed in ***views***. A view is a display of information within a single window. There are four view types: tabular, summary (tabular), detail, and detail summary.

Note: Summary views combine data records by one or more keys. These views are generally suffixed with a Z.

The simplest way to move between views is to ***hyperlink*** to another view. You can do this by cursor selecting either a menu option or a highlighted field. (This is similar to ***Expand*** in full-screen mode.)

You can access views by one of the following methods:

- Hyperlink from a menu option.
- Hyperlink from a highlighted field in another view.
- Type the name of the view on the COMMAND line.
- Select the name of a view from a list of views:
  - The MAIN view presents a list of submenus with lists of related views that can be selected.

    Note: You can access MAIN by using the S line command in the PLEXOVER view. Also, if you get lost, you can always type MAIN to get this list of views for any windows-mode product.
  - The VIEWS view presents a list of all distributed or site views.
  - The USERS view (available from MAIN) presents a list of all views that you have customized.

Easy Menus

All windows-mode products have ***Easy Menus*** to make it easier to access the information you need. All DB2 Easy Menus begin with EZD.

EZDSSI—Monitor Multiple DB2s

The EZDSSI view, shown in Figure 7, is one of the two primary product menus. It is designed for use when you want an overview of several target DB2 subsystems together in SSI mode.

```
W1 =EZDSSI===========(ALL======*=======)17MAR2001==14:49:11====MVDB2====D====1
                              DB2 SSI Easy Menu
   Status                                                  Threads
 . Overview                +----------------------+    . Current Threads
 . Exceptions              |   Place cursor on    |    . DB2 Summary
 > Buffer Pools            |    menu item and     |    . Attach Summary
 > Status Menu             |     press ENTER      |    . Connect Summary
                           +----------------------+    . Plan Summary

   Data Sharing              Monitors
 . GBP Group Status        . In Warning                  Tools And Menus
 . GBP Group Activity      . Summary By Area           . Set SSI Context
 . Global Lock Stats       . Active                    > Easy Menu
 . Global Lockouts         . Workload Objectives       > MAIN Menu
 . Volume I/Os (SSI)                                   > Tuning Wizards
 > Page Set Menu                                       . Return...
```

Figure 7. EZDSSI Easy Menu—Monitor Multiple DB2s

You can access this menu by entering windows mode through a menu option, as described on page 19, or type its name, EZDSSI, on the COMMAND line. In this case, be sure to set the context to a valid SSI context. You see the current context in the window information line.

The SSI context of ALL is always available and is the one set by default through the V option. There may be other SSI contexts already defined that group several DB2s together, such as PROD or TEST, or a data sharing group. Select the Set SSI Context option to view a list of defined contexts. Hyperlink on any context to return to EZDSSI with that context set. If you already know the SSI context name, type

```
CON ssicontext
```

on the COMMAND line.

See Chapter 8, “Using SSI Contexts” on page 39 for more information. The window menu options present EZDSSI, context ALL, by invoking a screen definition named MVDB2. To modify the default context, add additional views to this screen, or create new screens, type HELP SCREEN, or see the *Using MAINVIEW* book.

EZDB2—Monitor One DB2

EZDB2, shown in Figure 8, is the second of the two primary product menus. It is designed for use when you want to focus on information about one target DB2 subsystem.

```
 W1 =EZDB2============(ALL======*=======)17MAR2001==17:36:11====MVDB2====D====1
                              DB2 Easy Menu
         DB2 Target --->
  Status                                          Threads
. Overview               +----------------------+ . Current Threads
. Exceptions             |   Place cursor on    | . Attach Summary
. Buffer Pools           |    menu item and     | . Plan Summary
. DDF Connections        |     press ENTER      | . Thread History
. Activity Rates         +----------------------+ . Current Traces
> Status Menu                                     . History Traces

  Lockouts                 Monitors                Tools And Menus
. Events                 . In Warning            . Set Target Context
. Resource Summary       . Summary By Area       . DB2 Catalog/Explain
. Connection Summary     . Active                > SSI Easy Menu
. Blocker/Waiter Summary . Workload Objectives   > DBA Easy Menu
                                                 > Fast Menu
  Page Sets                DB2 Definitions       > MAIN Menu
. Page Set Status        > ZPARM Menu            > Tuning Wizards
. Volume I/O Summary     > Dynamic SQL Cache     . Return...
> Page Set Menu
```

Figure 8. EZDB2 Easy Menu—Monitor One DB2

You can access this menu by one of these methods:

- Select a target DB2 (with product MVDB2) from Plex Manager, as described on page 19.
- Select EZDB2 from the EZDSSI menu.
- Type the menu name, EZDB2, on the COMMAND line.

In the last two cases, be sure to set the context to the name of the DB2 you want to monitor. Select the Set Target Context option to view a list of defined targets. Hyperlink on any target to return to EZDB2 with that context set. If you already know the target name, type

```
CON db2target
```

on the COMMAND line.

EZDBA—Applications Menu

There is an alternative Easy Menu view, EZDBA, shown in Figure 9, that is oriented more toward applications analysis in one DB2.

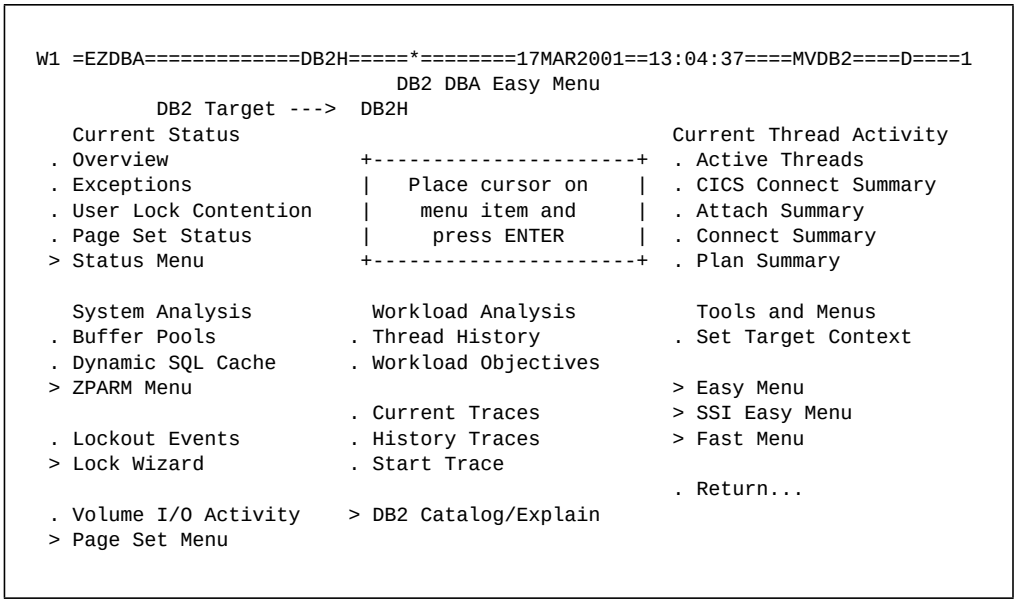


Figure 9. EZDBA Easy Menu—Applications Menu

You can access it from EZDB2, or it can be incorporated in a screen definition and specified as the default screen when entering windows mode.

Other DB2 Easy Menus

Some of the options on EZDB2 and EZDSSI are shown with a greater sign (>) in front of them instead of a period (.), indicating that this hyperlink goes to another menu. For example, the status and statistics information available is so large that it is most easily accessed through another Easy Menu, EZDSTAT. Therefore, the main menus offer direct access to some of the most frequently used status views, plus access to the Status Menu.

MAINVIEW for DB2 also has a Fast Menu, EZDFAST, that provides quick access to most full-screen displays from one spot in windows mode.

Integrating Views with Other MVDB2 Services

The following MAINVIEW for DB2 functions enable you to easily use the windows mode views along with the other full-screen MVDB2 services.

Hyperlinks

There are many hyperlinks from windows mode to full-screen displays of DB2 data that are more detailed than the data currently available in windows mode. PF3 returns you directly to your position in the windows mode view. For example, current thread activity is available in windows mode, but to see all the 200+ accounting fields for one specific user, a hyperlink goes to the full-screen DUSER display.

Hyperlinks from full-screen displays to windows-mode views are not provided.

Transfers

You can transfer directly from windows mode to full-screen mode by typing a transfer command on the COMMAND line of a view. To transfer to a DB2 display, type

```
TRANsfer target DB2;serv
```

A few examples are

```
TRAN DB2G DB2;LOG          to access the Journal Log display for DB2G
TRAN DB2P DB2;EX DB2ST DELTA   to see delta values in DB2ST for DB2P
TRAN DB2P DB2;RX           to access RxD2 for DB2P
```

To transfer from full-screen mode to windows mode, use

```
TRANsfer target MVDB2;view
```

Return

If you entered windows mode with the V option, pressing PF3 repeatedly or typing QUIT or RETURN returns you to the DB2 Primary Option Menu. From here, you can access all the full-screen displays as usual. If you entered windows mode through Plex Manager, pressing PF3 repeatedly or typing QUIT or RETURN returns you to the MAINVIEW Selection Menu. You can then choose Option 5, DB2, to access the full-screen displays.

Monitor Data

All the data collected by the DB2 monitors is available in both windows-mode views and full-screen displays. Use the windows-mode views when you need an SSI overview or want to use the additional customization options.

Integrating Views with Other MAINVIEW Products

If other MAINVIEW products are installed, they are available from the MAINVIEW Selection Menu or Plex Manager. In Plex Manager, you see a list of all targets and the products monitoring them.

Screens with Multiple Products

You can define screens (multiple windows with different views) that include views from different products when you want to look at related data across targets. For example, you may want to look at CICS systems that are accessing DB2 on the same screen with one of the MVDB2 current thread activity views.

Product transfers to full-screen mode. You can transfer to another product running in full-screen mode with the same command shown above for DB2:

```
TRANsfer target product;serv
```

In this case, replace the product variable with the product family name (AO, CAO, CICS, DB2, IAO, IMS, MAO).

Product Transfers to Windows Mode

From within windows mode, you can transfer to another product running in windows mode with the SET or CONTEXT command. SET presents a panel where you fill in the target, product, and view name. If you prefer, you can type this directly on the COMMAND line:

```
CONtext target product;view
```

In this case, use the product name shown in windows-mode views (CMF, MVCICS, MVDB2, MVIMS, MVMVS, PLEXMGR).

To transfer from full-screen mode to windows mode, type

```
TRANsfer target product;view
```

with the product names shown above.

VistaPoint Workloads

If VistaPoint is installed, you can combine DB2 workload data with workloads from other products under common application names. See Part 3, “Managing Views” on page 31.

Chapter 5. Using the DB2 Tuning Wizards

This chapter discusses how to use the DB2 tuning wizards.

DB2 tuning wizards are designed to help you cope with today's complex systems and time pressures, turning data overload into usable knowledge about your DB2 systems. Wizards take advantage of the power of windows mode without requiring that you be an expert in all its usage techniques.

Each wizard is a set of views that lead you through all of the related information about a specific area of DB2 performance, providing critical DB2 tuning help and recommendations at just the point where they are needed. It presents the critical data in context with quick access to further details if needed.

Dynamic decision panels provide a consistent approach. Questions show the diagnostic paths, identifying ***what*** each path shows and ***why*** they could be important. Key indicators on the decision panels show whether a path is worth following, based on relevant current and long-term measurements.

Key indicators on the decision panels are the sign posts to help you decide which paths to follow to identify and solve problems. The measurements have defined thresholds that highlight problems as appropriate. View customization allows each user to modify these thresholds as needed. Often, you can immediately determine whether a path is worth following, avoiding false trails and time-consuming analysis.

Figure 10 shows an example of a decision panel. It is the start point of the Lock Analysis Wizard.

```
W1 =WZLOCK============DB2G54C==*========17MAR2001==16:29:20====MVDB2====D====1
 ** LOCK WIZARD **                     Target Values..... DB0H

 Data Sharing?
 . Set Context to Group
 . => Analyze Group

 Analyze Single DB2?                                    Interval   Session
 . Set Context to DB2                 Timeouts.........        0         0
                                      Deadlocks.........       0         0
 Current Interval OK?                 Lock Suspensions..       0         0
 . Review History and set TIME        Global Suspensions       0         0

 Are any values high?
 . Check the System

 Current Lock Contention?             Suspended Threads.       0
 . By DB/TS
 . By Thread                          Susp.Transactions:
                                       ** CICS Threads..       0
 All OK?  Congratulations!             ** IMS Threads...       0
   (PF3 to Exit Wizard)
```

Figure 10. WZLOCK View—Lock Analysis Wizard

You can use a tuning wizard anytime without a long learning (or relearning) curve. Help is available on each of the decision points, in addition to the standard field help. These help panels include navigation tips as well as DB2 tuning information.

Note: No further written documentation should be needed. If you have suggestions for improvements, please send them in!

The list of wizards is expected to expand over time. The tuning wizards are accessed from the DB2 Tuning Wizard Menu, as shown in Figure 11. New wizards are added here as they are developed.

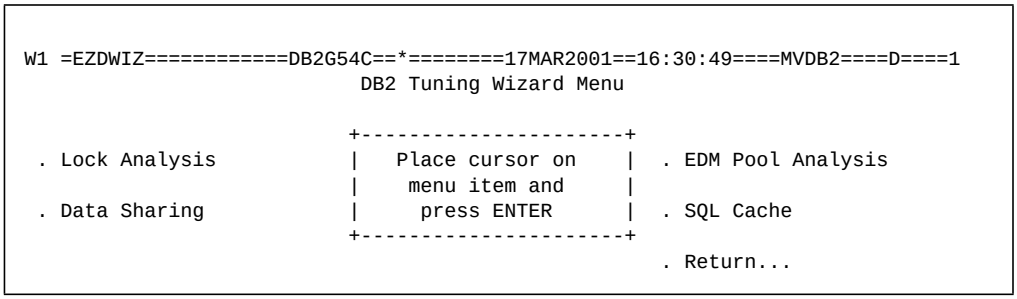


Figure 11. EZDWIZ Menu—DB2 Tuning Wizards

Chapter 6. Viewing DB2 Performance Over Different Time Periods

This chapter presents how DB2 performance data can be viewed over different time periods.

There are two different ways that a historical perspective on the data is shown. First, when data is collected for a query to present a view, the data often covers more than just one time period. Second, windows mode supports historical logging of data for each interval. This data can be retrieved in the same views generally used for current-time data.

Data Collection Periods

Most DB2 windows-mode statistics are available as *interval* and *session* counts, except for current thread information, which is measured for the life of the thread to the time of the query.

Interval data represents the near-term performance of your DB2 targets. Typically, the interval is defined as 15 minutes. When you issue a view query for interval data, MAINVIEW for DB2 displays data for the current interval, which means that you see data from the beginning of this interval until the query was issued. The data collected represents that portion of the interval that has elapsed, something between 1 to 15 minutes. This is similar to the DELTA concept in the MAINVIEW for DB2 full-screen displays.

Session data represents a summary of performance information since the monitored DB2 system(s) started.

There are naming conventions for views to differentiate between these two types of data. If the data shown is interval data, there is no special suffix, while session data views are suffixed with an S. For example, total I/O counts per page set are shown for the interval in view PSTIO, while session counts are shown in PSTIOS.

Many detail DB2 statistics views show both interval and session counts together.

The monitor data available in windows mode is more granular, and includes ***realtime*** values for the most recent period, typically the last 60 to 90 seconds. This provides a much better indication of current problems. Realtime views are suffixed with an R.

In addition, some monitor views contain all three time periods in one view. These ***cluster*** views provide a better perspective of how these indicators have behaved over time. Cluster views are suffixed with a C.

Historical Data

Statistics data is available both for the current time period and from online historical data sets. Interval records are written to these data sets to capture the status of the monitored targets each time an interval is completed.

You can retrieve these interval records by date, time, and duration with the TIME command to analyze past problems or performance concerns. In this case, the interval counts are generally for a full past interval. The actual duration of the time span that the retrieved data covers is shown on the view in the window information line.

The DSLIST view in Plex Manager shows which history data sets are available and the time periods covered.

Part 3. Managing Views

This part describes system administration and operations views that are specific to MAINVIEW for DB2.

Chapter 7. Defining a DB2 Workload

This chapter discusses how to define a DB2 workload.

A workload groups DB2 threads for performance reporting and analysis. You build a DB2 workload using a workload definition dialog called DWKLDDEF, which allows you to

- Establish a service-level objective for expected workload performance

  Performance is measured by the service-level objective set for a workload. The service-level objective comprises

  – Response time limit set as a maximum threshold for acceptable performance

  – Percentage of transaction completions within the specified response time limit

- Assign a composite name to that workload grouping

Your defined service-level objectives and composite workloads are reported by MAINVIEW VistaPoint. MAINVIEW for DB2 also reports your defined workloads in response time views.

Planning a DB2 Workload Definition

To create a DB2 workload:

1. Access the DWKLDDEF dialog.
2. Start an edit session.
3. Save the workload definition.
4. Install the definition.

Before you begin, you need to establish workload conventions, identify critical monitoring periods, and set a workload service-level objective. A service-level objective is the minimum acceptable performance of a workload based on a user-specified transaction completion time and expected transaction completion percentage.

Default Workloads

Default workloads have been defined for the transaction and query connections to DB2, based on connection type. This includes

- IMSMPP
- CICS
- TSO
- CAF
- DBATDB2
- DBATDRDA

Batch-type work is not included in the default set.

Please review the values specified as response time objectives, objective percents, and start and end times. They are only meant as a starting point.

The DOBJx views show the results of the data gathered using these definitions. You may want to review them for a while to see how effective these objectives are in your environment. Then you can use this information in planning your changes. You can modify, delete, or add workloads.

Establishing Workload Conventions

Workload definitions are created in edit mode. When they are saved, they are saved in BBPARM member BBPTWK00 by default. These members can be in a shared library. If they are not in a shared library, you should have a consistent naming convention for similar workload members in different BBPARM data sets.

Shared BBPARM Library

Your BBPARM library should be accessible to all PASs. This keeps the number of workload definitions to a minimum. Otherwise, duplicate workload definitions must be created for each linked PAS to ensure that performance data from all targets is reported. Maintenance is easier if updates are made to a single workload definition rather than simultaneous changes to similar definitions in different parameter libraries.

Naming Conventions

Consistent names for workloads are important when

- Workload definitions cannot be stored in a shared BBPARM library

  Similar workloads in different BBPARM libraries must be easily identifiable for workload definition updates.

- Sorting and filtering by workload or composite name is available in other views

  Sorting and filtering are much easier with consistent names.

Workload names should be a brief representation of the work performed by the target. For example, DB2PAY1A identifies DB2 payroll transactions running in the DB21A subsystem. It can be a maximum of eight characters.

Composite names identify the workload grouping by the group's function. For example, a workload composite with a name of FINANCE indicates a workload's targets are completing financial transactions. Composite names can be a maximum of eight characters.

Identifying Critical Workload Monitoring Periods

During the day, there are periods when transaction performance is not at risk because of the relatively light load on the system. Other daily periods are critical. The demands on system resources lead to contention and transaction delays. You should monitor all your workloads during your site's daily periods when adequate transaction performance is essential. Workloads belonging to the same composite workload should have identical monitoring periods.

DWKLDDEF—DB2 Workload Definition

The DWKLDDEF view, shown in Figure 12, is the starting point for defining a DB2 workload.

```
>W1 =DWKLDDEF==========DB2G54C==*========(00 BROWSE        )====MVDB2====D====7
CMD Workload Composite Target   System   Description               Sta Resp %Tr
--- Name---- Name----- -------- -------- ------------              --- ---- ---
    ALLWORK  SAMPLE    *        *        Sample DB2 Workload       Act 1.00  95
    CAF      DB2SAMP   *        *        CAF DB2 Workload          Act 5.00  90
    CICS     DB2SAMP   *        *        CICS DB2 Workload         Act 1.00  95
    DBATDB2  DB2SAMP   *        *        DBAT DB2 Workload         Act 5.00  90
    DBATDRDA DB2SAMP   *        *        DBAT DRDA Workload        Act 5.00  90
    IMSMPP   DB2SAMP   *        *        IMS MPP DB2 Workload      Act 1.00  95
    TSO      DB2SAMP   *        *        TSO DB2 Workload          Act 5.00  90
```

Figure 12. DWKLDDEF View—DB2 Workload Definition

You can select the DWKLDDEF view at any time by typing one of the following view names on the COMMAND line:

- `DWKLDDEF`

  Provides direct access to a list of existing DB2 workload definitions.

- `ADMIN`

  Groups views by system and operations administration functions and is available from the MAIN menu when MAINVIEW for DB2 starts. Select DWKLDDEF from the list of ADMIN views.

- `VIEWS`

  Provides an alphabetical list of all views. Select DWKLDDEF from the list of views.

To add a new or change an existing DB2 workload definition, you must first type EDIT on the COMMAND line of the DWKLDDEF view.

The window information line changes from BROWSE to EDIT. In edit mode, you can use

- Primary commands to
  - ADD a new definition
  - CANCEL any changes made

    This discards any changes made to the definition since the last save.
  - SAVE a definition you have added or changed
  - END your edit session

    This saves any changes you made and returns the previous view.
- Line commands to select an existing definition to
  - ADD a definition using one you selected as a model
  - CHAnge the selected definition
  - DELete the selected definition
  - UNDelete or recover the selected definition if it is not saved
  - INStall or activate the selected definition

Using the DB2 Workload Definition Dialog

Online help describes how to use the fields in the dialog. Press your HELP key for descriptions of the fields by

- Workload

  Name of the workload.

- Composite

  Name used to group workloads together.

- Target

  Name of the DB2 target to be monitored.

- System

  Name of the MVS image where the target DB2 is running.

- Description

  Describes (maximum of 24 characters) what this workload definition is for.

- Monitored Resources

  For DB2, these are

  – Connection Type
  – Plan Name
  – Authorization ID
  – Connection Name
  – Correlation ID
  – Location Name

- Service-Level Objective

  This comprises user-specified

  – Response time in seconds; for example:

    ```
    Response time of ===> 1.0
    ```

  – Percentage of transactions to complete within specified response time; for example:

    ```
    for ===> 95
    ```

  – Start time monitoring is to begin; for example:

    ```
    Between ===> 00:00
    ```

  – End time when collection of response or elapse time data is to stop; for example:

    ```
    and ===> 24:00
    ```

- DB2 Only

  Specifies whether total elapsed time should be used instead of In-DB2 elapsed time (In-DB2 times require accounting class 2 to be active). If yes is specified, In-DB2 elapsed time is used. If no is specified, total elapsed time (since the first connection of the thread to DB2) is collected.

Saving and Installing the DB2 Workload Definition

After you have completed the DB2 workload definition dialog, you must save your definition and install it before it becomes active. Typing SAVE on the COMMAND line saves the workload definition you modified or added and retains edit mode for more changes. Pressing your END key saves your definition and returns the previous view.

Typing the INStall line command next to the listed workload definition starts monitoring of transaction response time if you are within the defined time range. The DWKLDDEF status field changes from inactive to active.

If you updated an existing workload definition with the CHAnge line command and saved it, the INStall command deactivates the current definition. Monitoring begins with the parameters set in the updated workload definition.

INStall immediately updates the local BBI-SS PAS. If you are running MAINVIEW for DB2 in multiple PASs, you may want to issue the INStall on any additional PASs now. Otherwise, any SAVEd definitions become active when those PASs are recycled.

DWKLDDET—DB2 Workload Definition Detail

The DWKLDDET view, shown in Figure 13, provides detailed information about the status and parameters in effect for a definition selected from the DWKLDDEF view. It shows the current values of the parameters.

```
>W1 =DWKLDDEF=DWKLDDET=DB2G54C==*========(00 BROWSE        )====MVDB2====D====1
    Workload. CICS     Description CICS DB2 Workload
    Composite DB2SAMP  ConnType... CICS
    Target... *        PlanName...
    System... *        AuthID.....
    Response.  1.00    ConnName...
    %Trans...    95    CorrID.....
    Start.... 06:00    LocName....
    End...... 06:00
    DB2 Only. Y
    Deleted.. N
    Status... Active
```

Figure 13. DWKLDDET View—DB2 Workload Definition Detail

The values shown may not be in effect if the parameters have changed and

- Changes were activated with the INStall command, but not SAVEd

  The status of the definition is Install. The installed parameters are in effect.

- The changed parameters were SAVEd, but not INStalled

  The status of the definition is Modified. The saved parameters are the current values. Saved changes are activated when they are installed or the PAS (product address space) is restarted.

You can use the same primary and line commands from this view as from DWKLDDEF. Before you can use these commands, you must first type EDIT on the COMMAND line.

The window information line changes from BROWSE to EDIT.

Online help describes how to use these commands. Select the view name with your cursor, press your HELP key, and then select Actions from the help window.

Chapter 8. Using SSI Contexts

One of the most powerful features of windows mode is its ability to combine data from multiple targets in one view in single system image (SSI) mode. Even the data from DB2 subsystems operating on different MVS images can be brought together.

The default SSI context of ALL is always available and is the one set if you enter windows mode from the DB2 Primary Option Menu. There may be other SSI contexts already defined that group several similar DB2s together, such as PROD or TEST, or a data sharing group.

As you navigate between MVDB2 views, it is often necessary to set another context to look at a different group of DB2s or at a single DB2. You may want to switch out of SSI mode to analyze one DB2 target, or remain in SSI mode but temporarily narrow the focus. This focus is called SCOPE.

The DB2 Easy Menus have utility options to set context. From EZDSSI, you can hyperlink to view a list of defined contexts and select one to reset the context. From EZDB2 and EZDBA, you can hyperlink to view a list of target DB2s and select one to reset the context to a new target.

Using Commands to Change Context

There are four commands that affect the current context. When you know the name of the target or SSI context you need, you can type the information directly in one of these ways.

For more details about these commands, type HELP followed by the command name; for example, HELP CON.

CONtext Command

The CONtext command is the fastest way to switch between contexts. The syntax of the command is

```
CONtext target product;view
```

The product and view names are optional. For example, type

```
CON DBGG
```

to change the context to the data sharing group DBGG that has been previously defined as an SSI context.

CONtext establishes the current context, product, and target for the active window. Subsequent views displayed in that window inherit these values.

SET Command

The SET command invokes an ISPF dialog to display a panel where you can overtype context values. You can change context, product, server, scope, and view. Like CONtext, it sets these values for the current window. Type HELP SET for more details.

SETD Command

The SETD command is similar to SET in that it invokes an ISPF dialog to display a panel where you can overtype context values. You can change context, product, and scope. SETD changes the default settings of new windows but does not affect the context of the current window. It is useful when several windows need to be opened to a new context.

SCOPE Command

You can restrict views within an SSI context to show data from a single target using the SCOPE command. The syntax of this command is:

```
SCOpe target|*
```

Target narrows the focus to one target. The asterisk reverses back to the full SSI context.

Plex Manager Views of SSI Contexts

Plex Manager provides views that show you the defined SSI contexts and the targets within the contexts. Type

```
CON * PLEXMGR;CONACTZ
```

to view a summary list of all the SSI contexts known to the current Plex Manager. It shows the number of targets and number of active targets. You can use this command whenever you need to review the SSI contexts available to you.

A hyperlink from CONACTZ shows you all the targets in the selected context in the view CONACT.

Additional dialogs allow the definition of new SSI contexts. Refer to the *MAINVIEW Administration Guide* if you need to perform this function. These views are available through the ADMIN list of views on the MVDB2 MAIN menu.

Chapter 9. Securing Resources

This chapter discusses how to update security for the MAINVIEW for DB2 resources.

External security managers (ESMs), such as CA-ACF2, CA-TOP SECRET, or RACF can be used to protect access to a product and its resources, such as views, view actions or commands, and data. Product resources are identified to your ESM as a resource entity that can be protected so that existing security rules, permits, or profiles can be used.

Using the security resource administration views, you can see the access authorizations that are enabled for the MAINVIEW for DB2 resources by default. These views are SERDEF and SERDEFE. You can use them to enable, disable, and change security resource definitions. For information about securing resources, see *Implementing Security for MAINVIEW Products*.

SERDEF—Security Resource Definitions

You can use the SERDEF view, shown in Figure 14, to disable or enable resource definitions or to select one to view and change its attributes.

```
>W1 =SERDEF============DB2J=====*========(00 BROWSE        )====MVDB2==== ===22
CMD Description                              Enab
--- ------------                             ----
    Default - Table Data                     Yes
    Default - Any Table Actions              Yes
    Default - Alter Data Set                 No
    Default - Specific Table Action          Yes
    Any Action (MVDB2 Views)                 Yes
    Appl Monitor - Table Data                Yes
    Workload Definitions - Table Data        Yes
    Workload Definitions - Any Action        Yes
    Workload Definitions - Action - Install  Yes
    Workload Definitions - Action - Edit     Yes
    Workload Definitions - Alter Data Set    No
    Appl Workload- Table Data                Yes
    BufferPool - Table Data                  Yes
    SQL Cache - Table Data                   Yes
    IoActivity - Table Data                  Yes
    LockOuts - Table Data                    Yes
    Monitor - Table Data                     Yes
    Status - Table Data                      Yes
    SQL Cache Stmts - Table Data             Yes
    Users - Table Data                       Yes
    ZPARM - Table Data                       Yes
    ZPARM - Any Action                       Yes
```

Figure 14. SERDEF View—Security Resource Definitions

You can select the SERDEF view at any time by typing one of the following on the COMMAND line:

- `SERDEF`

  Provides direct access to a list of existing resource definitions.

- `ADMIN`

  Groups views by system and operations administration functions and is available from the MAIN menu for MVDB2. Select SERDEF from the list of views.

- `VIEWS`

  Provides an alphabetical list of all views. Select SERDEF from the list of views.

Implementing Security for MAINVIEW Products describes how to use the SERDEF view.

SERDEFE—Security Resource Definition Detail

The SERDEFE view, shown in Figure 15, provides detailed information about a resource definition selected from the SERDEF view. It shows the class and entity names and other attributes for that definition.

```
>W1 =SERDEF===SERDEFE==DB2G=====*========17MAR2001==12:09:48====MVDB2====D====1
    Res Key..... BBP9#DEFAULT Desc..... Default - Specific Table Action
     Enabled.... Yes          Comment.. *Unchanged*
                              Type..... DEFAULT
    ESM Info---.
     Class...... $BBM         Entity... BBM.&PRODUCT.&CONTEXT.&INTTABLE.&INTACT
     VolSer..... *NONE*       Intent... READ
     LogAuth.... Allow        LogFail.. Allow
    Substitution Values
     IntTable... #DEFAULT     ExtTable. #Default
     IntAction.. ACTION       ExtAction
     IntActTab.. *NONE*       Product.. MVDB2
     Parms?..... No           Fields?.. No
    Update Info.              Mem Suff. 00
     UpdSystem.. *NONE*       UpdTime.. 12:09:49
     UpdUser.... *NONE*       UpdDate.. 17MAR2001
    Res Version.
     Version.... 1            Release.. 1
                               ModLevel. 0
```

Figure 15. SERDEFE View—Security Resource Definition Detail

You can use the commands described in online help or in *Implementing Security for MAINVIEW Products* to change a definition's attributes.

Part 4. Analyzing DB2 Performance

This part describes the MAINVIEW for DB2 views you can use to analyze DB2 performance.

Chapter 10. Alphabetical List of Views

Table 1 and Table 2 provide alphabetical lists of all the windows-mode views with page references to their descriptions in this manual. Table 2 on page 57 lists the monitor plot views and Table 1 lists all other windows-mode views available with MAINVIEW for DB2.

Table 1. Windows-Mode Views

View Name	Title	Page
BFRPL	Buffer Pool Statistics—SSI	132
BFRPLD	Local Buffer Pool Statistics Detail	133
BFRPLH	Buffer Pool Rates—SSI	134
BFRPLHD	Buffer Pool Rates Detail	135
DMAREAZ	Monitor Summary by Area	265
DMON	Monitors by Target	264
DMWARN	Monitors in Warning	267
DOBJ	Objectives Review	201
DOBJZ	Objective Summary	202
DSERV	Monitor Overview	266
DSOVER	Monitors by Type	265
DWKLDDEF	DB2 Workload Definition	35
DWKLDDET	DB2 Workload Definition Detail	38
GBPACTD	Group Buffer Pool Activity Detail	150
GBPCASTM	Group Buffer Pool Castout Activity	145
GBPCASTZ	Group Buffer Pool Castout Activity Summary	144
GBPCFM	Group Buffer Pool Coupling Facility Activity	149
GBPCFZ	Group Buffer Pool Coupling Facility Summary	148
GBPGACD	Group Buffer Pool Group Coupling Facility Activity Detail	139
GBPGACZ	Group Buffer Pool Group Coupling Facility Activity	138
GBPGSTD	Group Buffer Pool Group Coupling Facility Status Detail	137
GBPGSTZ	Group Buffer Pool Group Coupling Facility Status	136
GBPLOCKM	Group Buffer Pool P-Lock Activity	147
GBPLOCKZ	Group Buffer Pool P-Lock Activity Summary	146
GBPREADM	Group Buffer Pool Read Activity	141

Table 1. Windows-Mode Views (Continued)

View Name	Title	Page
GBPREADZ	Group Buffer Pool Read Activity Summary	140
GBPWRITM	Group Buffer Pool Write Activity	143
GBPWRITZ	Group Buffer Pool Write Activity Summary	142
LKBLOCK	Lockout Blocker Plan Detail	217
LKBLOCKZ	Lockout Blocker Plan Summary	216
LKBWZ	Lockout Blocker/Waiter Summary	215
LKBWZSSI	Lockout Global Blocker/Waiter Summary	214
LKCONZ	Lockout Connection Summary	213
LKEVD	Lockout Event Resource Detail	209
LKEVENT	Lockout Events	206
LKEVRES	Lockout Event Resources	208
LKEVSSI	Global Lockout Events	207
LKRESD	Lockout Resources Conflict Detail	212
LKRESNRZ	Lockout Resource Number Summary	211
LKRESZ	Lockout Resource Summary	210
LKWAIT	Lockout Waiter Plan Detail	219
LKWAITZ	Lockout Waiter Plan Summary	218
PSAIO	Asynchronous I/O Page Set Member Detail—Interval	180
PSAIOS	Asynchronous I/O Page Set Member Detail—Session	178
PSAIOSZ	Asynchronous I/O Page Set Summary—Session	177
PSAIOZ	Asynchronous I/O Page Set Summary—Interval	179
PSBPGBPZ	Buffer Pool Page Set GBP-DEP Summary	162
PSBPS	Buffer Pool Page Sets—Session	166
PSBPSZ	Buffer Pool Page Set Summary—Session	165
PSBPTMZ	Buffer Pool Page Set 2-Hour Summary	167
PSCACHE	Page Set Cache	158
PSDBSZ	Database Page Set Summary—Session	168
PSDBTMZ	Database Page Set 2-Hour Summary	169
PSDTL	Page Set Detail	164
PSGBP	Page Set GBP-DEP Status	163
PSLIST	Page Set List	159

Table 1. Windows-Mode Views (Continued)

View Name	Title	Page
PSLISTTZ	Page Set 2-Hour Summary	161
PSLISTZ	Page Set List (SSI)	160
PSOBSZ	Object Page Set Summary—Session	170
PSOBTMZ	Object Page Set 2-Hour Summary	171
PSSIO	Synchronous I/O Page Set Member Detail—Interval	180
PSSIOS	Synchronous I/O Page Set Summary—Session	178
PSSIOSZ	Synchronous I/O Page Set Summary—Session	177
PSSIOZ	Synchronous I/O Page Set Summary—Interval	179
PSSTAT	Page Set Status	157
PSTIO	Total I/O Page Set Member Detail—Interval	180
PSTIOS	Total I/O Page Set Member Detail—Session	178
PSTIOSZ	Total I/O Page Set Summary—Session	177
PSTIOZ	Total I/O Page Set Summary—Interval	179
PSVOLPS	Volume Page Sets	175
PSVOLPSZ	Volume Page Sets (SSI)	174
PSVOLSSI	Volume I/O SSI Summary—Session	172
PSVOLSZ	Volume I/O Summary—Session	173
PSVOLTMZ	Volume I/O 2-Hour Summary	176
SCFTOTZ	Dynamic SQL Cache Filter Results	259
SCLIST	SQL Cache Statement Elements List	255
SCSETF	SQL Cache Statement Filters	258
SCSQL	SQL Cache Statement List	252
SCSQLD	SQL Cache Statement Detail	256
SCSTATS	SQL Cache Statement Statistics	253
SCSTMTD	SQL Cache Statement Text	257
SCWAITS	SQL Cache Statement Waits	254
SERDEF	Security Resource Definitions	41
SERDEFE	Security Resource Definition Detail	43
STAGENT	Agent Services	93
STAGENTD	Agent Services Detail	93
STAUTH	Authorization Checks	98

Table 1. Windows-Mode Views (Continued)

View Name	Title	Page
STAUTHD	Authorization Checks Detail	99
STBFRPL	Buffer Pool Statistics	106
STBFRPLD	Buffer Pool Statistics Detail	107
STBIND	Bind Statistics	96
STBINDD	Bind Statistics Detail	97
STCACHE	Dynamic SQL Cache Statistics	250
STCACHED	Dynamic SQL Cache Statistics Detail	251
STCHKP	Checkpoint Data	121
STCHKPD	Checkpoint Data Detail	121
STCMDS	DB2 Commands	88
STCMDSD	DB2 Commands Detail	89
STDBSYSD	DB2 System Information Detail	85
STDB2	DB2 Activity Overview	75
STDB2D	DB2 Status Detail—Interval	76
STDB2DS	DB2 Status Detail—Session	78
STDB2SYS	DB2 System Information	84
STDDF	DDF Statistics	122
STDDFD	DDF Statistics Detail	123
STDIST	DBAT Statistics	124
STDISTD	DBAT Statistics Detail	125
STDSA	Data Set Activity	116
STDSAD	Data Set Activity Detail	116
STEDMP	EDM Pool Statistics	117
STEDMPD	EDM Pool Statistics Detail	118
STEXC	Exception Conditions	80
STGBFRPD	Global Buffer Pool Statistics Detail	110
STGBFRPL	Global Buffer Pool Statistics	109
STGBGRPD	Global Buffer Pool Group Statistics Detail	114
STGBLLK	Global Locking	104
STGBLLKD	Global Locking Detail	105
STHITR	Hit Ratios	108

Table 1. Windows-Mode Views (Continued)

View Name	Title	Page
STHITRD	Hit Ratios Detail	108
STLOCK	Lock Statistics	102
STLOCKD	Lock Statistics Detail	103
STLOG	Log Statistics	119
STLOGD	Log Statistics Detail	120
STQPAR	Query Parallelism	86
STQPARD	Query Parallelism Detail	87
STRATE	Activity Rates	83
STRID	RID Pool Statistics	115
STRIDD	RID Pool Statistics Detail	115
STROUT	Routine Statistics	100
STROUTD	Routine Statistics Detail	101
STSERV	Subsystem Services	94
STSERVD	Subsystem Services Detail	95
STSQL	SQL Counts	91
STSQLD	SQL Counts Detail	92
STUSUMM	User Summary	90
STUSUMMD	User Summary Detail	90
STWARN	Warning/Error Conditions	81
THDACTV	All Active Threads	190
THDALL	All Connected Threads	191
THDCICPR	CICS Protected Thread Averages	193
THDCONNZ	Thread Summary by Connection	184
THDCTYPZ	Thread Summary by Connection Type	185
THDDB2Z	Thread Summary by DB2 ID	186
THDDETL	Thread Detail	195
THDLIST	All Active Threads—Long Form	192
THDPLANZ	Thread Summary by Plan Name	187
THDPRLLD	Parallel Query Detail	194
THDPRLLZ	Summary of Parallel Queries	188
THDUSERZ	Thread Summary by User ID	189

Table 1. Windows-Mode Views (Continued)

View Name	Title	Page
THDWARN	Key Indicator/Warnings	197
THDWARND	Key Indicator/Warnings Detail	198
ZPARCALD	Archive Log Allocation Definitions	235
ZPARCDFD	Archive Log Definitions	234
ZPAUTHD	Authorization	241
ZPBFMGRD	Buffer Manager	239
ZPDB2D	DB2 Definition	226
ZPDDFD	DDF—Distributed Data Facility	236
ZPDDLCTD	Data Definition Control	240
ZPDSETD	Data Set Management	238
ZPDSHRD	Data Sharing	229
ZPHDECPD	DSNHDECP—Application Programming Defaults	245
ZPIRLMDD	IRLM Definitions	231
ZPIRLMLD	IRLM—Lockout Detection	232
ZPLOGD	Active Log Definitions	233
ZPQPARD	Query Parallelism	243
ZPRLFD	Resource Limit Facility (RLF)	242
ZPROUTD	Routine Parameters (Stored Procedures/UDFs)	244
ZPSAPD	SAP R/3–Related Parameters	246
ZPSTGD	Storage-Related Parameters	237
ZPSYSD	System Definitions	227
ZPTHDD	Thread Parameters	230
ZPTRACED	Trace Parameters	228

Table 2. Plot Views

View Name	Title	Page
D#CALL	SQL Call Statements	295
D#CLMF	Claim Failures	298
D#DDLK	Deadlocks	298
D#DRNF	Drain Failures	298
D#DYN	Dynamic SQL Statements	295
D#ESCL	Escalations	298
D#GETF	Conditional Getpage Failures	297
D#GETP	Getpage Requests	297
D#GFAL	False Contention Suspensions	298
D#GLKX	Global Lock XES Requests	298
D#GLRQ	Global P-Lock Lock Requests	298
D#GNTS	Notify Messages Sent	298
D#GRTA	Incompatible Retained Lock Suspensions	298
D#GSRD	GBP Sync Reads	297
D#GSUS	Global Contention Suspensions	298
D#GSWC	GBP Clean Pages Written	297
D#GSWR	GBP Changed Pages Written	297
D#HPPG	Asynchronous Hiperpool Pages Read	297
D#HPVS	Synchronous Hiperpool Reads	297
D#MAXL	Maximum Locks Held	298
D#PFIO	Prefetch I/O	297
D#PFPG	Prefetch Pages Read	297
D#PFRD	Prefetch Reads	297
D#PFRQ	Prefetch Requests	297
D#PRLF	Parallel I/O Groups Fallback to Sequential	300
D#PRLG	Parallel I/O Groups Executed	300
D#PRLR	Parallel I/O Groups Executed Reduced Degree	300
D#PRLS	Sysplex Parallel Query Failures	300
D#PROC	Transactions Processed	296
D#RDIO	Read I/Os	297

Table 2. Plot Views (Continued)

View Name	Title	Page
D#REOP	Reoptimizations	296
D#SPRC	Stored Procedures Executed	296
D#SQLA	Administrative SQL Statements	295
D#SQLC	SQL Statements Per Commit	295
D#SQLD	DDL Statements	295
D#SQLM	Data Manipulative SQL Statements	295
D#SUSP	Suspensions	298
D#TMO	Timeouts	298
D#UPDP	Update Page Requests	297
D#WRIT	Write Immediates	297
D@CPU	Average CPU Used	296
D@CPUD	Average CPU in DB2	296
D@ELAP	Average Elapsed Time	299
D@ELCL	Average Elapsed for Claim Waits	299
D@ELDR	Average Elapsed for Drain Waits	299
D@ELGL	Average Elapsed Wait—Global Lock	300
D@ELGM	Average Elapsed Wait—Notify Message	300
D@ELP3	Average Elapsed Wait—All Class 3	299
D@ELPD	Average Elapsed in DB2	299
D@ELPL	Average Elapsed for Page Latch	299
D@ELPR	Average Elapsed for Prefetch Reads	299
D@ELIO	Average Elapsed for I/O	299
D@ELLK	Average Elapsed for Locks	299
D@ELSP	Average Elapsed Wait—Stored Procedure TCB	299
DARCDL	Read Accesses Delayed	291
DARCRA	Archive Log Read Allocations	291
DARCTC	Tape Volume Contention Read Delays	291
DARCTM	Look-Ahead Tape Mounts	291
DARCWA	Archive Log Write Allocations	291
DARCWR	Archive Log CIs Written	291
DBINDF	Failed Automatic Binds	270

Table 2. Plot Views (Continued)

View Name	Title	Page
DBINDS	Successful Automatic Binds	270
DBNPKF	FAILED Automatic Binds for Packages	270
DBNPKS	Successful Automatic Binds for Packages	270
DBPUSE	Buffer Pool Percent in Use	278
DBPUTL	Buffer Pool Percent Utilization	278
DBSDSA	BSDS Access Requests	291
DCHKPT	Number of Checkpoints	291
DCKPFR	Checkpoint Frequency	291
DCLM	Claim Requests	275
DCLMF	Claim Failures	275
DCNVLM	Conversations Deallocated - ZPARM Limit	293
DCOMP2	Phase 2 Commits	270
DCOMRO	Read-Only Commits	270
DCOMSY	Sync Commits	270
DCONUT	Connection Percent Utilization	270
DCSAP	CSA Percentage of Utilization	292
DCSAPG	CSA Paging	292
DDB2DP	Demand Paging	292
DDBTQD	Database Thread Queued	270
DDDFBR	DDF Bytes Received	293
DDFBS	DDF Bytes Sent	293
DDDFCQ	DDF Conversations Queued	293
DDESRD	Number of Pages for which Destructive Read Requested	278
DDRN	Drain Requests	275
DDRNF	Drain Failures	275
DDSOPN	Database Data Sets Open	269
DDSOPR	Database Data SET Open Requests	269
DDSUTL	Open Database Data SET Utilization	269
DDWTX	Vertical Deferred WRITE Threshold Reached	278
DECSAP	Extended CSA Percentage of Utilization	292

Table 2. Plot Views (Continued)

View Name	Title	Page
DEDMLD	Average EDM Requests Per Load I/O	277
DEDMUT	EDM Pool % Utilization	277
DEOMFL	End of Memory Failures	271
DEOTFL	End of Task Failures	271
DGCAST	GBP Castout Requests	279
DGCTPG	GBP Castout Pages	279
DGETPG	Getpage Requests	279
DGETRI	Getpage (GET) Requests Per Read I/O (RIO)	279
DGFAIL	GBP Failures	280
DGNEG	Negotiate P-Lock	275
DGNOEN	No Engines—P-Lock	275
DGNTFM	Notify Messages	275
DGOTHR	GBP Other Requests	280
DGPGWR	GBP Pages Written	280
DGPLK	Global P-Lock Requests	275
DGRDIN	GBP Read Requests—Interest	280
DGRDNO	GBP Read Requests—No Interest	281
DGRDRQ	GBP Read Requests with Data	281
DGSUSP	Global Lock Suspensions	275
DGXES	Global Lock XES Requests	275
DHPRDF	Read Pages Failures	281
DHPVPA	Successful Asynchronous Reads for HP-to-VP	281
DHPVPS	Successful Synchronous Reads for HP-to-VP	282
DHPWRF	Write Page Failures	282
DILREQ	IRLM Request Counts	275
DIXLOK	Index Space Locks	275
DLDEAD	Lock Deadlock Failures	276
DLESCL	Lock Escalations	276
DLOGRD	Log Reads for Backout/Recovery	291
DLOGUT	Active Log Percent Utilization	291
DLOGWR	Log Write Requests	291

Table 2. Plot Views (Continued)

View Name	Title	Page
DLOGWT	Log Buffer Waits	291
DLREQ	Lock Requests	276
DLSTPF	Number of List Prefetch Requests	282
DLSUSP	Suspensions	276
DLTIME	Lock Timeout Failures	276
DMAXPF	Maximum Concurrent Parallel I/O Prefetch Streams	282
DMIAPF	Multi-Index Failures	282
DMIGDS	Migrated Data Sets	282
DMXLOK	Maximum Page Lock Held by User	276
DNACTC	Current Inactive DB Threads	293
DPFDIO	Dynamic Prefetch Read I/O	283
DPFDPG	Dynamic Prefetch Pages Read	283
DPFDRQ	Dynamic Prefetch Requests	283
DPFIOF	Prefetch I/O Failures	283
DPFLIO	List Prefetch Read I/O	284
DPFLPG	List Prefetch Pages Read	284
DPFSIO	Sequential Prefetch Read I/O	284
DPFSPG	Sequential Prefetch Pages Read	284
DPFSRQ	Sequential Prefetch Requests	285
DPFTIO	Total Prefetch Read I/O	285
DPFTPG	Total Prefetch Pages Read	285
DPFTRQ	Total Prefetch Requests	285
DPGLOK	Page Locks	276
DPIO	Prefetch Read I/O	286
DPKBND	Number of Packages Bound	271
DPLBND	Number of Plans Bound	271
DPRLF	I/O Parallel Groups with Fallback to Sequential	272
DPRLG	I/O Parallel Groups Executed	271
DPRLGF	Conditional Getpage Failure	286
DPRLQ	Parallel Query Requests	286
DPRLQF	Parallel Query Request Failures	287

Table 2. Plot Views (Continued)

View Name	Title	Page
DPRLSF	Sysplex Parallel Query Failures	272
DPRL12	Prefetch Reduced to 1/2	286
DPRL14	Prefetch Reduced to 1/4	286
DPWS	System Pages Written	287
DPWSWI	System Pages Written (PWS) Per Write I/O (WIO)	287
DP2CON	2-Phase Connections	294
DP2RMC	Remote Location Coordinator Commits	294
DP2RMI	Remote Location Coordinator Indoubts	294
DP2RMR	Remote Location Coordinator Rollbacks	294
DP2RMT	Remote Location Coordinator Total Operations	294
DP2RSY	2-Phase Resync Connections	294
DRIDUT	RID Pool Percent Utilization	287
DRIO	Read I/O Activity	287
DRSQLR	Remote SQL Statements Received	272
DRSQLS	Remote SQL Statements Sent	272
DRTO	Recall Timeouts	288
DRWP	Reads with Paging	288
DSEQIO	Sequential Read I/O Requests	288
DSEQPG	Sequential Getpage Requests	288
DSPROC	Stored Procedures	273
DSQLAC	SQL Activity	273
DSWS	System Page Updates	288
DSWSPW	System Page Updates (SWS) Per System Pages Written (PWS)	289
DTHDAB	Aborted Threads	273
DTHDAC	Active Thread Status	273
DTHDCR	Create Thread Requests	273
DTHDID	In Doubt Thread Status	273
DTHDQD	Queued Thread Status	274
DTHDUT	Thread Percent Utilization	274
DTHDWT	Create Thread Waited	274

Table 2. Plot Views (Continued)

View Name	Title	Page
DTSLOK	Table Space Locks	277
DUSLOK	Users Suspended for Locks	277
DWIO	WRITE I/O Activity	289
DWKMAX	Max Workfiles Used Concurrently	289
DWKNBF	Workfile Not Created - No Buffers	289
DWKPFZ	Workfile Prefetch Quantity Is Zero	290
DWWP	Writes with Paging	290

Chapter 11. DB2 Systems

The DB2 system views provide an enormous amount of data about how a DB2 subsystem is running. This data includes

- Many status indicators, including warning flags and utilization measurements (pools, paging, and so forth)
- All DB2 statistics fields (IFCIDs 1 and 2)
- Buffer pool statistics totals
- DDF location statistics totals
- Additional statistics on group buffer pools for data sharing

Views for DB2 system analysis are organized into several groups, as follows:

- DB2 system status views
- User activity views
- Lock views
- Pool / page set views
- EDM pool views
- Logging views
- DDF views

For each major area, there are SSI views of the most important interval statistics per DB2. Most SSI views have a hyperlink to a detail view showing all related fields as both interval and session values for the selected DB2.

Each SSI view also can be expanded to show a different time perspective, either multiple intervals per DB2, or even an earlier time period. Use the TIME command to retrieve the historical data. You can use the command, INCLUDE TIME, to display a column showing the time; EXCLUDE TIME removes it from the display.

You can easily access all the views for DB2 systems analysis from the DB2 Status Easy Menu (EZDSTAT), shown in Figure 16.

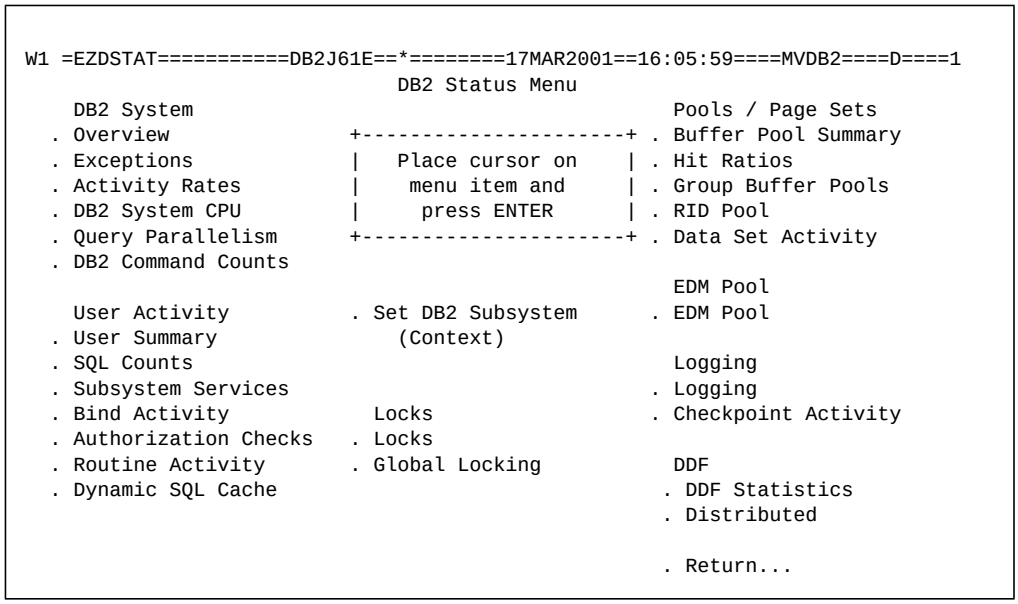


Figure 16. EZDSTAT Easy Menu—DB2 Status

There is also an Easy Menu, EZDSTATD, which provides similar options when looking at just one DB2. EZDSTAT hyperlinks generally go to tabular views that show one row per DB2 in the current context. EZDSTATD hyperlinks go directly to the detail views for that DB2.

Table 3 lists all the views available for DB2 systems.

Table 3. DB2 System Views

View Name	Group / Type	Description
STAGENT	User Activity Tabular	Agent Services (see page 93) Provides statistics about agent services in the current interval.
STAGENTD	User Activity Detail	Agent Services Detail (see page 93) Provides statistics about agent services for each of these time periods: • The current recording interval • The current session since DB2 was started
STAUTH	User Activity Tabular	Authorization Checks (see page 98) Provides statistics about authorization checks for PLANs, packages, and user-defined function or stored procedure routines.
STAUTHD	User Activity Detail	Authorization Checks Detail (see page 99) Provides statistics about authorization checks for PLANs, packages, and user-defined function or stored procedure routines for each of these time periods: • The current recording interval • The current session since DB2 was started
STBFRPL	Pool / Page Set Tabular	Buffer Pool Statistics (see page 106) Provides statistics about all defined buffer pools per DB2 in the current interval. You can use this view to analyze total buffer pool activity in all pools combined. See Chapter 12, “Buffer Pools” on page 127 for views on individual pools.
STBFRPLD	Pool / Page Set Detail	Buffer Pool Statistics Detail (see page 107) Provides statistics about all buffer pools in the selected DB2 for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to analyze total buffer pool activity.
STBIND	User Activity Tabular	Bind Statistics (see page 96) Provides statistics about binds in the current interval.

Table 3. DB2 System Views (Continued)

View Name	Group / Type	Description
STBINDD	User Activity Detail	Bind Statistics Detail (see page 97) Provides statistics about binds for each of these time periods: • The current recording interval • The current session since DB2 was started
STCHKP	Logging Tabular	Checkpoint Data (see page 121) Provides statistics about checkpoint activity in the current interval. It also includes data capture statistics.
STCHKPD	Logging Detail	Checkpoint Data Detail (see page 121) Provides statistics about checkpoint activity and data capture for each of these time periods: • The current recording interval • The current session since DB2 was started
STCMDS	System Status Tabular	DB2 Commands (see page 88) Provides statistics about DB2 commands executed in the current interval.
STCMDSD	System Status Detail	DB2 Commands Detail (see page 89) Provides statistics about DB2 commands executed for each of these time periods: • The current recording interval • The current session since DB2 was started
STDB2	System Status Tabular	DB2 Activity Overview (see page 75) SSI overview of the status of all DB2 subsystems in the context. For each DB2, it displays activity rates, number of exceptions, and warning flags. You can use this view to check the level of activity per DB2 and quickly determine if exceptions are outstanding.
STDB2D	System Status Detail	DB2 Status Detail—Interval (see page 76) Shows the overall status and activity within the selected DB2 subsystem for the current recording interval. You can use this view to see information concerning key indicators that apply to the entire subsystem, such as active users, threads by type, DB2 CPU usage, locking, paging, and buffer and Environmental Data Manager (EDM) pool activity and status. Exception conditions detected by the background Exception Sampler or active MVDB2 monitors are also shown. This information provides an overall view of DB2 system activity and shows problems within DB2 that can be diagnosed with MVDB2 facilities.

Table 3. DB2 System Views (Continued)

View Name	Group / Type	Description
STDB2DS	System Status Detail	DB2 Status Detail—Session (see page 78) Shows the overall status and activity within the selected DB2 subsystem for the current session since DB2 was started. You can use this view to see information concerning key indicators that apply to the entire subsystem, such as active users, threads by type, DB2 CPU usage, locking, paging, and buffer and Environmental Data Manager (EDM) pool activity and status. Exception conditions detected by the background Exception Sampler or active MVDB2 monitors are also shown. This information provides an overall view of DB2 system activity and shows problems within DB2 that can be diagnosed with MVDB2 facilities.
STDB2SYS	System Status Tabular	DB2 System Information (see page 84) Provides DB2 system information on CPU utilization in the current interval. You can use this view to compare the CPU usage per DB2 address space.
STDBSYSD	System Status Detail	DB2 System Information Detail (see page 85) Provides DB2 system information for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to see CPU usage for all DB2 address spaces. Some additional diagnostic fields are included.
STDDF	DDF Tabular	DDF Statistics (see page 122) Provides statistics about total DDF activity for the current interval. You can use this view to analyze the total distributed requests sent and received per DB2.
STDDFD	DDF Detail	DDF Statistics Detail (see page 123) Provides statistics about total DDF activity for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to analyze the total distributed requests sent and received per DB2.
STDIST	DDF Tabular	DBAT Statistics (see page 124) Provides statistics about Database Access Threads (DBATs) for the current interval. You can use this view to analyze thread usage for distributed requests where this DB2 was acting as the server.

Table 3. DB2 System Views (Continued)

View Name	Group / Type	Description
STDISTD	DDF Detail	DBAT Statistics Detail (see page 125) Provides statistics about DBATs for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to analyze thread usage for distributed requests where this DB2 was acting as the server.
STDSA	Pool / Page Set Tabular	Data Set Activity (see page 116) Provides statistics about data set activity in the current interval. You can use this view to analyze open/close activity.
STDSAD	Pool / Page Set Detail	Data Set Activity Detail (see page 116) Provides statistics about data set activity for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to analyze open/close activity.
STEDMP	EDM Pool Tabular	EDM Pool Statistics (see page 117) Provides statistics about the EDM pool in the current interval. You can use this view to analyze EDM pool utilization and performance.
STEDMPD	EDM Pool Detail	EDM Pool Statistics Detail (see page 118) Provides statistics about the EDM pool for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to analyze EDM pool utilization and performance.
STEXC	System Status Tabular	Exception Conditions (see page 80) Provides an overview of exception conditions. You can use this view to see in more detail which types of exceptions may be outstanding per DB2. Hyperlinks lead to more detail for each kind of exception.

Table 3. DB2 System Views (Continued)

View Name	Group / Type	Description
STGBFRPD	Pool / Page Set Detail	Global Buffer Pool Statistics Detail (see page 110) Provides statistics about group buffer pools for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to analyze activity in the group buffer pools for one data sharing member in all pools combined. See Chapter 12, “Buffer Pools” on page 127 for views per individual buffer pool.
STGBFRPL	Pool / Page Set Tabular	Global Buffer Pool Statistics (see page 109) Provides statistics about group buffer pools in the current interval. You can use this view to analyze total global activity in the group buffer pools for data sharing in all pools combined. See Chapter 12, “Buffer Pools” on page 127 for views per individual buffer pool.
STGBGRPD	Pool / Page Set Detail	Global Buffer Pool Group Statistics Detail (see page 114) Provides statistics about group buffer pools for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to analyze total global activity in the group buffer pools for data sharing in all pools and all DB2 members combined. See Chapter 12, “Buffer Pools” on page 127 for views per individual buffer pool.
STGBLLK	Lock Tabular	Global Locking (see page 104) Provides statistics about global locking in the current interval. You can use this view to analyze global locking activity and the level of global contention.
STGBLLKD	Lock Detail	Global Locking Detail (see page 105) Provides statistics about global locking for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to analyze global locking activity and the level of global contention.
STHITR	Pool / Page Set Tabular	Hit Ratios (see page 108) Provides statistics about hit ratios in the current interval. You can use this view to analyze buffer pool performance. The values used in the calculations are included in the view.

Table 3. DB2 System Views (Continued)

View Name	Group / Type	Description
STHITRD	Pool / Page Set Detail	Hit Ratios Detail (see page 108) Provides statistics about hit ratios for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to analyze buffer pool performance. The values used in the calculations are included in the view.
STLOCK	Lock Tabular	Lock Statistics (see page 102) Provides statistics about locks in the current interval. You can use this view to analyze lock activity and the amount of contention.
STLOCKD	Lock Detail	Lock Statistics Detail (see page 103) Provides statistics about locks for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to analyze lock activity and the amount of contention.
STLOG	Logging Tabular	Log Statistics (see page 119) Provides statistics about logging in the current interval. You can use this view to analyze activity on the active and archive logs and the BSDS. Problems such as unavailable buffers for logging, or reads from archive logs for backouts can be detected.
STLOGD	Logging Detail	Log Statistics Detail (see page 120) Provides statistics about logging for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to analyze activity on the active and archive logs and the BSDS. Problems such as unavailable buffers for logging, or reads from archive logs for backouts can be detected.
STQPAR	System Status Tabular	Query Parallelism (see page 86) Provides statistics about query parallelism in the current interval. You can use this view to identify how often query parallelism is being used.

Table 3. DB2 System Views (Continued)

View Name	Group / Type	Description
STQPARD	System Status Detail	Query Parallelism Detail (see page 87) Provides statistics about query parallelism for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to analyze parallelism activity on one DB2.
STRATE	System Status Detail	Activity Rates (see page 83) Provides the most critical measurements as quantities and rates per second, per thread, and per commit. You can use this view to analyze activity in one DB2 for both the current interval and since that DB2 started. The rate calculations give you values that make it easier to compare current activity with the totals accumulated over a longer time span.
STRID	Pool / Page Set Tabular	RID Pool Statistics (see page 115) Provides statistics about the RID pool per DB2 for the current interval. You can use this view to analyze RID pool usage and failures.
STRIDD	Pool / Page Set Detail	RID Pool Statistics Detail (see page 115) Provides statistics about the RID pool for one DB2 for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to analyze RID pool usage and failures.
STROUT	User Activity Tabular	Routine Statistics (see page 100) Provides statistics about cascading, stored procedure, trigger, and user-defined function routines.
STROUTD	User Activity Detail	Routine Statistics Detail (see page 101) Provides statistics about cascading, stored procedure, trigger, and user-defined function routines for each of these time periods: • The current recording interval • The current session since DB2 was started
STSERV	User Activity Tabular	Subsystem Services (see page 94) Provides statistics about subsystem services.

Table 3. DB2 System Views (Continued)

View Name	Group / Type	Description
STSERVD	User Activity Detail	Subsystem Services Detail (see page 95) Provides statistics about subsystem services for each of these time periods: • The current recording interval • The current session since DB2 was started
STSQL	User Activity Tabular	SQL Counts (see page 91) Provides statistics about SQL counts in the current interval. You can use this view to see what type of SQL activity is occurring.
STSQLD	User Activity Detail	SQL Counts Detail (see page 92) Provides statistics about SQL counts for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to see what types of SQL activity are occurring.
STUSUMM	User Activity Tabular	User Summary (see page 90) Provides summary statistics about current user connections. You can use this view to determine the current level of activity per DB2.
STUSUMMD	User Activity Detail	User Summary Detail (see page 90) Provides summary statistics about each type of user connection.
STWARN	System Status Detail	Warning/Error Conditions (see page 81) Provides information about the most important key indicators of failures or degradation. You can use this view to see all the warning indicators that are set to Yes.

Note: The statistics views STCACHE and STCACHED on the dyanmic SQL cache are included in Chapter 18, “Dynamic SQL Cache” on page 247.

DB2 System Status Views

The following views display information about DB2 system status.

STDB2—DB2 Activity Overview

The STDB2 view, shown in Figure 17, is an SSI overview of the status of all DB2 subsystems in the context. For each DB2, it displays activity rates, number of exceptions, and warning flags.

```
>W1 =EZDSTAT==STDB2===(ALL======*=======)17MAR2001==17:43:40====MVDB2====D====8
 DB2        Act   Comm  Getpg  Lockout  Tot                Dataset  Dataset  GB
 Target     Thrd  Rate   Rate     Rate  Exc Warning Msg     In-Use     Open
 DB0GMV54      0   0.0    0.0      0.0    0 Connect Fail         0
 DB0HMV55      0   0.0    0.0      0.0    0 Connect Fail         0
 DB1FMV53      0   0.0    0.0      0.0    0 Connect Fail         0
 DB1GMV54      1   0.0    0.1      0.0    0 GBL cont >2%         0       37
 DB1HMV55      0   0.0    0.0      0.0    0 Connect Fail         0
 DB2FMV53      0   0.0    0.0      0.0    0 Connect Fail         0
 DB2GMV54      2   0.0    0.1      0.0    0 GBL cont >2%         0       78
 DB2HMV55      2   0.0    0.0      0.0    0                      1       13
```

Figure 17. STDB2 View—DB2 Activity Overview

You can use this view to check the level of activity per DB2 and quickly determine if exceptions are outstanding.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STDB2D to see detailed statistics for the selected DB2 subsystem
  - Act Thrd column to THDACTV to see information about each active thread for one DB2
  - Comm Rate column to STRATE to see rates per second, per thread, and per commit
  - Getpg Rate column to BFRPL to see buffer pools for one DB2
  - Lockout Rate column to LKEVENT to see lockout events for one DB2
  - Tot Exc column to STEXC to see an overview of exception conditions
  - Warning Msg column to STWARN to see information about the most important key indicators of failures or degradation for that DB2
  - Dataset Open column to EZDPS menu to see page set information
  - Threads Conn column to THDCONNZ to see current thread activity summarized by connection name
  - Total HitRt column to BFRPLH to see an overview of buffer pool hit ratios
  - GBP Depndnt column to PSBPGBPZ to see a summary of group-buffer pool-dependent page sets

STDB2D—DB2 Status Detail—Interval

The STDB2D view, shown in Figure 18, shows the overall status and activity within the selected DB2 subsystem for the current recording interval.

```
>W1 =STDB2====STDB2D==(ALL======DB2H====)17MAR2001==12:01:37====MVDB2====D====1
  > EZ Menu     .Session
                Connect   Active      In DB2      Queued      Suspended    CPU%
  TSO........         1        1           0           0              0     0.0

  Batch......         1        1           0           0              0     0.0
  -CAF.......         1        1           0           0              0     0.0
  -Utility...         0        0           0           0              0     0.0

  IMS........         0        0           0           0              0     0.0
  CICS.......         0        0           0           0              0     0.0
  DBAT.......         0        0           0           0              0     0.0
  SPAS.......         9        0           0           0              0     0.0
  RRSAF......         0        0           0           0              0     0.0
  *Total*....        11        2           0           0              0     0.0

                          0...50.100              0...50.100
                EDM Pool                Total CPU%  **

  BP Rates:..   Getpage      0.0      Reads            0      Writes        0.0
  Locking:...   Suspend        0      Deadlocks        0      Timeouts        0
  Exceptions:   Monitor        0      System           0      User            0
  Data Sets:.   Open          25      Open HWM        25      In-use          1
  Parallel:..   Maximum        0      Groups           0      Fallback        0
  STOPROCS:..   Calls          0      Abends           0      Timeouts        0
  Group BP:..   Reads          0      Writes           0      Failures        0
  Paging:....   DB2          0.0      System         0.0
  DB2 Start:.   Date      17MAR2001   Time        09:33:48
```

Figure 18. STDB2D View—DB2 Status Detail—Interval

You can use this view to see information concerning key indicators that apply to the entire subsystem, such as active users, threads by type, DB2 CPU usage, locking, paging, and buffer and Environmental Data Manager (EDM) pool activity and status. Exception conditions detected by the background Exception Sampler or active MVDB2 monitors are also shown. This information provides an overall view of DB2 system activity and shows problems within DB2 that can be diagnosed with MVDB2 facilities.

The default functions shipped with this view are as follows:

- Hyperlink from
  - EZ Menu field to the EZDSTATD menu to select views with data for the selected target only
  - Session field to STDB2DS to see these statistics for the current session since DB2 was started
  - TSO, Batch, -CAF, -Utility, IMS, CICS, DBAT, RRSAF, and *Total* fields to THDACTV to see information about each active thread for the selected connection type
  - BP Rates field to STBFRPLD to see detailed statistics about all buffer pools in this DB2
  - Locking field to LKEVENT to see lockout events for this DB2

- Exceptions field to STEXC to see an overview of exception conditions for this DB2
- Data Sets field to STDSAD to see detailed statistics about data set activity for this DB2
- Parallel field to STQPARD to see detailed statistics about query parallelism for this DB2
- STOPROCS field to STSQLD to see detailed statistics about SQL counts for this DB2
- Group BP field to STGBFRPD to see detailed statistics about group buffer pools in this DB2

STDB2DS—DB2 Status Detail—Session

The STDB2DS view, shown in Figure 19, shows the overall status and activity within the selected DB2 subsystem for the current session since DB2 was started.

```
>W1 =STDB2====STDB2DS=(ALL======DB2H====)17MAR2001==12:01:37====MVDB2====D====1
  > EZ Menu
                Connect   Active      In DB2      Queued      Suspended    CPU%
  TSO........         1        1           0           0              0     0.0

  Batch......         1        1           0           0              0     0.0
  -CAF.......         1        1           0           0              0     0.0
  -Utility...         0        0           0           0              0     0.0

  IMS........         0        0           0           0              0     0.0
  CICS.......         0        0           0           0              0     0.0
  DBAT.......         0        0           0           0              0     0.0
  SPAS.......         9        0           0           0              0     0.0
  RRSAF......         0        0           0           0              0     0.0
  *Total*....        11        2           0           0              0     0.0

                          0...50.100              0...50.100
                EDM Pool              Total CPU%  **

  BP Rates:..   Getpage      1.8      Reads            0      Writes        0.0
  Locking:...   Suspend        0      Deadlocks        0      Timeouts        0
  Exceptions:   Monitor        0      System           0      User            0
  Data Sets:.   Open          25      Open HWM        25      In-use          1
  Parallel:..   Maximum        0      Groups           0      Fallback        0
  STOPROCS:..   Calls          0      Abends           0      Timeouts        0
  Group BP:..   Reads          0      Writes           0      Failures        0
  Paging:....   DB2          0.0      System         0.0
  DB2 Start:.   Date      17MAR2001   Time        09:33:48
```

Figure 19. STDB2DS View—DB2 Status Detail—Session

You can use this view to see information concerning key indicators that apply to the entire subsystem, such as active users, threads by type, DB2 CPU usage, locking, paging, and buffer and Environmental Data Manager (EDM) pool activity and status. Exception conditions detected by the background Exception Sampler or active MVDB2 monitors are also shown. This information provides an overall view of DB2 system activity and shows problems within DB2 that can be diagnosed with MVDB2 facilities.

The default functions shipped with this view are as follows:

- Hyperlink from
  - EZ Menu field to the EZDSTATD menu to select views with data for the selected target only
  - TSO, Batch, -CAF, -Utility, IMS, CICS, DBAT, RRSAF, and *Total* fields to THDACTV to see information about each active thread for the selected connection type
  - BP Rates field to STBFRPLD to see detailed statistics about all buffer pools in this DB2
  - Locking field to LKEVENT to see lockout events for this DB2
  - Exceptions field to STEXC to see an overview of exception conditions for this DB2

- Data Sets field to STDSAD to see detailed statistics about data set activity for this DB2
- Parallel field to STQPARD to see detailed statistics about query parallelism for this DB2
- STOPROCS field to STSQLD to see detailed statistics about SQL counts for this DB2
- Group BP field to STGBFRPD to see detailed statistics about group buffer pools in this DB2

STEXC—Exception Conditions

The STEXC view, shown in Figure 20, provides an overview of exception conditions.

```
W1 =EZDSTAT==STEXC===(ALL======*=======)17MAR2001==11:14:35====MVDB2====D====8
Intvl Intvl DB2      SSI      Warning  System     User
 Time  Date Target   System   Monitors Exceptions Exceptions Warning Msg
11:14 17MAR DB2GMV54 SYSC            0          0          0 GBL cont >2%
11:14 17MAR DB1GMV54 SYSC            0          0          0
11:14 17MAR DB2FMV53 SYSC            0          0          0 Connect Fail
11:14 17MAR DB1FMV53 SYSC            0          0          0 Connect Fail
11:14 17MAR DB0GMV54 SYSC            0          0          0 Connect Fail
11:14 17MAR DB2HMV55 SYSC            0          0          0
11:14 17MAR DB1HMV55 SYSC            0          0          0 Connect Fail
11:14 17MAR DB0HMV55 SYSC            0          0          0 Connect Fail
```

Figure 20. STEXC View—Exception Conditions

You can use this view to see in more detail which types of exceptions may be outstanding per DB2. Hyperlinks lead to more detail for each kind of exception.

The default functions shipped with this view are as follows:

- Hyperlink from
  - Warning Monitors column to DMWARN to see a list of each active monitor whose threshold has been exceeded
  - System Exceptions column to the DB2EX analyzer display to see a list of system exception messages
  - User Exceptions column to the DB2EX analyzer display to see a list of user exception messages (“runaway query”)
  - Warning Msg column to STWARN to see information about the most important key indicators of failures or degradation

STWARN—Warning/Error Conditions

The STWARN view, shown in Figure 21, provides information about the most important key indicators of failures or degradation.

```
H1 =STDB2====STWARN===DB2G=====*========17MAR2001==15:00:13====MVDB2====D====1

IFI Return Code....             00000000 DB2 Release.............     4100
IFI Error..........                      MAINVIEW for DB2 Release     5100

Warning............ GBL cont >2%


Log DS Full........ No                   Max Batch Users......... No
INDOUBT Threads.... No                   Max DS Open............. No
DM Critical........ No                   BP Expansions........... No
Last Log 75%....... No                   Bpool Failures.......... No
Single Logging..... No                   Expand Failures......... No
Single BSDS........ No                   RID Failures............ No
IMS/CICS Queued.... No                   Last Log................ No
DBAT Queued........ No                   Runaway Query........... No
Conv Queued........ No                   Parallel Fallback....... No
Imm Write Threshold No                   Archive Wait............ No
GBL Contention>2%.. Yes                  Utility Stopped......... No
EDM Failures....... No                   GBP Failures............ No
Defer Disable...... No                   Archive Reads........... No
Prefetch Disable... No                   DB2 Connect Failure..... No
Max TSO Users...... No
```

Figure 21. STWARN View—Warning/Error Conditions

You can use this view to see all the warning indicators that are set to Yes.

The default functions shipped with this view are as follows:

- Hyperlink from
  - Log DS Full, Last Log 75%, Single Logging, Single BSDS, Last Log, Archive Wait, and Archive Reads columns to DLOGS analyzer display to see log status and activity information
  - INDOUBT Threads and Runaway Query columns to DB2EX analyzer display to see exception messages
  - DM Critical, Imm Write Threshold, Defer Disable, Prefetch Disable, BP Expansions, Bpool Failures, and Expand Failures columns to BFRPL to see an overview of buffer pool activity
  - IMS/CICS Queued column to STUSUMM to see summary statistics about current user connections
  - DBAT Queued column to STDIST to see DBAT statistics
  - Conv Queued column to STDDF to see DDF statistics
  - GBL Contention>2% column to STGBLLK to see global locking statistics
  - EDM Failures column to STEDMP to see EDM pool statistics
  - Max TSO Users and Max Batch Users columns to THDCTYPZ to see a summary of current thread activity by connection type

- Max DS Open column to STDSA to see data set activity statistics
- RID Failures column to STRID to see RID pool statistics
- Parallel Fallback column to STQPAR to see query parallelism statistics
- GBP Failures column to GBPCFM to see group buffer pool coupling facility activity statistics
- DB2 Connect Failure column to the Log Display application to see message details

STRATE—Activity Rates

The STRATE view, shown in Figure 22, provides the most critical measurements as quantities and rates per second, per thread, and per commit.

```
H1 =STRATE============DB2G=====*========17MAR2001==15:00:13====MVDB2====D====1
                Intvl      Sess   Intv   Sess   Intvl    Sess   Intvl    Sess
                  Qty       Qty   Rate   Rate    /Thd    /Thd   /Comm   /Comm
Commits.....        0       546    0.0    0.0     0.0     4.3
Thd Creates.        0       126    0.0    0.0                     0.0     0.2

Getpages....        0    126062    0.0    4.4     0.0  1000.5     0.0   230.9
Page Updates        0     28527    0.0    1.0     0.0   226.4     0.0    52.2
Sync I/O....        0      1007    0.0    0.0     0.0     8.0     0.0     1.8
Prefetch I/O        0      3875    0.0    0.1     0.0    30.8     0.0     7.1
Write I/O...        0      1255    0.0    0.0     0.0    10.0     0.0     2.3
DatasetOpens        0       269    0.0    0.0     0.0     2.1     0.0     0.5

Lockouts....        0         0    0.0    0.0     0.0     0.0     0.0     0.0
LockSuspends        1      2824    0.0    0.1     0.0    22.4     0.0     5.2
GBLLockCont.        4       368    0.0    0.0     0.0     2.9     0.0     0.7
Clm/Drn Fls.        0         0    0.0    0.0     0.0     0.0     0.0     0.0
DML SQL.....        0      2637    0.0    0.1     0.0    20.9     0.0     4.8
StProcCalls.        0         0    0.0    0.0     0.0     0.0     0.0     0.0
StProcFails.        0         0    0.0    0.0     0.0     0.0     0.0     0.0

RID Fails...        0         0    0.0    0.0     0.0     0.0     0.0     0.0
EDM Loads...        0        76    0.0    0.0     0.0     0.6     0.0     0.1
EDM Fails...        0         0    0.0    0.0     0.0     0.0     0.0     0.0
Checkpoints.        0         2    0.0    0.0     0.0     0.0     0.0     0.0

Prll Groups.        0         0    0.0    0.0     0.0     0.0     0.0     0.0
PrllFallback        0         0    0.0    0.0     0.0     0.0     0.0     0.0
```

Figure 22. STRATE View—Activity Rates

You can use this view to analyze activity in one DB2 for both the current interval and since that DB2 started. The rate calculations give you values that make it easier to compare current activity with the totals accumulated over a longer time span.

The default functions shipped with this view are as follows:

- Hyperlink from
  - Commits column to STSERV to see statistics about subsystem services
  - Getpages column to BFRPL to see an overview of buffer pool activity
  - Lockouts column to LKEVENT to see details about timeout and deadlock events
  - LockSuspends column to STLOCK to see lock statistics
  - DML SQL column to STSQL to see SQL count statistics
  - RID Fails column to STRID to see RID pool statistics
  - EDM Loads column to STEDMP to see EDM pool statistics
  - Checkpoints column to STCHKP to see checkpoint activity statistics
  - Prll Groups column to STQPAR to see query parallelism statistics

STDB2SYS—DB2 System Information

The STDB2SYS view, shown in Figure 23, provides DB2 system information on CPU utilization in the current interval.

```
>W1 =STDB2SYS=========(ALL======*=======)17MAR2001==11:20:21====MVDB2====D====8
 DB2       Proc                            Proc                            Proc
 Target    Name  TCB Time     SRB Time     Name  TCB Time     SRB Time     Name
 DB0GMV54                                 N/A
 DB0HMV55                                 N/A
 DB1FMV53                                 N/A
 DB1GMV54  MSTR 00:00:00.65  00:00:00.12  DBM1 00:00:00.00  00:00:00.16  DIST 0
 DB1HMV55                                 N/A
 DB2FMV53                                 N/A
 DB2GMV54  MSTR 00:00:00.73  00:00:00.29  DBM1 00:00:00.17  00:00:00.23  DIST 0
 DB2HMV55  MSTR 00:00:01.82  00:00:00.23  DBM1 00:00:00.01  00:00:00.11  DIST 0
```

Figure 23. STDB2SYS View—DB2 System Information

You can use this view to compare the CPU usage per DB2 address space.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STDBSYSD to see interval and session counts

STDBSYSD—DB2 System Information Detail

The STDBSYSD view, shown in Figure 24, provides DB2 system information for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STDB2SYS=STDBSYSD(ALL======DB1GMV54)17MAR2001==11:20:21====MVDB2====D====1
                                  Interval      Session

Address Space.................. MSTR
TCB Time....................... 00:00:00.65   00:00:29.45
SRB Time....................... 00:00:00.12   00:00:09.58

Address Space.................. DBM1
TCB Time....................... 00:00:00.00   00:00:03.07
SRB Time....................... 00:00:00.16   00:00:08.37

Address Space.................. DIST
TCB Time....................... 00:00:00.00   00:00:00.77
SRB Time....................... 00:00:00.00   00:00:00.25

Address Space.................. IRLM
TCB Time....................... 00:00:00.00   00:00:00.23
SRB Time....................... 00:00:00.51   00:00:26.63

Address Space.................. N/A
TCB Time.......................
SRB Time.......................

Storage.......................
  Max for LOB Values............           0             0

Records By Destination..........
SMF Written...................             0           111
      Not Written..............           0             0
        Buffer Errors..........           0             0
        Not Active.............           0             0
        Not Accepted...........           0             0
        Writer Failures........           0             0
  GTF Written...................           0             0
  Others Written................          22            62

Records by IFCID................
IFCID 1 or 2 Records Written....          66           430
IFCID 1 or 2 Records Not Written          22           104
IFCID 3 Records Written.........           0            28
IFCID 3 Records Not Written.....           0             0
Other IFCIDS Written............          22           141
Other IFCIDS Not Written........           0            59
```

Figure 24. STDBSYSD View—DB2 System Information Detail

You can use this view to see CPU usage for all DB2 address spaces. Some additional diagnostic fields are included.

STQPAR—Query Parallelism

The STQPAR view, shown in Figure 25, provides statistics about query parallelism in the current interval.

```
>W1 =STQPAR==========(ALL======*=======)17MAR2001==11:23:31====MVDB2====D====8
 DB2        Max     Total   Fallback  Fallback  Fallback  Fallback  Less Than
 Target     Parall  Groups   Cursor    Not ESA   No Buff  No Enclv    Planned
 DB0GMV54        0       0         0         0         0         0          0
 DB0HMV55        0       0         0         0         0         0          0
 DB1FMV53        0       0         0         0         0         0          0
 DB1GMV54        0       0         0         0         0         0          0
 DB1HMV55        0       0         0         0         0         0          0
 DB2FMV53        0       0         0         0         0         0          0
 DB2GMV54        0       0         0         0         0         0          0
 DB2HMV55        0       0         0         0         0         0          0
```

Figure 25. STQPAR View—Query Parallelism

You can use this view to identify how often query parallelism is being used.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STQPARD to see interval and session counts

STQPARD—Query Parallelism Detail

The STQPARD view, shown in Figure 26, provides statistics about query parallelism for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STQPAR===STQPARD=(ALL======DB2J61E=)17MAR2001==18:29:00====MVDB2====D====1
                                        Interval  Session
Parallel Execution.....................
 Max Degree of Parallelism.............                1
 Total Parallel Groups Executed........        1        3
 Groups Ran at Planned Degree..........        0        0
 Groups Ran Reduced from Planned Degree        1        3
 Set Current Degree Statements.........        0        0

Fallback to Sequential.................
 Update/Delete Cursor..................        0        0
 Not ESA...............................        0        0
 No Buffer.............................        1        3
 No Enclave Support....................        0        0

Sysplex Parallelism....................
 Groups Intended to Run across DS Group        1        3
 Groups on Single DB2, Coordinator=NO..        0        0
 Groups on Single DB2, RR or CS........        0        0
 Groups on Single DB2, using UDF.......        0        0
 Member Skipped - Buffer Shortage......        1        3
 Recalc - Sysplex Config Changed.......        0        0
 Recalc - Insufficient Buffers.........        0        0
```

Figure 26. STQPARD View—Query Parallelism Detail

You can use this view to analyze parallelism activity on one DB2.

STCMDS—DB2 Commands

The STCMDS view, shown in Figure 27, provides statistics about DB2 commands executed in the current interval.

```
>W1 =STCMDS===========(ALL======*=======)17MAR2001==12:21:47====MVDB2====D====4
 DB2         -ALT    -ALT     -ARC  -CAN  -DIS  -DIS    -DIS  -DIS    -DIS     -
 Target       BPOOL   GBPOOL   LOG   THD   ARC   BPOOL   DB    GROUP   GBPOOL
 DB1HSR           0       0     0     0     0       0     0       0        0
 DB1JSR           0       0     0     0     0       0     0       0        0
 DB2HSR           0       0     0     0     0       0     0       0        0
 DB2JSR           0       0     0     0     0       0     0       0        0
```

Figure 27. STCMDS View—DB2 Commands

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STCMDSD to see interval and session counts

STCMDSD—DB2 Commands Detail

The STCMDSD view, shown in Figure 28, provides statistics about DB2 commands executed for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STCMDS===STCMDSD=(ALL======DB1HSR==)17MAR2001==12:21:47====MVDB2====D====1
                     Interval  Session
ALTER.............
  BUFFERPOOL.......        0        0
  GROUPBUFFERPOOL..        0        0
ARCHIVE...........
  LOG..............        0        0
CANCEL............
  DDF THREAD.......        0        0
DISPLAY...........
  ARCHIVE..........        0        0
  BUFFERPOOL.......        0        0
  DATABASE.........        0        0
  GROUP............        0        0
  GROUPBUFFERPOOL..        0        0
  LOCATION.........        0        0
  PROCEDURE........        0        0
  RLIMIT...........        0        0
  THREAD...........        0        0
  TRACE............        0        0
  UTILITY..........        0        0
  FUNCTION.........        0        0
  LOG..............        0        0
RESET.............
  GENERICLU........        0        0
  INDOUBT..........        0        0
START.............
  DATABASE.........        0        0
  DB2..............        0        1
  DDF..............        0        0
  PROCEDURE........        0        0
  RLIMIT...........        0        0
  TRACE............        0        3
  FUNCTION.........        0        0
STOP..............
  DATABASE.........        0        0
  DB2..............        0        0
  DDF..............        0        0
  PROCEDURE........        0        0
  RLIMIT...........        0        0
  TRACE............        0        2
  FUNCTION.........        0        0
OTHER.............
  MODIFY TRACE.....        0         3
  RECOVER BSDS.....        0         0
  RECOVER INDOUBT..        0         0
  SET ARCHIVE......        0         0
  SET LOG..........        0         0
  SET SYSPARM......        0         0
  TERMINATE UTILITY        0         0
  UNRECOGNIZED.....        0         1
```

Figure 28. STCMDSD View—DB2 Commands Detail

User Activity Views

The following views display information about user activity.

STUSUMM—User Summary

The STUSUMM view, shown in Figure 29, provides summary statistics about current user connections.

```
>W1 =STUSUMM==========(ALL======*=======)17MAR2001==11:29:36====MVDB2====D====8
 DB2        Total      Total   Total   Total   Total      Total     TSO     TSO
 Target     Connected  Active  In DB2  Queued  Suspended  %CPU   Connected  Act
 DB0GMV54           0       0       0       0          0      0          0
 DB0HMV55           0       0       0       0          0      0          0
 DB1FMV53           0       0       0       0          0      0          0
 DB1GMV54           1       1       0       0          0      0          0
 DB1HMV55           0       0       0       0          0      0          0
 DB2FMV53           0       0       0       0          0      0          0
 DB2GMV54           2       2       0       0          0      0          0
 DB2HMV55           2       2       0       0          0      4          1
```

Figure 29. STUSUMM View—User Summary

You can use this view to determine the current level of activity per DB2.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STSUMMD to see user connection details

STUSUMMD—User Summary Detail

The STUSUMMD view, shown in Figure 30, provides summary statistics about each type of user connection.

```
W1 =STUSUMMD=========(ALL======*=======)17MAR2001==11:30:33====MVDB2====D====1

         Connected    Active     In DB2     Queued   Suspended      CPU%
TSO.....         2         2          0          0           0       0.0

Batch...         0         0          0          0           0       0.0
-CAF....         0         0          0          0           0       0.0
-Utility         0         0          0          0           0       0.0

IMS.....         2         0          0          0           0       0.0
CICS....         0         0          0          0           0       0.0
DBAT....         0         0          0          0           0       0.0
SPAS....         9         0          0          0           0       0.0

Total...        13         2          0          0           0       0.0
```

Figure 30. STUSUMMD View—User Summary Detail

STSQL—SQL Counts

The STSQL view, shown in Figure 31, provides statistics about SQL counts in the current interval.

```
>W1 =STSQL============(ALL======*=======)17MAR2001==11:31:31====MVDB2====D====8
 DB2
 Target     SELECT  INSERT  UPDATE  DELETE  DESCRIBE  PREPARE  OPEN  FETCH  CLO
 DB0GMV54        0       0       0       0         0        0     0      0
 DB0HMV55        0       0       0       0         0        0     0      0
 DB1FMV53        0       0       0       0         0        0     0      0
 DB1GMV54        0       0       0       0         0        0     0      0
 DB1HMV55        0       0       0       0         0        0     0      0
 DB2FMV53        0       0       0       0         0        0     0      0
 DB2GMV54        0       0       1       0         0        2     1      1
 DB2HMV55        0       0       0       0         0        0     0      0
```

Figure 31. STSQL View—SQL Counts

You can use this view to see which type of SQL activity is occurring.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STSQLD to see interval and session counts

STSQLD—SQL Counts Detail

The STSQLD view, shown in Figure 32, provides statistics about SQL counts for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STSQL====STSQLD==(ALL======DB1HSR==)17MAR2001==14:00:46====MVDB2====D====
                              Interval  Session
Data Manipulation Language.
 SELECT.....................        0        0
 INSERT.....................        0        0
 UPDATE.....................        2       34
 DELETE.....................        0       19
 DESCRIBE...................        1      870
 PREPARE....................        2     1066
 OPEN.......................        0      224
 FETCH......................        0     1735
 CLOSE......................        0      222
 DECLARE....................        0        0
Data Definition Language...
 CREATE TABLE...............        0        0
        INDEX...............        0        0
        TABLESPACE..........        0        0
        SYNONYM.............        0        0
        DATABASE............        0        0
        STOGROUP............        0        0
        VIEW................        0        0
        ALIAS...............        0        0
        GBL TEMP TABLE......        0        0
        TRIGGER.............        0        0
        DISTINCT TYPE.......        0        0
        FUNCTION............        0        0
        PROCEDURE...........        0        0
        AUXILIARY TABLE.....        0        0
 DROP INDEX.................        0        0
      TABLE.................        0        0
      TABLESPACE............        0        0
      DATABASE..............        0        0
      SYNONYM...............        0        0
      STOGROUP..............        0        0
      VIEW..................        0        0
      ALIAS.................        0        0
      PACKAGE...............        0        0
      TRIGGER...............        0        0
      UDF...................        0        0
      PROCEDURE.............        0        0
      DISTINCT TYPE.........        0        0
 ALTER STOGROUP.............        0        0
       TABLE.................        0        0
       INDEX.................        0        0
       DATABASE..............        0        0
       FUNCTION..............        0        0
       PROCEDURE.............        0        0
 COMMENT ON.................        0        0
 LABEL ON...................        0        0
 RENAME TABLE...............        0        0
Data Control Language......
```

Figure 32. STSQLD View—SQL Counts Detail

You can use this view to see which types of SQL activity are occurring.

STAGENT—Agent Services

The STAGENT view, shown in Figure 33, provides statistics about agent services in the current interval.

```
W1 =STAGENT==========(ALL======*=======)17MAR2001==11:33:23====MVDB2====D====8
DB2       Physical Unavailable Allocation Invalid
Target    Suspends Resources   Deadlocks  Resource
DB0GMV54         0           0          0        0
DB0HMV55         0           0          0        0
DB1FMV53         0           0          0        0
DB1GMV54        16           0          0        0
DB1HMV55         0           0          0        0
DB2FMV53         0           0          0        0
DB2GMV54        96           0          0        0
DB2HMV55       164           0          0        0
```

Figure 33. STAGENT View—Agent Services

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STAGENTD to see interval and session counts

STAGENTD—Agent Services Detail

The STAGENTD view, shown in Figure 34, provides statistics about agent services for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STAGENT==STAGENTD(ALL======DB2HMV55)17MAR2001==11:33:23====MVDB2====D====1
                      Interval   Session
Physical Suspends....      164      5374
Unavailable Recources        0         0
Allocation Deadlocks.        0         0
Invalid Resources....        0         0
```

Figure 34. STAGENTD View—Agent Services Detail

STSERV—Subsystem Services

The STSERV view, shown in Figure 35, provides statistics about subsystem services.

```
>W1 =STSERV===========(ALL======*=======)17MAR2001==11:35:03====MVDB2====D====8
 DB2        Identify           Create   CTHDs   Termi-            Prepare
 Target     Requests  Signons  Threads  Queued   nates  Resolves   Commit  Comm
 DB0GMV54          0        0        0       0       0         0        0
 DB0HMV55          0        0        0       0       0         0        0
 DB1FMV53          0        0        0       0       0         0        0
 DB1GMV54          0        0        0       0       0         0        0
 DB1HMV55          0        0        0       0       0         0        0
 DB2FMV53          0        0        0       0       0         0        0
 DB2GMV54          3        0        3       0       2         0        0
 DB2HMV55          0        0        0       0       0         0        0
```

Figure 35. STSERV View—Subsystem Services

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STSERVD to see interval and session counts

STSERVD—Subsystem Services Detail

The STSERVD view, shown in Figure 36, provides statistics about subsystem services for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STSERV===STSERVD=(ALL======DB2J61E=)17MAR2001==18:32:25====MVDB2====D====1
                                  Interval  Session
Identify Requests...............        0       14
Create Threads..................        0       14
Create Threads Queued - Max Users       0        0
Signons.........................        0        0
Terminates......................        0       15
Rollbacks.......................        0        0

Prepare to Commit - Phase 1.....        0        0
Commits - Phase 2...............        0        0
Read-Only Commits...............        0        0
Sync Commits (Single Phase).....        0       12

UOR Indoubt.....................        0        0
UOR Indoubt Resolved............        0        0

Allied Memory EOT...............        0        0
Allied Memory EOM...............        0        0
SSI Calls Processed.............        0       14
DSN3EXIT Requests...............        0       14
```

Figure 36. STSERVD View—Subsystem Services Detail

The default functions shipped with this view are as follows:

- Hyperlink from
  - Create Threads Queued—Max Users field to STUSUMMD to see summary statistics about each type of user connection

STBIND—Bind Statistics

The STBIND view, shown in Figure 37, provides statistics about binds in the current interval.

```
>W1 =STBIND===========(ALL======*=======)17MAR2001==11:36:54====MVDB2====D====8
 DB2        Plan    Success  Auto-  Success    Invalid   Bind  Bind  Bind  Plan
 Target     Allocs  Allocs   Binds  Autobinds  Resource  Adds  Repl  Test  Boun
 DB0GMV54        0        0      0          0         0     0     0     0
 DB0HMV55        0        0      0          0         0     0     0     0
 DB1FMV53        0        0      0          0         0     0     0     0
 DB1GMV54        0        0      0          0         0     0     0     0
 DB1HMV55        0        0      0          0         0     0     0     0
 DB2FMV53        0        0      0          0         0     0     0     0
 DB2GMV54        3        3      0          0         0     0     0     0
 DB2HMV55        0        0      0          0         0     0     0     0
```

Figure 37. STBIND View—Bind Statistics

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STBINDD to see interval and session counts

STBINDD—Bind Statistics Detail

The STBINDD view, shown in Figure 38, provides statistics about binds for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STBIND===STBINDD=(ALL======DB2GMV54)17MAR2001==11:36:54====MVDB2====D====1
                                    Interval   Session

Plan Activity:.....
  Allocation Attempts.............        3       125
       Successful.................        3       125
  Autobind Attempts..............        0         1
       Successful.................        0         1
  Invalid Resource IDs...........        0         0
  Bind Adds......................        0         0
       Replaces...................        0         5
       Test.......................        0         0
  Bound..........................        0         5
  Rebinds........................        0         0
       Attempts...................        0         0
       Successful.................        0         0
  Free Plans.....................        0         0
       Attempts...................        0         0
       Successful.................        0         0
  Authorization Checks...........       10       807
       Successful.................       10       802
       Successful from Cache......        3        51
       Successful for Public......        3        51

Package Activity:.................
  Allocate Attempts..............        3        12
            Successful............        3        12
  Autobind Attempts..............        0         0
            Successful............        0         0
  Bind Adds......................        0         0
       Replaces...................        0         5
  Bound..........................        0         5
  Rebinds........................        0         0
  Rebind Attempts................        0         0
         Successful..............        0         0
  Free Commands..................        0         0
       Attempts...................        0         0
       Successful.................        0         0
  Successful Auth Checks From Cache       0         0
  Successful Public Checks.......        0         0
```

Figure 38. STBINDD View—Bind Statistics Detail

STAUTH—Authorization Checks

The STAUTH view, shown in Figure 39, provides statistics about authorization checks for PLANs, packages, and user-defined function or stored procedure routines.

Note: Many of the fields in this view show significant data only if the target subsystem is running DB2 6.1 or later.

```
>W1 =STAUTH==========(ALL======*=======)17MAR2001==17:39:40====MVDB2====D====2
DB2       Intvl PLAN-Auth   Total    Successful Successful % from PKG- Succ. S
Target     Time    Checks Successful No Catalog PUBLIC     Cache  No Catalog P
DB1J61E   17:39         0          0          0          0   0.00          0
DB2J61E   17:39         0          0          0          0   0.00          0
```

Figure 39. STAUTH View—Authorization Checks

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STAUTHD to see interval and session counts

STAUTHD—Authorization Checks Detail

The STAUTHD view, shown in Figure 40, provides statistics about authorization checks for PLANs, packages, and user-defined function or stored procedure routines for each of these time periods:

- The current recording interval
- The current session since DB2 was started

Note: Many of the fields in this view show significant data only if the target subsystem is running DB2 6.1 or later.

```
W1 =STAUTH===STAUTHD=(ALL======DB2J61E=)17MAR2001==17:39:40====MVDB2====D====1
                           Interval  Session
PLAN Authorization.........
 Authorization Checks......        0       19
 Successful - Total........        0       19
 Successful without Catalog        0        0
 Successful PUBLIC.........        0        0
 Percent from Cache........     0.00     0.00

Package Authorization......
 Successful without Catalog        0        0
 Successful PUBLIC.........        0        0
 Not in Cache..............        0        0
 Percent from Cache........     0.00     0.00
 Cache Overwrite - Auth ID.        0        0
 Cache Overwrite - Coll ID.        0        0

Routine Authorization......
 Successful without Catalog        0        0
 Successful PUBLIC.........        0        0
 Not in Cache..............        0        0
 Percent from Cache........     0.00     0.00
 Cache Overwrite - Auth ID.        0        0
 Cache Overwrite - Routine.        0        0
 Entries Not Added.........        0        0
```

Figure 40. STAUTHD View—Authorization Checks Detail

STROUT—Routine Statistics

The STROUT view, shown in Figure 41, provides statistics about cascading, stored procedure, trigger, and user-defined function routines.

Note: Many of the fields in this view show significant data only if the target subsystem is running DB2 6.1 or later.

```
>W1 =STROUT===========(ALL======*=======)17MAR2001==12:19:34====MVDB2====D====4
 DB2       Max Level SPROC SPROC  SPROC    SPROC   Statement Row      Trigger U
 Target    Cascading Calls Abends Timeouts Rejects Triggers  Triggers Errors  E
 DB1HSR            0     0      0        0       0         0        0       0
 DB1JSR            0     0      0        0       0         0        0       0
 DB2HSR            0     0      0        0       0         0        0       0
 DB2JSR            0     0      0        0       0         0        0       0
```

Figure 41. STROUT View—Routine Statistics

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STROUTD to see interval and session counts

STROUTD—Routine Statistics Detail

The STROUTD view, shown in Figure 42, provides statistics about cascading, stored procedure, trigger, and user-defined function routines for each of these time periods:

- The current recording interval
- The current session since DB2 was started

Note: Many of the fields in this view show significant data only if the target subsystem is running DB2 6.1 or later.

```
W1 =STROUT===STROUTD=(ALL======DB1HSR==)17MAR2001==12:19:34====MVDB2====D====1
                       Interval  Session
Cascading.............
 Maximum Level........        0        0

Stored Procedures.....
 Calls................        0        0
 Abends...............        0        0
 Timeouts.............        0        0
 Rejects..............        0        0

Triggers..............
 Statement Triggers...        0        0
 Row Triggers.........        0        0
 Errors...............        0        0

User-Defined Functions
 Executions...........        0        0
 Abends...............        0        0
 Timeouts.............        0        0
 Rejects..............        0        0
```

Figure 42. STROUTD View—Routine Statistics Detail

Lock Views

The following views display information about locks.

STLOCK—Lock Statistics

The STLOCK view, shown in Figure 43, provides statistics about locks in the current interval.

```
>W1 =STLOCK===========(ALL======*=======)17MAR2001==11:58:25====MVDB2====D====7
 DB2        Dead-  Time-  Suspend   Suspend  Suspend  Escal  Escal
 Target     locks   outs  Conflict    Latch    Other    SHR   EXCL  Locks  Unlo
 DB0GMV54       0      0         0        0        0      0      0      0
 DB0HMV55       0      0         0        0        0      0      0      0
 DB1FMV53       0      0         0        0        0      0      0      0
 DB1GMV54       0      0         0        0        0      0      0     80
 DB1HMV55       0      0         0        0        0      0      0      0
 DB2FMV53       0      0         0        0        0      0      0      0
 DB2HMV55       0      0         0        1        0      0      0   1420     1
```

Figure 43. STLOCK View—Lock Statistics

You can use this view to analyze lock activity and the amount of contention.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STLOCKD to see interval and session counts
  - Deadlocks or Timeouts column to LKEVENT to see details about timeout and deadlock events

STLOCKD—Lock Statistics Detail

The STLOCKD view, shown in Figure 44, provides statistics about locks for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STLOCK===STLOCKD=(ALL======DB2HMV55)17MAR2001==11:58:25====MVDB2====D====1
                 Interval   Session
Deadlocks.......        0         0
Timeouts........        0         0
Suspends:.......
   Lock Conflict        0         2
   For Latch....        1         4
   Other Reasons        0         4
Escalations:....
   To Shared....        0         0
   To Exclusive.        0         0
Locks:..........
   Requests.....     1420      8866
   Unlocks......     1873     10656
   Queries......        0         0
   Changes......        0         0
   Other IRLM...        0         2
Claims:.........
   Requests.....      220       842
   Unsuccessful.        0         0
Drains:.........
   Requests.....        0         0
   Unsuccessful.        0         0
```

Figure 44. STLOCKD View—Lock Statistics Detail

You can use this view to analyze lock activity and the amount of contention.

STGBLLK—Global Locking

The STGBLLK view, shown in Figure 45, provides statistics about global locking in the current interval.

```
>W1 =STGBLLK==========(ALL======*=======)17MAR2001==12:00:17====MVDB2====D====7
 DB2        Percent  P-Lock  P-Lock  P-Lock  XES Sync  XES Sync  XES Sync    IR
 Target     Suspend    Lock  Change  Unlock      Lock    Change    Unlock  Susp
 DB0GMV54       0.0       0       0       0         0         0         0
 DB0HMV55       0.0       0       0       0         0         0         0
 DB1FMV53       0.0       0       0       0         0         0         0
 DB1GMV54      50.0       0       0       0         0         0         1
 DB1HMV55       0.0       0       0       0         0         0         0
 DB2FMV53       0.0       0       0       0         0         0         0
 DB2HMV55       0.0       0       0       0         8         0         8
```

Figure 45. STGBLLK View—Global Locking

You can use this view to analyze global locking activity and the level of global contention.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STGBLLKD to see interval and session counts

STGBLLKD—Global Locking Detail

The STGBLLKD view, shown in Figure 46, provides statistics about global locking for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STGBLLK==STGBLLKD(ALL======DB1GMV54)17MAR2001==12:00:17====MVDB2====D====1
                            Interval   Session
P-Lock Requests:...........
  Lock.....................        0        86
  Change...................        0        12
  Unlock...................        0        17
Propagated to XES Synch:...
  Lock.....................        0      2166
  Change...................        0         0
  Unlock...................        1      2155
Suspends for Contention:...
  IRLM.....................        1        98
  XES......................        0         8
  False....................        0        69
  Total Percentage.........     50.0       3.9

Denied - Incompatible Lock.        0         0
Notify Messages Sent.......        0         3
Notify Messages Received...        0      1575
Propagates to XES from IRLM        0         2

Lock Negotiations:.........
 Pgset/Part - Inter-DB2....        0       111
 Page P-Lock - Inter-DB2...        0         0
 Another P-Lock Type.......        0         8
 P-Lock Change Requests....        0       115

Max Engines Available......                10
Engine Not Available.......        0         0
```

Figure 46. STGBLLKD View—Global Locking Detail

You can use this view to analyze global locking activity and the level of global contention.

Pool/Page Set Views

The following views display information about pools and page sets.

STBFRPL—Buffer Pool Statistics

The STBFRPL view, shown in Figure 47, provides statistics about all defined buffer pools per DB2 in the current interval.

```
>W1 =STBFRPL==========(ALL======*=======)17MAR2001==12:08:29====MVDB2====D====7
 DB2         Buff   Activ  Expand/   Buffer  Expand  HP Exp   HP     HP Exp    V
 Target      Alloc  Buff   Contract  Fails   Fails   Buffers  Alloc  Contract  G
 DB0GMV54        0      0         0       0       0        0      0         0
 DB0HMV55        0      0         0       0       0        0      0         0
 DB1FMV53        0      0         0       0       0        0      0         0
 DB1GMV54      200      0         0       0       0        0      0         0
 DB1HMV55        0      0         0       0       0        0      0         0
 DB2FMV53        0      0         0       0       0        0      0         0
 DB2HMV55      200      0         0       0       0        0      0         0
```

Figure 47. STBFRPL View—Buffer Pool Statistics

You can use this view to analyze total buffer pool activity in all pools combined. See Chapter 12, “Buffer Pools” on page 127 for views on individual pools.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STBFRPLD to see interval and session counts
  - Buff Alloc column to BFRPL to see buffer pool information for one DB2

STBFRPLD—Buffer Pool Statistics Detail

The STBFRPLD view, shown in Figure 48, provides statistics about all buffer pools in the selected DB2 for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STBFRPL==STBFRPLD(ALL======DB1GMV54)17MAR2001==12:08:29====MVDB2====D====1
                                  Interval   Session
Virtual Pool Allocation.........
  Buffers Allocated.............                200
  Current Active Buffers........                  0
  Expansions/Contractions.......        0         0
  No Buffer - Pool Full.........        0         0
  Expansion Fail................        0         0
Hiperpool Allocation............
  Expanded Storage Buffers......                  0
  Buffers Allocated.............                  0
  Expansions/Contractions.......        0         0
Virtual Pool Read Statistics.....
  Getpages......................        0       690
  Sequential Getpages...........        0         0
  Sync I/O......................        0       175
  Sequential Synch I/O..........        0         0
  Destructive Reads.............        0         0
  Destructive Reads Dequeue.....        0         0
  Page-Ins for I/O..............        0       145
Virtual Pool Write Statistics....
  Async I/O.....................        0         4
  Sync Writes...................        0         3
  Page Updates..................        0        22
  Pages Written.................        0         9
  Page-Ins for I/O..............        0         0
Parallel I/O Activity...........
  Requests......................        0         0
  Max Concurrent I/O Streams.....               0
Sequential Prefetch Statistics...
  Requests......................        0         0
  Pages Read....................        0         0
  Read I/O......................        0         0
List Prefetch Statistics........
  Requests......................        0         0
  Pages Read....................        0         0
  Read I/O......................        0         0
Dynamic Prefetch Statistics.....
  Requests......................        0         0
  Pages Read....................        0         0
```

Figure 48. STBFRPLD View—Buffer Pool Statistics Detail

You can use this view to analyze total buffer pool activity.

The default functions shipped with this view are as follows:

- Hyperlink from
  - Buffers Allocated field to BFRPL to see an overview of buffer pool activity

STHITR—Hit Ratios

The STHITR view, shown in Figure 49, provides statistics about hit ratios in the current interval.

```
>W1 =EZDSTAT==STHITR==(ALL======*=======)17MAR2001==12:07:40====MVDB2====D====8
 DB2       Hit Rate  Hit Rate  Get-   Sync   PF     List PF  Dynam  Seq Req  Co
 Target     w/o  PF   with PF  pages  Reads  Reads    Reads     PF  Getpage
 DB0GMV54         0         0      0      0      0        0      0        0
 DB0HMV55         0         0      0      0      0        0      0        0
 DB1FMV53         0         0      0      0      0        0      0        0
 DB1GMV54       100       100     12      0      0        0      0        0
 DB1HMV55         0         0      0      0      0        0      0        0
 DB2FMV53       100       100     12      0      0        0      0        0
 DB2GMV54       100       100    140      0      0        0      0        0
 DB2HMV55       100       100     12      0      0        0      0        0
```

Figure 49. STHITR View—Hit Ratios

You can use this view to analyze buffer pool performance. The values used in the calculations are included in the view.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STHITRD to see interval and session counts
  - Hit Rate w/o PF column to BFRPLH to see an overview of hit ratios and the most critical buffer pool activity measurements

STHITRD—Hit Ratios Detail

The STHITRD view, shown in Figure 50, provides statistics about hit ratios for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =EZDSTAT==STHITRD=(ALL======DB1GMV54)17MAR2001==12:07:40====MVDB2====D====1
                          Interval   Session
Hit Rate without Prefetch      100        74
Hitrate with Prefetch....      100        74

Getpages.................       12       312
Sync Reads...............        0        81
Prefetch Reads...........        0         0
List PF Reads............        0         0
Dynamic Prefetch.........        0         0
SEQ REQ Getpages.........        0         0
Cond GP Failures.........        0         0
SEQ Sync Read............        0         0
```

Figure 50. STHITRD View—Hit Ratios Detail

You can use this view to analyze buffer pool performance. The values used in the calculations are included in the view.

STGBFRPL—Global Buffer Pool Statistics

The STGBFRPL view, shown in Figure 51, provides statistics about group buffer pools in the current interval.

```
>W1 =STGBFRPL=========(ALL======*=======)17MAR2001==12:11:11====MVDB2====D====7
 DB2        GBP Changed  GBP Clean    GBP Changed  GBP Clean     GBP      Casto
 Target     Sync Writes  Sync Writes  Async Wrts   Async Wrts  Castouts  No Eng
 DB0GMV54             0            0            0           0         0
 DB0HMV55             0            0            0           0         0
 DB1FMV53             0            0            0           0         0
 DB1GMV54             0            0            0           0         0
 DB1HMV55             0            0            0           0         0
 DB2FMV53             0            0            0           0         0
 DB2HMV55             0            0            0           0         0
```

Figure 51. STGBFRPL View—Global Buffer Pool Statistics

You can use this view to analyze total global activity in the group buffer pools for data sharing in all pools combined. See Chapter 12, “Buffer Pools” on page 127 for views per individual buffer pool.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STGBFRPD to see interval and session counts for that DB2 target
  - GBP Changed Sync Writes column to GBPWRITZ to see statistics about group buffer pool write activity
  - GBP Castouts column to GBPCASTZ to see statistics about castout activity
  - Asyn Reads with Data column to GBPREADZ to see statistics about group buffer pool read activity
  - CF Write No Engine column to GBPCFZ to see statistics about the coupling facility

STGBFRPD—Global Buffer Pool Statistics Detail

The STGBFRPD view, shown in Figure 52, provides statistics about group buffer pools for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STGBFRPL=STGBFRPD(ALL======DB1HSR==)17MAR2001==13:57:56====MVDB2====D====1
                                    Interval   Session
Group Buffer Pool.................
 Changed Pages Written Sync.......        0        96
 Clean Pages Written Sync.........        0         0
 Changed Pages Written Async......        0         0
 Clean Pages Written Async........        0         0
 Castout Operations Performed.....        0        29
 Castout Engine Not Available.....        0         0
 Checkpoints Triggered............        1        54
 Rebuilds Participated............        0         0
 Register pages...................        0        59
 Unregister pages.................        0        26
 Explicit Cross-Invalidations.....        0         0
 GetPages for Dependent pages.....      314       314
Page P-Lock Lock..................
 Requests for Space Map Pages.....        8         8
 Requests for Data Pages..........        2         2
 Requests for Index Leaf Pages....        9         9
 Suspensions for Space Map Pages...       0         0
 Suspensions for Data Pages.......        0         0
 Suspensions for Index Leaf Pages..       0         0
 Negotiations for Space Map Pages..       0         0
 Negotiations for Data Pages......        0         0
 Negotiations for Index Leaf Pages.       2         2
 Page P-Lock Unlocks..............       18        18

Sync Coupling Facility Reads.....
 Invalid Buffer with Data.........        0         9
 Invalid Buffer with Dir..........        0         0
 Invalid Buffer without Dir.......        0         0
 No Page with Data................        0        13
 No Page with Dir.................        0         7
 No Page without Dir..............        0         0

Async Coupling Facility Reads.....
 With Data........................        0         0
 With Dir.........................        0         0
 Without Dir......................        0         0
 Register-Page-List...............        0         0
 Reads for Changed Pages (RPL).....       0         0
 Reads for Clean Pages (RPL)......        0         0

Coupling Facility.................
 Write Engine Not Available.......        0         0
 Read Not Complete................        0         0
 Write Not Complete...............        0         0
 Other Requests...................       40      3995

IXLCACHE Requests.................
 Unlock-Castout...................        0        19
 Read-Castout-Class...............        0        23
 Read-Castout-Stats...............        1        54
 Delete-Names.....................        0         4
 Read-Dirinfo.....................        0         0
 Async for Primary GB.............       94        94
 Async for Secondary GBP..........        0         0

Secondary Group Buffer Pool.......
 Duplexing Requests...............        0         0
 Duplexing Request Failures.......        0         0
 Completion Checks Suspended......        0         0
 Delete List of Pages After Castout       0         0
 Read Castout Statistics..........        0         0
 Page Delete Requests.............        0         0
```

Figure 52. STGBFRPD View—Global Buffer Pool Statistics Detail

You can use this view to analyze activity in the group buffer pools for one data sharing member in all pools combined. See Chapter 12, “Buffer Pools” on page 127 for views per individual buffer pool.

STGBGRPD—Global Buffer Pool Group Statistics Detail

The STGBGRPD view, shown in Figure 53, provides statistics about group buffer pools for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STGBGRPD=========(ALL======DB1H====)17MAR2001==18:05:26====MVDB2====D====1
                                Interval   Session
Read Hits.....................        0         0
Read Miss Directory Hits.......       0         0
Read Miss Assignment Suppressed       0         0
Read Miss Name Assigned........       0         0
Read Miss Cache Full...........       0         0
Changed Page Write Hits........       0         0
Clean Page Write Hits..........       0         0
Write Miss Cache Full..........       0         0
Directory Entry Reclaims.......       0         0
Data Entry Reclaims............       0         0
XI Directory Entry Reclaims....       0         0
Castouts......................        0         0
```

Figure 53. STGBGRPD View—Global Buffer Pool Group Statistics Detail

You can use this view to analyze total global activity in the group buffer pools for data sharing in all pools and all DB2 members combined. See Chapter 12, “Buffer Pools” on page 127 for views per individual buffer pool.

STRID—RID Pool Statistics

The STRID view, shown in Figure 54, provides statistics about the RID pool per DB2 for the current interval.

```
W1 =STRID============(ALL======*=======)17MAR2001==12:12:42====MVDB2====D====7
DB2          Max   Current  Over RDS  Over DM    No      Too Many
Target     Alloc  Alloc       Limit    Limit  Storage  Concurrent
DB0GMV54       0        0         0        0        0           0
DB0HMV55       0        0         0        0        0           0
DB1FMV53       0        0         0        0        0           0
DB1GMV54       0        0         0        0        0           0
DB1HMV55       0        0         0        0        0           0
DB2FMV53       0        0         0        0        0           0
DB2HMV55       0        0         0        0        0           0
```

Figure 54. STRID View—RID Pool Statistics

You can use this view to analyze RID pool usage and failures.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STRIDD to see interval and session counts

STRIDD—RID Pool Statistics Detail

The STRIDD view, shown in Figure 55, provides statistics about the RID pool for one DB2 for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STRID====STRIDD==(ALL======DB0HMV55)17MAR2001==12:12:42====MVDB2====D====1
                              Interval   Session
RID High Blocks Allocated...                   0
RID Current Blocks Allocated                   0

RID Processing Terminated:..
  Over RDS Limit............         0         0
  Over DM Limit.............         0         0
  No Storage................         0         0
  Too Many Concurrent.......         0         0
```

Figure 55. STRIDD View—RID Pool Statistics Detail

You can use this view to analyze RID pool usage and failures.

STDSA—Data Set Activity

The STDSA view, shown in Figure 56, provides statistics about data set activity in the current interval.

```
>W1 =STDSA============(ALL======*=======)17MAR2001==17:41:29====MVDB2====D====2
DB2       Intvl  Dsets  Max  Success.   Cur.   Max      Reopen    Closed   Con
Target     Time   Open  Open    Opens  DefCls DefCls  Def. Clos  by Drain  RW
DB1J61E   17:41     25    25        0      24     24          0         0
DB2J61E   17:41     13    13        0      12     12          0         0
```

Figure 56. STDSA View—Data Set Activity

You can use this view to analyze open/close activity.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STDSAD to see interval and session counts
  - DSets Open column to EZDPS menu to see page set information

STDSAD—Data Set Activity Detail

The STDSAD view, shown in Figure 57, provides statistics about data set activity for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STDSA====STDSAD==(ALL======DB2J61E=)17MAR2001==17:41:29====MVDB2====D====1
                              Interval  Session
Data Set Activity:.............
  Currently Open..............                13
  Max Open Concurrently........                13
  Successful Opens.............        0       14

  Max Page Sets in Def. Close..                12
  Snapshot of PSs in Def. Close                12
  Reopen from Deferred Close...        0       40
  Closed by Drain (99% Max)....        0        0

  Converted from RW to RO......        0        0

Migrated Data Sets.............        0        0
Recall Timeouts................        0        0
```

Figure 57. STDSAD View—Data Set Activity Detail

You can use this view to analyze open/close activity.

EDM Pool Views

The following views display information about EDM pools.

STEDMP—EDM Pool Statistics

The STEDMP view, shown in Figure 58, provides statistics about the EDM pool in the current interval.

```
>W1 =STEDMP===========(ALL======*=======)17MAR2001==13:53:18====MVDB2====D====1
 DB2       Pool   NS %    NS % Util    Tot %   DBD   CT     SKCT   PKG    SKPKG
 Target    Fails  Util 0.....50...100  Util   Pages  Pages  Pages  Pages  Pages
 DB1HSR        0   0.0                   0.0      0      0      0      0      0
```

Figure 58. STEDMP View—EDM Pool Statistics

You can use this view to analyze EDM pool utilization and performance.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STEDMPD to see interval and session counts
  - DBD Pages column to the EDMPL Database Descriptors analyzer display to see detailed information about each database descriptor in the EDM pool
  - Free Pages column to the EDMPL Free Storage analyzer display to see detailed information about free pages in the EDM pool

STEDMPD—EDM Pool Statistics Detail

The STEDMPD view, shown in Figure 59, provides statistics about the EDM pool for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STEDMP===STEDMPD=(ALL======DB1HSR==)17MAR2001==13:53:18====MVDB2========
                        Interval  Session
EDM Pool Full Failures         0         0

Pages Allocated.......
  CT...................                  0
  DBD..................                  0
  SKCT.................                  0
  Package Table.......                   0
  Skeleton PKG Table..                   0
  Dynamic SQL Cache...                   0
  Free.................                  0
  Total................                  0

CT:  Requests.........         0         0
     Loads............         0         0

DBD: Requests.........         0         0
     Loads............         0         0

PKG: Requests.........         0         0
     Loads............         0         0

Data Space Usage......
  Failures............                   0
  Pages Used..........                   0
  Free Pages..........                   0
```

Figure 59. STEDMPD View—EDM Pool Statistics Detail

You can use this view to analyze EDM pool utilization and performance.

Logging Views

The following views display information about logging activity.

STLOG—Log Statistics

The STLOG view, shown in Figure 60, provides statistics about logging in the current interval.

```
>W1 =STLOG============(ALL======*=======)17MAR2001==12:18:10====MVDB2====D====7
 DB2        Nowait  Force   Buffer    CIs     Write    Buffer  Active  Archive
 Target     Writes  Writes  Uavail  Created  Requests   Reads   Reads    Reads
 DB0GMV54        0       0       0        0         0       0       0        0
 DB0HMV55        0       0       0        0         0       0       0        0
 DB1FMV53        0       0       0        0         0       0       0        0
 DB1GMV54        0       0       0        0         0       0       0        0
 DB1HMV55        0       0       0        0         0       0       0        0
 DB2FMV53        0       0       0        0         0       0       0        0
 DB2HMV55        0      43       0        0        43       0       0        0
```

Figure 60. STLOG View—Log Statistics

You can use this view to analyze activity on the active and archive logs and the BSDS. Problems such as unavailable buffers for logging, or reads from archive logs for backouts can be detected.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STLOGD to see interval and session counts
  - Nowait Writes column to the DLOGS analyzer display to see detailed information about log status, configuration, and activity for the selected DB2

STLOGD—Log Statistics Detail

The STLOGD view, shown in Figure 61, provides statistics about logging for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STLOG====STLOGD==(ALL======DB2J61E=)17MAR2001==18:26:23====MVDB2====D====1
                                      Interval          Session
Log Writes:.........................
   Nowait (Record Write to Buffer)...        0              138
   Force (Record / Buffer to DASD)...      172             5739
   Waits for Unavailable Buffer......        0                0
   Active Log CIs Created............        1               56
   Calls to Log Write Routine........      172             5739
   Suspends for Log Writes...........      172             5739
   Log Write I/O Requests............      173             5794
   Total Log CIs Written.............      173             5794
   Serial Log Rewrites (Dual Logs)...      172             5738
   Log Async Writes-Threshold........        0                0
   Log Output Buffers Paged In.......        1               24
   Active Log Bytes Written/Sec......     0.10             0.10
Log Reads:..........................
   From Buffer.......................        0                0
   From Active Log...................        0              140
   From Archive Log..................        0                0
   Delayed for Tape Volume Contention       0                0
   Delayed for Unavailable Resource..       0                0
Archive Log Writes:.................
   Write Allocations.................        0                0
   Control Intervals Offloaded.......        0                0
Archive Log Reads:..................
   Read Allocations..................        0                0
   Look-ahead Tape Mount Attempt.....        0                0
   Look-ahead Tape Mount Successful..        0                0

BSDS Access Requests................        0               39
DB2 Checkpoints.....................        0                1
High Used Log RBA...................          0000000046E30B48
```

Figure 61. STLOGD View—Log Statistics Detail

You can use this view to analyze activity on the active and archive logs and the BSDS. Problems such as unavailable buffers for logging, or reads from archive logs for backouts can be detected.

STCHKP—Checkpoint Data

The STCHKP view, shown in Figure 62, provides statistics about checkpoint activity in the current interval. It also includes data capture statistics.

```
>W1 =STCHKP===========(ALL======*=======)17MAR2001==17:42:28====MVDB2====D====2
DB2       Intvl  Check-  High             IFI     IFI Unk    IFI       IFI
Target     Time  points  Log RBA          ABENDS  Functions  Commands  READA
DB1J61E   17:42        0 0000000000D0A720       0          0         0      8
DB2J61E   17:42        0 0000000046E2A8E8       0          0         0     11
```

Figure 62. STCHKP View—Checkpoint Data

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STCHKPD to see interval and session counts
  - Checkpoints column to the DLOGS analyzer display to see checkpoint frequency

STCHKPD—Checkpoint Data Detail

The STCHKPD view, shown in Figure 63, provides statistics about checkpoint activity and data capture for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STCHKP===STCHKPD=(ALL======DB2J61E=)17MAR2001==17:42:28====MVDB2====D====1
                            Interval          Session
DB2 Checkpoints............        0                1
High Used Log RBA..........          0000000046E2A8E8

IFI Abends.................        0                0
IFI Unrecognized Functions.        0                0
IFI Command Requests.......        0               12
IFI READ-A Requests........       11              191
IFI READ-S Requests........        4              155
IFI Write Requests.........        0                0

IFI Data Capture Statistics
 Log Records Captured......        0                0
 Log Reads Performed.......        0                0
 Log Records Returned......        0                0
 Data Descriptors Returned.        0                0
 Describes Performed.......        0                0
 Tables Returned...........        0                0
 Data Rows Returned........        0                0
```

Figure 63. STCHKPD View—Checkpoint Data Detail

DDF Views

The following views display information about DDF activity.

STDDF—DDF Statistics

The STDDF view, shown in Figure 64, provides statistics about total DDF activity for the current interval.

```
>W1 =STDDF============(ALL======*=======)17MAR2001==12:24:22====MVDB2====D====7
 DB2        Conv    Switch to  SQL    Rows in  SQL   SQL    Rows  Rows   Bytes
 Target     Queued  Limit Blk  Bound  Buffer   Sent  Recvd  Sent  Recvd  Sent
 DB0GMV54        0          0      0        0     0      0     0      0      0
 DB0HMV55        0          0      0        0     0      0     0      0      0
 DB1FMV53        0          0      0        0     0      0     0      0      0
 DB1GMV54        0          0      0        0     0      0     0      0      0
 DB1HMV55        0          0      0        0     0      0     0      0      0
 DB2FMV53        0          0      0        0     0      0     0      0      0
 DB2HMV55        0          0      0        0     0      0     0      0      0
```

Figure 64. STDDF View—DDF Statistics

You can use this view to analyze the total distributed requests sent and received per DB2.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STDDFD to see interval and session counts
  - Conv Queued column to the DDFSM analyzer display to see summary statistics about data flow between remote locations

STDDFD—DDF Statistics Detail

The STDDFD view, shown in Figure 65, provides statistics about total DDF activity for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STDDF====STDDFD==(ALL======DB1FMV53)17MAR2001==12:31:21====MVDB2====D====1
                                    Interval   Session
Conversation Requests Queued....         0         0
Switch to Limited Block Protocol         0         0
SQL Bound for Remote Access.....         0         0
Rows in Buffer..................         0         0

SQL Statements: Sent............         0         0
                Received........         0         0
Rows:           Sent............         0         0
                Received........         0         0
Bytes:          Sent............         0         0
                Received........         0         0
Conversations:  From this Site..         0         0
                To this Site....         0         0
Messages:       Sent............         0         0
                Received........         0         0
Trans Migrated: To Remote.......         0         0
                From Remote.....         0         0
Commits:        Sent............         0         0
                Received........         0         0
Aborts:         Sent............         0         0
                Received........         0         0
Block Fetch Blocks:   Sent......         0         0
                      Received..         0         0
Prepare Requests:     Sent......         0         0
                      Received..         0         0
Last Agent Requests:  Sent......         0         0
                      Received..         0         0
Commit Requests:      Sent......         0         0
                      Received..         0         0
Backout Requests:     Sent......         0         0
                      Received..         0         0
Forget Responses:     Sent......         0         0
                      Received..         0         0
Req Commit Responses: Sent......         0         0
                      Received..         0         0
Backout Responses:    Sent......         0         0
                      Received..         0         0
Remote Indoubt Threads..........         0         0
```

Figure 65. STDDFD View—DDF Statistics Detail

You can use this view to analyze the total distributed requests sent and received per DB2.

STDIST—DBAT Statistics

The STDIST view, shown in Figure 66, provides statistics about Database Access Threads (DBATs) for the current interval.

```
>W1 =STDIST===========(ALL======*=======)17MAR2001==13:49:08====MVDB2====D====1
 DB2        New DBATs  Convs    New Type  Connects    Max Remote   Current    M
 Target     Queued     Dealloc  2 Queued  Terminated  Connections  Actv DBAT  A
 DB1HSR             0        0         0           0            0          0
```

Figure 66. STDIST View—DBAT Statistics

You can use this view to analyze thread usage for distributed requests where this DB2 was acting as the server.

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Target column to STDISTD to see interval and session counts
  - New DBATs Queued column to the DDFSM analyzer display to see summary statistics about data flow between remote locations

STDISTD—DBAT Statistics Detail

The STDISTD view, shown in Figure 67, provides statistics about DBATs for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STDIST===STDISTD=(ALL======DB1HSR==)17MAR2001==13:49:08====MVDB2=======
                                                  Interval  Session
Maximums Reached.........................
 New DBATs Queued (MAXDBAT)..............        0        0
 Conversations Deallocated (CONDBAT)......        0        0
 New/Resumed (Type 2) DBATs Queued (MAXDBAT)      0        0
 Connections Terminated (MAXTYPE1).......         0        0

Status Values............................
 Remote Connections - Maximum............                  0
 Active DBATs - Current..................                  0
              - Maximum..................                  0
 DBAT Slots Not Used - Current...........                  0
                     - Maximum...........                  0
 Type 1 Inactive DBATs - Current.........                  0
                       - Maximum.........                  0
 Type 2 Inactive DBATs - Current.........                  0
                       - Maximum.........                  0
 Type 2 Queued (New/Resumed) - Current...                  0
                             - Maximum...                  0

Two-Phase Commit Activity................
  Cold Start Connections.................        0         0
  Warm Start Connections.................        0         0
  Resync Attempts........................        0         0
  Resync Succeeds........................        0         0

Statistics...............................
Requests that Required a DBAT............        0         0
Requests that Used a Pool Thread.........        0         0
```

Figure 67. STDISTD View—DBAT Statistics Detail

You can use this view to analyze thread usage for distributed requests where this DB2 was acting as the server.

Chapter 12. Buffer Pools

Views for buffer pool analysis are organized into two groups:

- Local buffer pool views (virtual pools and hiperpools)
- Global buffer pool views (group buffer pools for data sharing)

You can easily access all the views for buffer pool analysis from the DB2 Buffer Pool Easy Menu (EZDBFRPL), as shown in Figure 68.

```
W1 =EZDBFRPL==========DB2GMV54=*========17MAR2001==10:39:45====MVDB2====D====1
                            DB2 Buffer Pool Menu
   Local Pools                                        Global Pools
 . Overview                +----------------------+   . Group CF Status
 . Activity Rates          |   Place cursor on    |   . Group CF Activity
                           |    menu item and     |
   Tools And Menus         |     press ENTER      |   . Read Activity
 . Set Context             +----------------------+   . Write Activity
                                                      . Castout Activity
 . Return...                                          . Coupling Facility
                                                      . P-Lock Activity
```

Figure 68. EZDBFRPL Easy Menu—DB2 Buffer Pools

Table 4 lists all the views available for buffer pools.

Table 4. Buffer Pool Views

View Name	Group / Type	Description
BFRPL	Local Pools Tabular	Buffer Pool Statistics—SSI (see page 132) Provides an overview of buffer pool activity in the current interval. It can be invoked for one DB2 or in SSI mode for multiple DB2s; for example, a data sharing group to see member activity. You can use this view to review total buffer allocation and usage per pool. You can select any buffer pool to see further details.
BFRPLD	Local Pools Detail	Local Buffer Pool Statistics Detail (see page 133) Provides threshold settings and detailed local buffer pool statistics for each of these time periods: • The current recording interval • The current session since DB2 was started Scroll down to see further details. You can use this view to analyze activity and threshold settings for an individual buffer pool. Both virtual pool and hiperpool information is included.
BFRPLH	Local Pools Tabular	Buffer Pool Rates—SSI (see page 134) Provides an overview of hit ratios and the most critical buffer pool activity measurements as rates per second in the current interval. It can be invoked for one DB2 or in SSI mode for multiple DB2s; for example, a data sharing group to see member activity. You can use this view to compare the most important indicators of buffer pool performance for all pools.
BFRPLHD	Local Pools Detail	Buffer Pool Rates Detail (see page 135) Provides the most critical measurements for the selected buffer pool as hit ratios and rates per second for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to determine overall activity since DB2 started and whether the current interval shows a significant deviation.

Table 4. Buffer Pool Views (Continued)

View Name	Group / Type	Description
GBPACTD	Global Pools Detail	Group Buffer Pool Activity Detail (see page 150) Provides all statistics about a single group buffer pool for one DB2 member for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to see group buffer pool total activity details (reads, writes, castouts, coupling facility data) for one member and pool.
GBPCASTM	Global Pools Tabular	Group Buffer Pool Castout Activity (see page 145) Provides statistics about castout activity per pool for each DB2 member currently connected to it. You can use this view to analyze group buffer pool castout activity for each DB2 member.
GBPCASTZ	Global Pools Summary	Group Buffer Pool Castout Activity Summary (see page 144) Provides statistics about castout activity. It is a summary of activity from each DB2 data sharing member currently connected to one or more pools. You can use this view to analyze group buffer pool castout activity from the viewpoint of the DB2 members. It shows all castout-related counts.
GBPCFM	Global Pools Tabular	Group Buffer Pool Coupling Facility Activity (see page 149) Provides statistics about coupling facility activity per pool for each DB2 member currently connected to it. You can use this view to analyze group buffer pool coupling facility activity for each DB2 member.
GBPCFZ	Global Pools Summary	Group Buffer Pool Coupling Facility Summary (see page 148) Provides statistics about the coupling facility. It is a summary of activity from each DB2 data sharing member currently connected to one or more pools. You can use this view to analyze group buffer pool coupling facility activity from the viewpoint of the DB2 members. It shows coupling facility activity and failure counts.

Table 4. Buffer Pool Views (Continued)

View Name	Group / Type	Description
GBPGACD	Global Pools Detail	Group Buffer Pool Group Coupling Facility Activity Detail (see page 139) Provides statistics about group buffer pool activity for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to view all available activity counts for a single group buffer pool from a global coupling facility viewpoint.
GBPGACZ	Global Pools Summary	Group Buffer Pool Group Coupling Facility Activity (see page 138) Provides statistics about group buffer pool activity. You can use this view to analyze the activity in all group buffer pools from a global coupling facility viewpoint.
GBPGSTD	Global Pools Detail	Group Buffer Pool Group Coupling Facility Status Detail (see page 137) Provides statistics about group buffer pool status for each of these time periods: • The current recording interval • The current session since DB2 was started You can use this view to view the group buffer pool definitions, current usage, and a few measurements of reclaim activity from a global coupling facility viewpoint.
GBPGSTZ	Global Pools Summary	Group Buffer Pool Group Coupling Facility Status (see page 136) Provides statistics about group buffer pool status. You can use this view to analyze the status of all active group buffer pools from a global coupling facility viewpoint. It also shows how many DB2 members are currently connected to each pool.
GBPLOCKM	Global Pools Tabular	Group Buffer Pool P-Lock Activity (see page 147) Provides statistics about group buffer pool P-Lock activity per pool for each DB2 member currently connected to it. You can use this view to analyze group buffer pool P-Lock activity for each DB2 member.

Table 4. Buffer Pool Views (Continued)

View Name	Group / Type	Description
GBPLOCKZ	Global Pools Summary	Group Buffer Pool P-Lock Activity Summary (see page 146) Provides statistics about group buffer pool P-Lock activity. It is a summary of activity from each DB2 data sharing member currently connected to one or more pools. You can use this view to analyze group buffer pool P-Lock activity from the viewpoint of the DB2 members.
GBPREADM	Global Pools Tabular	Group Buffer Pool Read Activity (see page 141) Provides statistics about group buffer pool read activity per pool for each DB2 member currently connected to it. You can use this view to analyze group buffer pool read activity for each DB2 member.
GBPREADZ	Global Pools Summary	Group Buffer Pool Read Activity Summary (see page 140) Provides statistics about group buffer pool read activity. It is a summary of activity from each DB2 data sharing member currently connected to one or more pools. You can use this view to analyze group buffer pool read activity from the viewpoint of the DB2 members. It shows synchronous and asynchronous reads caused either by buffer invalidation or because the pages were not in the local pool.
GBPWRITM	Global Pools Tabular	Group Buffer Pool Write Activity (see page 143) Provides statistics about group buffer pool write activity per pool for each DB2 member currently connected to it. You can use this view to analyze group buffer pool write activity for each DB2 member.
GBPWRITZ	Global Pools Summary	Group Buffer Pool Write Activity Summary (see page 142) Provides statistics about group buffer pool write activity. It is a summary of activity from each DB2 data sharing member currently connected to one or more pools. You can use this view to analyze group buffer pool write activity from the viewpoint of the DB2 members. It shows synchronous and asynchronous writes for changed and clean pages as well as failures due to a lack of storage or write engines.

Local Buffer Pool Views

The following views display information about local buffer pools. This includes both the virtual pools and any related hiperpools.

BFRPL—Buffer Pool Statistics—SSI

The BFRPL view, shown in Figure 69, provides an overview of buffer pool activity in the current interval. It can be invoked for one DB2 or in SSI mode for multiple DB2s; for example, a data sharing group to see member activity.

```
W1 =EZDBFRPL=BFRPL===(ALL======*=======)17MAR2001==12:52:09====MVDB2========31
Pool    DB2      Vpool Vpool  Hpool  Hpool  Getpg  Get-    %     % Active
Name    Target    Size Alloc   Size  Alloc   /sec  pages  Actv 0.....50....100
BP0     DB1GMV54   200   200      0           0.0      0     0
BP0     DB2FMV53   200   200    200    200    0.0      0     0
BP0     DB2GMV54   300   300    200    200    0.1     32     0
BP0     DB2HMV55   200   200      0           0.0      0     0
BP1     DB1GMV54    25             0           0.0      0     0
BP1     DB2FMV53    25             0           0.0      0     0
BP1     DB2GMV54    50             0           0.0      0     0
BP1     DB2HMV55    25             0           0.0      0     0
BP2     DB1GMV54    75             0           0.0      0     0
BP2     DB2FMV53    10             0           0.0      0     0
BP2     DB2GMV54   100            10           0.0      0     0
BP2     DB2HMV55    20             0           0.0      0     0
BP4     DB1GMV54    21             0           0.0      0     0
BP4     DB2GMV54   300            50           0.0      0     0
BP4     DB2HMV55    21             0           0.0      0     0
BP5     DB1GMV54    25            25           0.0      0     0
BP5     DB2FMV53    25             0           0.0      0     0
BP5     DB2GMV54    30            30           0.0      0     0
BP9     DB1GMV54    20             0           0.0      0     0
BP9     DB2FMV53    25             0           0.0      0     0
BP9     DB2GMV54    50            50           0.0      0     0
BP9     DB2HMV55    20             0           0.0      0     0
BP32    DB2FMV53    20             0           0.0      0     0
BP32K   DB1GMV54    20             0           0.0      0     0
BP32K   DB2FMV53   250             0           0.0      0     0
BP32K   DB2GMV54    20             0           0.0      0     0
BP32K   DB2HMV55    20             0           0.0      0     0
BP32K9  DB1GMV54    20             0           0.0      0     0
```

Figure 69. BFRPL View—Buffer Pool Statistics—SSI

You can use this view to review total buffer allocation and usage per pool. You can select any buffer pool to see further details.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Pool Name column to BFRPLD to see threshold settings and interval and session counts for the selected buffer pool
  - Getpg/sec column to BFRPLH to see an overview of hit ratios and the most critical buffer pool activity measurements as rates per second

BFRPLD—Local Buffer Pool Statistics Detail

The BFRPLD view, shown in Figure 70, provides threshold settings and detailed local buffer pool statistics for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =BFRPL====BFRPLD==(ALL======DB2JHH==)17MAR2001==14:10:58====MVDB2====D====1

Pool Name.........................      BP0
VP Size...........................     2000
Hiperpool Size....................        0
Virtual Pool Sequential Threshold.       80
Hiperpool Sequential Threshold....       80
Deferred Write Threshold..........       50
Vertical Write Threshold..........       10
Vertical Write Threshold (Buffers)        0
Castout Attribute Y/N.............        Y

Parallel Sequential Threshold.....       50
Assisting Parallel Threshold......        0
Allocation type...................    Vpool
Page Steal Algorithm..............      LRU

                                  Interval   Session
Virtual Pool Allocation...........
  Buffers Allocated...............                2000
  Current Active Buffers..........                   1
  Expansions/contractions.........        0          0
  No Buffer - Pool Full...........        0          0
  Expansion Fail..................        0          0
Hiperpool Allocation..............
  Expanded Storage Buffers........                   0
  Buffers Allocated...............                   0
  Expansions/Contractions.........        0          0
Virtual Pool Read Statistics......
  Getpages........................        0      56240
  Sequential Getpages.............        0       6007
  Sync I/O........................        0       6143
  Sequential Sync I/O.............        0         34
  Destructive Reads...............        0        196
  Destructive Reads Dequeue.......        0        196
  Page-Ins for I/O................        0       2513
Virtual Pool Write Statistics.....
  Async I/O.......................        0        324
  Sync Writes.....................        0         29
  Page Updates....................        0      29693
  Pages Written...................        0      10880
  Page-ins for I/O................        0          0
Parallel I/O Activity.............
  Requests........................        0          0
```

Figure 70. BFRPLD View—Local Buffer Pool Statistics Detail

Scroll down to see further details.

You can use this view to analyze activity and threshold settings for an individual buffer pool. Both virtual pool and hiperpool information is included.

BFRPLH—Buffer Pool Rates—SSI

The BFRPLH view, shown in Figure 71, provides an overview of hit ratios and the most critical buffer pool activity measurements as rates per second in the current interval. It can be invoked for one DB2 or in SSI mode for multiple DB2s; for example, a data sharing group to see member activity.

```
>W1 =EZDBFRPL=BFRPLH==(ALL======*=======)17MAR2001==12:56:06====MVDB2========31
 Pool    DB2       Hit Rate %  Hit Rate %  GBP Hit  Getpgs   Pg Upd   Sync I/O
 Name    Target      with P/F    w/o P/F   Ratio %  /Second  /Second    /Secon
 BP0     DB1GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP0     DB2FMV53        0.00        0.00     0.00     0.00     0.00      0.00
 BP0     DB2GMV54      100.00      100.00     0.00     0.07     0.00      0.00
 BP0     DB2HMV55        0.00        0.00     0.00     0.00     0.00      0.00
 BP1     DB1GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP1     DB2FMV53        0.00        0.00     0.00     0.00     0.00      0.00
 BP1     DB2GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP1     DB2HMV55        0.00        0.00     0.00     0.00     0.00      0.00
 BP2     DB1GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP2     DB2FMV53        0.00        0.00     0.00     0.00     0.00      0.00
 BP2     DB2GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP2     DB2HMV55        0.00        0.00     0.00     0.00     0.00      0.00
 BP4     DB1GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP4     DB2GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP4     DB2HMV55        0.00        0.00     0.00     0.00     0.00      0.00
 BP5     DB1GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP5     DB2FMV53        0.00        0.00     0.00     0.00     0.00      0.00
 BP5     DB2GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP9     DB1GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP9     DB2FMV53        0.00        0.00     0.00     0.00     0.00      0.00
 BP9     DB2GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP9     DB2HMV55        0.00        0.00     0.00     0.00     0.00      0.00
 BP32    DB2FMV53        0.00        0.00     0.00     0.00     0.00      0.00
 BP32K   DB1GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP32K   DB2FMV53        0.00        0.00     0.00     0.00     0.00      0.00
 BP32K   DB2GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP32K   DB2HMV55        0.00        0.00     0.00     0.00     0.00      0.00
 BP32K9  DB1GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP32K9  DB2FMV53        0.00        0.00     0.00     0.00     0.00      0.00
 BP32K9  DB2GMV54        0.00        0.00     0.00     0.00     0.00      0.00
 BP32K9  DB2HMV55        0.00        0.00     0.00     0.00     0.00      0.00
```

Figure 71. BFRPLH View—Buffer Pool Rates—SSI

You can use this view to compare the most important indicators of buffer pool performance for all pools.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Pool Name column to BFRPLHD to see interval and session hit ratios and counts for the selected buffer pool

BFRPLHD—Buffer Pool Rates Detail

The BFRPLHD view, shown in Figure 72, provides the most critical measurements for the selected buffer pool as hit ratios and rates per second for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =EZDBFRPL=BFRPLHD=(ALL======DB2GMV54)17MAR2001==12:56:06====MVDB2====D====1
Pool Name..................... BP0

                              Interval   Session
Hit Ratios.....................
 VPOOL Hit Ratio % with P/F...   100.00     33.46
 VPOOL Hit Ratio % without P/F   100.00     97.86
 GBP Hit Ratio %..............     0.00      0.00
Activity per Second...........
 Getpages.....................     0.07      3.14
 Page Updates.................     0.00      0.35
 Sync I/O.....................     0.00      0.02
 Prefetch I/O.................     0.00      0.13
 Write I/O....................     0.00      0.02
 Data Set Opens...............     0.00      0.01
```

Figure 72. BFRPLHD View—Buffer Pool Rates Detail

You can use this view to determine overall activity since DB2 started and whether the current interval shows a significant deviation.

Global Buffer Pool Views

The following views display information about global buffer pools. These are the group buffer pools defined in the coupling facility to support data sharing.

Note: If a group buffer pool is not currently active, it is not displayed in these views.

GBPGSTZ—Group Buffer Pool Group Coupling Facility Status

The GBPGSTZ view, shown in Figure 73, provides statistics about group buffer pool status.

```
>W1 =EZDBFRPL=GBPGSTZ=(ALL======*=======)17MAR2001==13:00:17====MVDB2====D====
 Pool      No.  Blocks  Dir      Data   Changed  XI Dir    Dir       Data
 Name     Mbrs   Alloc  Entries  Pages    Pages  Reclaims  Reclaims  Reclaims
 BP0         4     256      942    187        0         0         0         0
 BP1         4       0        0      0        0         0         0         0
 BP2         4       0        0      0        0         0         0         0
 BP4         3       0        0      0        0         0         0         0
 BP5         3       0        0      0        0         0         0         0
 BP9         4       0        0      0        0         0         0         0
 BP32        1       0        0      0        0         0         0         0
 BP32K       4       0        0      0        0         0         0         0
 BP32K9      4       0        0      0        0         0         0         0
```

Figure 73. GBPGSTZ View—Group Buffer Pool Group Coupling Facility Status

You can use this view to analyze the status of all active group buffer pools from a global coupling facility viewpoint. It also shows how many DB2 members are currently connected to each pool.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
- Hyperlink from
  - Pool Name column to GBPGSTD to see more detailed information about the selected buffer pool

GBPGSTD—Group Buffer Pool Group Coupling Facility Status Detail

The GBPGSTD view, shown in Figure 74, provides statistics about group buffer pool status for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =GBPGSTD==========(ALL======*=======)17MAR2001==15:13:49====MVDB2====D====1

Pool Name..................... BP0

 Current AUTOREC Setting..... N
 Current GBPCACHE Setting..... N
 Duplex or Simplex GBP....... S

 Castout Class Level Threshold...      0
 Castout Pool Level Threshold....      0
 Current Dir/Data Ratio.........
 Pending Dir/Data Ratio.........
 Checkpoint Interval(mins).......      0
 Allocated Number of 4K Blocks...      0
 Allocated Directory Entries.....      0
 Allocated Data Entries.........       0
 Total Changed Pages.............      0

                                   Intvl   Session
 Directory Entry Reclaims........      0         0
 Data Entry Reclaims.............      0         0
 XI Directory Entry Reclaims.....      0         0


 Secondary GBP Allocated Size....      0
 Secondary GBP Alloc Dir Entries.      0
 Secondary GBP Alloc Data Entries      0
```

Figure 74. GBPGSTD View—Group Buffer Pool Group Coupling Facility Status Detail

You can use this view to view the group buffer pool definitions, current usage, and a few measurements of reclaim activity from a global coupling facility viewpoint.

GBPGACZ—Group Buffer Pool Group Coupling Facility Activity

The GBPGACZ view, shown in Figure 75, provides statistics about group buffer pool activity.

```
>W1 =EZDBFRPL=GBPGACZ=(ALL======*=======)17MAR2001==13:03:50====MVDB2====D====9
 Pool     No.  Read  Read Miss  Read Miss   Read Miss   Read Miss   Chng Page
 Name    Mbrs  Hits    Dir Hit  Asgn Suppr  Name Assgn  Cache Full   Wrt Hits
 BP0        4     0          0           0           0           0          0
 BP1        4     0          0           0           0           0          0
 BP2        4     0          0           0           0           0          0
 BP4        3     0          0           0           0           0          0
 BP5        3     0          0           0           0           0          0
 BP9        4     0          0           0           0           0          0
 BP32       1     0          0           0           0           0          0
 BP32K      4     0          0           0           0           0          0
 BP32K9     4     0          0           0           0           0          0
```

Figure 75. GBPGACZ View—Group Buffer Pool Group Coupling Facility Activity

You can use this view to analyze the activity in all group buffer pools from a global coupling facility viewpoint.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
- Hyperlink from
  - Pool Name column to GBPGACD to see interval and session counts for the selected buffer pool

GBPGACD—Group Buffer Pool Group Coupling Facility Activity Detail

The GBPGACD view, shown in Figure 76, provides statistics about group buffer pool activity for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =GBPGACD==========(ALL======*=======)17MAR2001==15:16:30====MVDB2====D====

Pool Name..................... BP0
                               Interval  Session
 Read Hit Counter..............        0        0
 Read Miss Directory Hit.......        0        0
 Read Miss Assignment Suppressed       0        0
 Read Miss Name Assigned.......        0        0
 Read Miss Cache Full..........        0        0
 Changed Page Write Hits.......        0        0
 Clean Page Write Hits.........        0        0
 Write Miss Cache Full.........        0        0
 Directory Entry Reclaims......        0        0
 Data Entry Reclaims...........        0        0
 XI Directory Entry Reclaims....       0        0
 Castouts......................        0        0
 Directory Entries.............                 0
 Data Entries..................                 0
 Total Changed.................                 0
 Explicit XI...................                 0
 Secondary Chg Pg Wrt Hit......        0        0
 Secondary Wrt Miss Cache Full..       0        0
 Secondary Dir Entry Counter....       0        0
 Secondary Data Entry Counter...       0        0
 Secondary Total Changed.......        0        0
```

Figure 76. GBPGACD View—Group Buffer Pool Group Coupling Facility Activity Detail

You can use this view to view all available activity counts for a single group buffer pool from a global coupling facility viewpoint.

GBPREADZ—Group Buffer Pool Read Activity Summary

The GBPREADZ view, shown in Figure 77, provides statistics about group buffer pool read activity. It is a summary of activity from each DB2 data sharing member currently connected to one or more pools.

```
>W1 =GBPREADZ==========DB2GMV54=*========17MAR2001==14:19:32====MVDB2====D====8
 Pool     No.  Sync Buf   Sync Buf  Sync Buf   Sync Pg    Sync Pg   Sync Pg  Asy
 Name    Mbrs  with Data  with Dir   w/o Dir   with Data  with Dir  w/o Dir  wit
 BP0        1          0         0          0          0         0         0
 BP1        1          0         0          0          0         0         0
 BP2        1          0         0          0          0         0         0
 BP4        1          0         0          0          0         0         0
 BP5        1          0         0          0          0         0         0
 BP9        1          0         0          0          0         0         0
 BP32K      1          0         0          0          0         0         0
 BP32K9     1          0         0          0          0         0         0
```

Figure 77. GBPREADZ View—Group Buffer Pool Read Activity Summary

You can use this view to analyze group buffer pool read activity from the viewpoint of the DB2 members. It shows synchronous and asynchronous reads caused either by buffer invalidation or because the pages were not in the local pool.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
- Hyperlink from
  - Pool Name column to GBPREADM to see the counts broken out per individual DB2 member

GBPREADM—Group Buffer Pool Read Activity

The GBPREADM view, shown in Figure 78, provides statistics about group buffer pool read activity per pool for each DB2 member currently connected to it.

```
>W1 =EZDBFRPL=GBPREADM(ALL======*=======)17MAR2001==13:07:02====MVDB2========31
 Pool    DB2       Sync Buf   Sync Buf  Sync Buf  Sync Pg    Sync Pg   Sync Pg
 Name    Target    with Data  with Dir   w/o Dir  with Data  with Dir  w/o Dir
 BP0     DB1GMV54          0         0         0          0         0         0
 BP0     DB2FMV53          0         0         0          0         0         0
 BP0     DB2GMV54          0         0         0          0         0         0
 BP0     DB2HMV55          0         0         0          0         0         0
 BP1     DB1GMV54          0         0         0          0         0         0
 BP1     DB2FMV53          0         0         0          0         0         0
 BP1     DB2GMV54          0         0         0          0         0         0
 BP1     DB2HMV55          0         0         0          0         0         0
 BP2     DB1GMV54          0         0         0          0         0         0
 BP2     DB2FMV53          0         0         0          0         0         0
 BP2     DB2GMV54          0         0         0          0         0         0
 BP2     DB2HMV55          0         0         0          0         0         0
 BP4     DB1GMV54          0         0         0          0         0         0
 BP4     DB2GMV54          0         0         0          0         0         0
 BP4     DB2HMV55          0         0         0          0         0         0
 BP5     DB1GMV54          0         0         0          0         0         0
 BP5     DB2FMV53          0         0         0          0         0         0
 BP5     DB2GMV54          0         0         0          0         0         0
 BP9     DB1GMV54          0         0         0          0         0         0
 BP9     DB2FMV53          0         0         0          0         0         0
 BP9     DB2GMV54          0         0         0          0         0         0
 BP9     DB2HMV55          0         0         0          0         0         0
 BP32    DB2FMV53          0         0         0          0         0         0
 BP32K   DB1GMV54          0         0         0          0         0         0
 BP32K   DB2FMV53          0         0         0          0         0         0
 BP32K   DB2GMV54          0         0         0          0         0         0
 BP32K   DB2HMV55          0         0         0          0         0         0
 BP32K9  DB1GMV54          0         0         0          0         0         0
 BP32K9  DB2FMV53          0         0         0          0         0         0
 BP32K9  DB2GMV54          0         0         0          0         0         0
 BP32K9  DB2HMV55          0         0         0          0         0         0
```

Figure 78. GBPREADM View—Group Buffer Pool Read Activity

You can use this view to analyze group buffer pool read activity for each DB2 member.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Pool Name column to GBPACTD to see group buffer pool total activity details (reads, writes, castouts, coupling facility data, and P-lock data) for one member and pool

GBPWRITZ—Group Buffer Pool Write Activity Summary

The GBPWRITZ view, shown in Figure 79, provides statistics about group buffer pool write activity. It is a summary of activity from each DB2 data sharing member currently connected to one or more pools.

```
W1 =EZDBFRPL=GBPWRITZ(ALL======*=======)17MAR2001==13:07:02====MVDB2====D====9
Pool     No.  Sync       Sync       Async      Async      CF No     CF Write
Name    Mbrs  Chng Pgs   Clean Pgs  Chng Pgs   Clean Pgs  Wrt Eng   Incomplete
BP0        4          0          0          0          0         0           0
BP1        4          0          0          0          0         0           0
BP2        4          0          0          0          0         0           0
BP4        3          0          0          0          0         0           0
BP5        3          0          0          0          0         0           0
BP9        4          0          0          0          0         0           0
BP32       1          0          0          0          0         0           0
BP32K      4          0          0          0          0         0           0
BP32K9     4          0          0          0          0         0           0
```

Figure 79. GBPWRITZ View—Group Buffer Pool Write Activity Summary

You can use this view to analyze group buffer pool write activity from the viewpoint of the DB2 members. It shows synchronous and asynchronous writes for changed and clean pages as well as failures due to a lack of storage or write engines.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
- Hyperlink from
  - Pool Name column to GBPWRITM to see the counts broken out per individual DB2 member

GBPWRITM—Group Buffer Pool Write Activity

The GBPWRITM view, shown in Figure 80, provides statistics about group buffer pool write activity per pool for each DB2 member currently connected to it.

```
W1 =EZDBFRPL=GBPWRITM(ALL======*=======)17MAR2001==13:07:02====MVDB2========31
Pool    DB2       Sync      Sync       Async     Async      CF No    CF Write
Name    Target    Chng Pgs  Clean Pgs  Chng Pgs  Clean Pgs  Wrt Eng  Incomplete
BP0     DB1GMV54         0          0         0          0        0           0
BP0     DB2FMV53         0          0         0          0        0           0
BP0     DB2GMV54         0          0         0          0        0           0
BP0     DB2HMV55         0          0         0          0        0           0
BP1     DB1GMV54         0          0         0          0        0           0
BP1     DB2FMV53         0          0         0          0        0           0
BP1     DB2GMV54         0          0         0          0        0           0
BP1     DB2HMV55         0          0         0          0        0           0
BP2     DB1GMV54         0          0         0          0        0           0
BP2     DB2FMV53         0          0         0          0        0           0
BP2     DB2GMV54         0          0         0          0        0           0
BP2     DB2HMV55         0          0         0          0        0           0
BP4     DB1GMV54         0          0         0          0        0           0
BP4     DB2GMV54         0          0         0          0        0           0
BP4     DB2HMV55         0          0         0          0        0           0
BP5     DB1GMV54         0          0         0          0        0           0
BP5     DB2FMV53         0          0         0          0        0           0
BP5     DB2GMV54         0          0         0          0        0           0
BP9     DB1GMV54         0          0         0          0        0           0
BP9     DB2FMV53         0          0         0          0        0           0
BP9     DB2GMV54         0          0         0          0        0           0
BP9     DB2HMV55         0          0         0          0        0           0
BP32    DB2FMV53         0          0         0          0        0           0
BP32K   DB1GMV54         0          0         0          0        0           0
BP32K   DB2FMV53         0          0         0          0        0           0
BP32K   DB2GMV54         0          0         0          0        0           0
BP32K   DB2HMV55         0          0         0          0        0           0
BP32K9  DB1GMV54         0          0         0          0        0           0
BP32K9  DB2FMV53         0          0         0          0        0           0
BP32K9  DB2GMV54         0          0         0          0        0           0
BP32K9  DB2HMV55         0          0         0          0        0           0
```

Figure 80. GBPWRITM View—Group Buffer Pool Write Activity

You can use this view to analyze group buffer pool write activity for each DB2 member.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Pool Name column to GBPACTD to see group buffer pool total activity details (reads, writes, castouts, coupling facility data, and P-lock data) for one member and pool

GBPCASTZ—Group Buffer Pool Castout Activity Summary

The GBPCASTZ view, shown in Figure 81, provides statistics about castout activity. It is a summary of activity from each DB2 data sharing member currently connected to one or more pools.

```
>W1 =EZDBFRPL=GBPCASTZ(ALL======*=======)17MAR2001==13:07:02====MVDB2====D====9
 Pool    No.  Class    Pool     Castout     No Engine  Unlock    Read Class  Re
 Name   Mbrs  Thrshld  Thrshld  Operations  Available  Castouts    Requests
 BP0       4        0        0           0          0         0           0
 BP1       4        0        0           0          0         0           0
 BP2       4        0        0           0          0         0           0
 BP4       3        0        0           0          0         0           0
 BP5       3        0        0           0          0         0           0
 BP9       4        0        0           0          0         0           0
 BP32      1        0        0           0          0         0           0
 BP32K     4        0        0           0          0         0           0
 BP32K9    4        0        0           0          0         0           0
```

Figure 81. GBPCASTZ View—Group Buffer Pool Castout Activity Summary

You can use this view to analyze group buffer pool castout activity from the viewpoint of the DB2 members. It shows all castout-related counts.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
- Hyperlink from
  - Pool Name column to GBPCASTM to see the counts broken out per individual DB2 member

GBPCASTM—Group Buffer Pool Castout Activity

The GBPCASTM view, shown in Figure 82, provides statistics about castout activity per pool for each DB2 member currently connected to it.

```
>W1 =EZDBFRPL=GBPCASTM(ALL======*=======)17MAR2001==13:07:02====MVDB2========31
 Pool    DB2       Class    Pool     Castout      No Eng  Unlock    Read Class
 Name    Target    Thrshld  Thrshld  Operations    Avail  Castouts    Requests
 BP0     DB1GMV54        0        0           0        0         0           0
 BP0     DB2FMV53        0        0           0        0         0           0
 BP0     DB2GMV54        0        0           0        0         0           0
 BP0     DB2HMV55        0        0           0        0         0           0
 BP1     DB1GMV54        0        0           0        0         0           0
 BP1     DB2FMV53        0        0           0        0         0           0
 BP1     DB2GMV54        0        0           0        0         0           0
 BP1     DB2HMV55        0        0           0        0         0           0
 BP2     DB1GMV54        0        0           0        0         0           0
 BP2     DB2FMV53        0        0           0        0         0           0
 BP2     DB2GMV54        0        0           0        0         0           0
 BP2     DB2HMV55        0        0           0        0         0           0
 BP4     DB1GMV54        0        0           0        0         0           0
 BP4     DB2GMV54        0        0           0        0         0           0
 BP4     DB2HMV55        0        0           0        0         0           0
 BP5     DB1GMV54        0        0           0        0         0           0
 BP5     DB2FMV53        0        0           0        0         0           0
 BP5     DB2GMV54        0        0           0        0         0           0
 BP9     DB1GMV54        0        0           0        0         0           0
 BP9     DB2FMV53        0        0           0        0         0           0
 BP9     DB2GMV54        0        0           0        0         0           0
 BP9     DB2HMV55        0        0           0        0         0           0
 BP32    DB2FMV53        0        0           0        0         0           0
 BP32K   DB1GMV54        0        0           0        0         0           0
 BP32K   DB2FMV53        0        0           0        0         0           0
 BP32K   DB2GMV54        0        0           0        0         0           0
 BP32K   DB2HMV55        0        0           0        0         0           0
 BP32K9  DB1GMV54        0        0           0        0         0           0
 BP32K9  DB2FMV53        0        0           0        0         0           0
 BP32K9  DB2GMV54        0        0           0        0         0           0
 BP32K9  DB2HMV55        0        0           0        0         0           0
```

Figure 82. GBPCASTM View—Group Buffer Pool Castout Activity

You can use this view to analyze group buffer pool castout activity for each DB2 member.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Pool Name column to GBPACTD to see group buffer pool total activity details (reads, writes, castouts, coupling facility data, and P-lock data) for one member and pool

GBPLOCKZ—Group Buffer Pool P-Lock Activity Summary

The GBPLOCKZ view, shown in Figure 83, provides statistics about group buffer pool P-Lock activity. It is a summary of activity from each DB2 data sharing member currently connected to one or more pools.

```
>W1 =GBPLOCKZ==========DB2GMV54=*========17MAR2001==14:19:32====MVDB2====D====8
 Pool    No. Requests Requests Requests Suspends Suspends Suspends Negotiat
 Name   Mbrs Spce Map Data Pgs Ix Leaf  Spce Map Data Pgs Ix Leaf  Spce Map
 BP0       1        0        0        0        0        0        0          0
 BP1       1        0        0        0        0        0        0          0
 BP2       1        0        0        0        0        0        0          0
 BP4       1        0        0        0        0        0        0          0
 BP5       1        0        0        0        0        0        0          0
 BP8       1        0        0        0        0        0        0          0
 BP9       1        0        0        0        0        0        0          0
 BP10      1        0        0        0        0        0        0          0
 BP16      1        0        0        0        0        0        0          0
 BP49      1        0        0        0        0        0        0          0
 BP32K     1        0        0        0        0        0        0          0
 BP32K9    1        0        0        0        0        0        0          0
 BP8K0     1        0        0        0        0        0        0          0
 BP8K1     1        0        0        0        0        0        0          0
 BP8K9     1        0        0        0        0        0        0          0
 BP16K0    1        0        0        0        0        0        0          0
```

Figure 83. GBPLOCKZ View—Group Buffer Pool P-Lock Activity Summary

You can use this view to analyze group buffer pool P-Lock activity from the viewpoint of the DB2 members.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
- Hyperlink from
  - Pool Name column to GBPLOCKM to see the counts broken out per individual DB2 member

GBPLOCKM—Group Buffer Pool P-Lock Activity

The GBPLOCKM view, shown in Figure 84, provides statistics about group buffer pool P-Lock activity per pool for each DB2 member currently connected to it.

```
>W1 =EZDBFRPL=GBPLOCKM(ALL======*=======)17MAR2001==13:07:02====MVDB2========31
 Pool    DB2      Requests Requests Requests Suspends Suspends Suspends Negotiat
 Name    Target   Spce Map Data Pgs Ix Leaf  Spce Map Data Pgs Ix Leaf  Spce Map
 BP0     DB2KSR          0        0        0        0        0        0        0
 BP1     DB2KSR          0        0        0        0        0        0        0
 BP2     DB2KSR          0        0        0        0        0        0        0
 BP4     DB2KSR          0        0        0        0        0        0        0
 BP9     DB2KSR          0        0        0        0        0        0        0
 BP49    DB2KSR          0        0        0        0        0        0        0
 BP32K   DB2KSR          0        0        0        0        0        0        0
 BP32K9  DB2KSR          0        0        0        0        0        0        0
 BP8K0   DB2KSR          0        0        0        0        0        0        0
 BP8K9   DB2KSR          0        0        0        0        0        0        0
 BP16K0  DB2KSR          0        0        0        0        0        0        0
```

Figure 84. GBPLOCKM View—Group Buffer Pool P-Lock Activity

You can use this view to analyze group buffer pool P-Lock activity for each DB2 member.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Pool Name column to GBPACTD to see group buffer pool total activity details (reads, writes, castouts, coupling facility data, and P-lock data) for one member and pool

GBPCFZ—Group Buffer Pool Coupling Facility Summary

The GBPCFZ view, shown in Figure 85, provides statistics about the coupling facility. It is a summary of activity from each DB2 data sharing member currently connected to one or more pools.

```
>W1 =EZDBFRPL=GBPCFZ==(ALL======*=======)17MAR2001==13:07:02====MVDB2====D====9
 Pool     No.  Read   Checkpts             Delete  Read                No Engine
 Name    Mbrs  Stats  Triggered  Rebuilds   Names  Dir Info  Castouts      Avail
 BP0        4     48          0         0       0         0         0          0
 BP1        4      0          0         0       0         0         0          0
 BP2        4      0          0         0       0         0         0          0
 BP4        3      0          0         0       0         0         0          0
 BP5        3      0          0         0       0         0         0          0
 BP9        4      0          0         0       0         0         0          0
 BP32       1      0          0         0       0         0         0          0
 BP32K      4      0          0         0       0         0         0          0
 BP32K9     4      0          0         0       0         0         0          0
```

Figure 85. GBPCFZ View—Group Buffer Pool Coupling Facility Summary

You can use this view to analyze group buffer pool coupling facility activity from the viewpoint of the DB2 members. It shows coupling facility activity and failure counts.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
- Hyperlink from
  - Pool Name column to GBPCFM to see the counts broken out per individual DB2 member

GBPCFM—Group Buffer Pool Coupling Facility Activity

The GBPCFM view, shown in Figure 86, provides statistics about coupling facility activity per pool for each DB2 member currently connected to it.

```
>W1 =EZDBFRPL=GBPCFM==(ALL======*=======)17MAR2001==13:07:02====MVDB2========31
 Pool    DB2       No Cast-  No CF    Read   Chkp            Delete  Read
 Name    Target     out Eng  Wrt Eng  Stats  Trig  Rebuilds   Names  Dir Info  C
 BP0     DB1GMV54         0        0      7     0         0       0         0
 BP0     DB2FMV53         0        0      0     0         0       0         0
 BP0     DB2GMV54         0        0     48     0         0       0         0
 BP0     DB2HMV55         0        0      0     0         0       0         0
 BP1     DB1GMV54         0        0      0     0         0       0         0
 BP1     DB2FMV53         0        0      0     0         0       0         0
 BP1     DB2GMV54         0        0      0     0         0       0         0
 BP1     DB2HMV55         0        0      0     0         0       0         0
 BP2     DB1GMV54         0        0      0     0         0       0         0
 BP2     DB2FMV53         0        0      0     0         0       0         0
 BP2     DB2GMV54         0        0      0     0         0       0         0
 BP2     DB2HMV55         0        0      0     0         0       0         0
 BP4     DB1GMV54         0        0      0     0         0       0         0
 BP4     DB2GMV54         0        0      0     0         0       0         0
 BP4     DB2HMV55         0        0      0     0         0       0         0
 BP5     DB1GMV54         0        0      0     0         0       0         0
 BP5     DB2FMV53         0        0      0     0         0       0         0
 BP5     DB2GMV54         0        0      0     0         0       0         0
 BP9     DB1GMV54         0        0      0     0         0       0         0
 BP9     DB2FMV53         0        0      0     0         0       0         0
 BP9     DB2GMV54         0        0      0     0         0       0         0
 BP9     DB2HMV55         0        0      0     0         0       0         0
 BP32    DB2FMV53         0        0      0     0         0       0         0
 BP32K   DB1GMV54         0        0      0     0         0       0         0
 BP32K   DB2FMV53         0        0      0     0         0       0         0
 BP32K   DB2GMV54         0        0      0     0         0       0         0
 BP32K   DB2HMV55         0        0      0     0         0       0         0
 BP32K9  DB1GMV54         0        0      0     0         0       0         0
 BP32K9  DB2FMV53         0        0      0     0         0       0         0
 BP32K9  DB2GMV54         0        0      0     0         0       0         0
 BP32K9  DB2HMV55         0        0      0     0         0       0         0
```

Figure 86. GBPCFM View—Group Buffer Pool Coupling Facility Activity

You can use this view to analyze group buffer pool coupling facility activity for each DB2 member.

The default functions shipped with this view are as follows:

- Sort by
  - Pool Name column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Pool Name column to GBPACTD to see group buffer pool total activity details (reads, writes, castouts, coupling facility data, and P-lock data) for one member and pool

GBPACTD—Group Buffer Pool Activity Detail

The GBPACTD view, shown in Figure 87, provides all statistics about a single group buffer pool for one DB2 member for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =GBPACTD==========(ALL======*=======)17MAR2001==15:19:40====MVDB2====D====1

Group Buffer Pool Name..... BP0

                                Interval  Session
Synchronous CF Reads............
  Inv Buffer with Data.........        0        0
  Inv Buffer with Dir..........        0        0
  Inv Buffer without Dir.......        0        0
  No Page with Data............        0        0
  No Page with Dir.............        0        0
  No Page without Dir..........        0        0
Asynchronous CF Reads...........
  With Data....................        0        0
  With Dir.....................        0        0
  No Data and No Directory Entry       0        0
Synchronous Pages Written.......
  Changed Pages................        0        0
  Clean Pages..................        0        0
Asynchronous Pages Written......
  Changed Pages................        0        0
  Clean Pages..................        0        0
Group Buffer Pool Requests......
  Checkpoints Triggered........        0        0
  Rebuild Participations.......        0        0
  Delete All Entries for Pageset       0        0
Castouts........................
  Pages Castout................        0        0
  Class Threshold..............        0        0
  GBP Threshold................        0        0
  Engine Not Available.........        0        0
Coupling Facility...............
  Write Engine Not Available....       0        0
  Read Not Complete............        0        0
  Write Not Complete...........        0        0
  Unlock Castout Locks.........        0        0
  Read Castout Class...........        0        0
  Read Castout Statistics......        0        0
  Read Storage Statistics......        0        0
  Read Directory Information....       0        0
  Register Pages...............        0        0
  Unregister Pages.............        0        0
  Register Page Lists..........        0        0
  Reads for Changed Page.......        0        0
  Reads for Clean Page.........        0        0
  Explicit X-Invalidations.....        0        0
Secondary Group BP Requests.....
  Delete-Name-List.............        0        0
  Delete-Name..................        0        0
  Read-Castout-Stats...........        0        0
```

Figure 87. GBPACTD View—Group Buffer Pool Activity Detail

You can use this view to see group buffer pool total activity details (reads, writes, castouts, P-Lock, coupling facility data) for one member and pool.

Chapter 13. Page Sets

Views for page set analysis are organized into three groups:

- Page set status views
- Page set summary views
- I/O by page set views

One page set record is created for each open data set. These records provide all the available data set-related information, including the DB2 I/O counts and wait times, buffer pool cache counts, and status information.

Historical data is available for a more detailed analysis. In addition, using SSI mode with these views is very valuable for data sharing, because it allows you to see total group I/O counts per shared data set, which would otherwise be split across multiple DB2s.

You can easily access all the views for page set analysis from the Page Set Easy Menu (EZDPS), shown in Figure 88.

```
W1 =EZDPS============(ALL======*=======)17MAR2001==15:36:55====MVDB2====D====1
                              DB2 Page Set Menu
   Page Set Information                                 I/O by Page Set (SSI)
 . Status                 +----------------------+   . Total I/Os - Session
 . Cache Statistics       |   Place Cursor On    |   . Total I/Os - Interval
 . List Page Sets (/DB2)  |    Menu Item And     |   . Sync I/Os - Session
 . List Page Sets (SSI)   |     Press ENTER      |   . Sync I/Os - Interval
 . GBP-Dependent Status   +----------------------+   . Async I/Os - Session
                                                     . Async I/Os - Interval
   Summaries
 . By Volume (SSI)        . Set DB2 Subsystem       . Return...
 . By Volume (/DB2)           (Context)
 . By Buffer Pool
 . By Data Base
 . By Object
```

Figure 88. EZDPS Easy Menu—DB2 Page Sets

Table 5 lists all the views available for page sets.

Table 5. Page Set Views

View Name	Group / Type	Description
PSAIO	I/O by Page Set Tabular	Asynchronous I/O Page Set Member Detail—Interval (see page 180) Shows asynchronous I/O activity per page set in the last interval. You can use this view to analyze the amount of I/O activity per page set and DB2 from one DB2.
PSAIOS	I/O by Page Set Tabular	Asynchronous I/O Page Set Member Detail—Session (see page 178) Shows asynchronous I/O activity per page set since DB2 startup. You can use this view to analyze the amount of I/O activity per page set and DB2 and identify I/O response time problems.
PSAIOSZ	I/O by Page Set Summary	Asynchronous I/O Page Set Summary—Session (see page 177) Shows asynchronous I/O activity per page set since DB2 startup. If in SSI mode, data from multiple DB2 data sharing members is combined. You can use this view to analyze the amount of I/O activity per page set and identify I/O response time problems.
PSAIOZ	I/O by Page Set Summary	Asynchronous I/O Page Set Summary—Interval (see page 179) Shows asynchronous I/O activity per page set in the last interval. If in SSI mode, data from multiple DB2 data sharing members is combined. You can use this view to see the current I/O workload and response times.
PSBPGBPZ	Status Summary	Buffer Pool Page Set GBP-DEP Summary (see page 162) Summarizes group buffer pool dependent page sets and inter-DB2 interest by buffer pool and target. You can use this view when analyzing the amount of interaction within a data sharing group.
PSBPS	Summary Tabular	Buffer Pool Page Sets—Session (see page 166) Lists the page sets for a selected buffer pool. You can use this view to help determine whether the access characteristics of the page set are similar and fit with the buffer pool thresholds. Scroll right to see additional data such as synchronous or asynchronous I/O.

Table 5. Page Set Views (Continued)

View Name	Group / Type	Description
PSBPSZ	Summary Summary	Buffer Pool Page Set Summary—Session (see page 165) Summarizes buffer cache statistics and I/O activity by buffer pool and DB2. You can use this view when analyzing buffer pool usage and threshold and size specifications. When in SSI mode for a data sharing group, you can identify which DB2 members are causing the most activity per buffer pool.
PSBPTMZ	Summary Summary	Buffer Pool Page Set 2-Hour Summary (see page 167) Shows buffer pool activity for the last 2 hours. It is usually invoked by a hyperlink to select a specific buffer pool and DB2 target.
PSCACHE	Status Tabular	Page Set Cache (see page 158) Lists all open page sets with cache statistics. You can use this view to determine virtual pool and hiperpool (scroll right) usage per page set.
PSDBSZ	Summary Summary	Database Page Set Summary—Session (see page 168) Summarizes page set activity by database and DB2 target. You can use this view to evaluate I/O and cache information per database.
PSDBTMZ	Summary Summary	Database Page Set 2-Hour Summary (see page 169) Shows database activity for the last 2 hours. It is usually invoked by a hyperlink to select a specific database and target.
PSDTL	Status Detail	Page Set Detail (see page 164) Presents full data about the selected page set.
PSGBP	Status Tabular	Page Set GBP-DEP Status (see page 163) Shows which page sets are group buffer pool dependent and the local and remote inter-DB2 interest. You can use this view when analyzing the amount of interaction within a data sharing group.
PSLIST	Status Tabular	Page Set List (see page 159) Lists all open page sets, with all data elements provided per DB2 target (scroll right). You can use this view as the destination for various selective hyperlinks from summary views and to customize page set views.
PSLISTTZ	Status Summary	Page Set 2-Hour Summary (see page 161) Shows activity for the selected page set for the last 2 hours. Additional I/O and cache information is available (scroll right). You can use this view to evaluate page set usage patterns over time.

Table 5. Page Set Views (Continued)

View Name	Group / Type	Description
PSLISTZ	Status Summary	Page Set List (SSI) (see page 160) Lists all open page sets, with all data elements provided (scroll right), summarized by page set across multiple members in a data sharing group in SSI mode. You can use this view as the destination for various selective hyperlinks from summary views and to customize SSI page set views.
PSOBSZ	Summary Summary	Object Page Set Summary—Session (see page 170) Summarizes page set activity by database object and DB2 target. You can use this view to evaluate I/O and cache information per database object.
PSOBTMZ	Summary Summary	Object Page Set 2-Hour Summary (see page 171) Shows database object activity for the last 2 hours. It is usually invoked by a hyperlink to select a specific database object and target.
PSSIO	I/O by Page Set Tabular	Synchronous I/O Page Set Member Detail—Interval (see page 180) Shows synchronous I/O activity per page set in the last interval. You can use this view to analyze the amount of I/O activity per page set and DB2 from one DB2.
PSSIOS	I/O by Page Set Tabular	Synchronous I/O Page Set Member Detail—Session (see page 178) Shows synchronous I/O activity per page set since DB2 startup. You can use this view to analyze the amount of I/O activity per page set and DB2 and identify I/O response time problems.
PSSIOSZ	I/O by Page Set Summary	Synchronous I/O Page Set Summary—Session (see page 177) Shows synchronous I/O activity per page set since DB2 startup. If in SSI mode, data from multiple DB2 data sharing members is combined. You can use this view to analyze the amount of I/O activity per page set and identify I/O response time problems.
PSSIOZ	I/O by Page Set Summary	Synchronous I/O Page Set Summary—Interval (see page 179) Shows synchronous I/O activity per page set in the last interval. If in SSI mode, data from multiple DB2 data sharing members is combined. You can use this view to see the current I/O workload and response times.

Table 5. Page Set Views (Continued)

View Name	Group / Type	Description
PSSTAT	Status Tabular	Page Set Status (see page 157) Lists all open page sets (table spaces, partitions, index spaces) with current status information. You can use this view to identify size, data set utilization, and the number of extents, as well as the number of current users and pages on the deferred write queue. Hyperlinks provide more detailed status information.
PSTIO	I/O by Page Set Tabular	Total I/O Page Set Member Detail—Interval (see page 180) Shows total I/O activity per page set in the last interval. You can use this view to analyze the amount of I/O activity per page set and DB2 from one DB2.
PSTIOS	I/O by Page Set Tabular	Total I/O Page Set Member Detail—Session (see page 178) Shows total I/O activity per page set since DB2 startup. You can use this view to analyze the amount of I/O activity per page set and DB2 and identify I/O response time problems.
PSTIOSZ	I/O by Page Set Summary	Total I/O Page Set Summary—Session (see page 177) Shows total I/O activity per page set since DB2 startup. If in SSI mode, data from multiple DB2 data sharing members is combined. You can use this view to analyze the amount of I/O activity per page set and identify I/O response time problems.
PSTIOZ	I/O by Page Set Summary	Total I/O Page Set Summary—Interval (see page 179) Shows total I/O activity per page set in the last interval. If in SSI mode, data from multiple DB2 data sharing members is combined. You can use this view to see the current I/O workload and response times.
PSVOLPS	Summary Tabular	Volume Page Sets (see page 175) Shows I/O activity by volume and page set per DB2. You can use this view to analyze activity per page set on a volume.
PSVOLPSZ	Summary Summary	Volume Page Sets (SSI) (see page 174) Summarizes I/O activity by volume and page sets in SSI mode. You can use this view to analyze total activity per page set within a data sharing group.

Table 5. Page Set Views (Continued)

View Name	Group / Type	Description
PSVOLSSI	Summary Summary	Volume I/O SSI Summary—Session (see page172) Summarizes I/O activity by volume across multiple DB2 targets in SSI mode. This data is especially valuable for a data sharing group to analyze total I/O.
PSVOLSZ	Summary Summary	Volume I/O Summary—Session (see page 173) Summarizes I/O activity by volume and DB2. You can use this view to analyze workload and I/O response time.
PSVOLTMZ	Summary Summary	Volume I/O 2-Hour Summary (see page 176) Shows volume I/O activity over the last 2 hours. It is usually invoked by a hyperlink to select the volume.

Page Set Status Views

The following views display information about page set status.

PSSTAT—Page Set Status

The PSSTAT view, shown in Figure 89, lists all open page sets (table spaces, partitions, index spaces) with current status information.

```
>W1 =PSSTAT============DB2G=====*========17MAR2001==15:29:11====MVDB2========37
C ------Page Set------- Bfrpl                    %       First  Defr      GBP
- Database Object   Prt  ID    Ty Users Size(K)  Used EXT Volume WrtQ  ERR Dep
  DB2GWORK DSN4K01  001 BP00   TS     0   13920 100.0   1 BAB312    0 N
  DSNDB01  DBD01    001 BP00   TS     0    1440 100.0   1 BAB316    0 N
  DSNDB01  DSNLLX01 001 BP00   IX     0     288  66.7   1 BAB317    0 N
  DSNDB01  DSNLLX02 001 BP00   IX     0     240  80.0   1 BAB330    0 N
  DSNDB01  DSNSCT02 001 BP00   IX     0     144  66.7   1 BAB315    0 N
  DSNDB01  DSNSPT01 001 BP00   IX     0     240  40.0   1 BAB313    0 N
  DSNDB01  SCT02    001 BP00   TS     0   10080  14.3   1 BAB315    0 N
  DSNDB01  SPT01    001 BP00   TS     0    5760  25.0   1 BAB315    0 N
  DSNDB01  SYSLGRNX 001 BP00   TS     0    1440 100.0   1 BAB310    1 N
  DSNDB06  DSNADH01 001 BP00   IX     0      48  33.3   1 BAB324    0 N
  DSNDB06  DSNAPH01 001 BP00   IX     0      96 100.0   1 BAB312    0 N
  DSNDB06  DSNATX02 001 BP00   IX     0     480  20.0   1 BAB312    0 N
  DSNDB06  DSNAUH01 001 BP00   IX     0      96  16.7   1 BAB316    0 N
  DSNDB06  DSNDDH01 001 BP00   IX     0      48  33.3   1 BAB312    0 N
  DSNDB06  DSNDDX02 001 BP00   IX     0      48  33.3   1 BAB312    0 N
```

Figure 89. PSSTAT View—Page Set Status

You can use this view to identify size, data set, utilization, and the number of extents, as well as the number of current users and pages on the deferred write queue. Hyperlinks provide more detailed status information.

The default functions shipped with this view are as follows:

- Sort by
  - Page Set column (ascending)
- Hyperlink from
  - Page Set column to PSDTL to see detailed information on the selected page set
  - Ty (type) column to the CLAIM analyzer display to see the claim and drain locks for the selected table space
  - Users column to the USERS analyzer display to see those threads currently accessing the selected page set
  - ERR column to the DBTS analyzer display with a Q=RESTR parameter to see whether any restricted status indicators exist for this table space
  - GBP Dep column to PSGBP to see the local and remote interest in this page set

PSCACHE—Page Set Cache

The PSCACHE view, shown in Figure 90, lists all open page sets with cache statistics.

```
>W1 =PSCACHE===========DB2G=====*========17MAR2001==15:30:50====MVDB2========37
C ------Page Set------- Bfrpl     VP       VP        VP      VP     VPTot VPTot
- Database Object   Prt  ID     Current  Maximum  Changed Max Chng  % All   %BP
  DB2GWORK DSN4K01  001 BP00           2        2        0        2    1.4   0.7
  DSNDB01  DBD01    001 BP00          11       11        0        0    7.6   3.7
  DSNDB01  DSNLLX01 001 BP00          13       13        0        1    9.0   4.3
  DSNDB01  DSNLLX02 001 BP00           3        3        0        1    2.1   1.0
  DSNDB01  DSNSCT02 001 BP00           3        3        0        0    2.1   1.0
  DSNDB01  DSNSPT01 001 BP00           3        3        0        0    2.1   1.0
  DSNDB01  SCT02    001 BP00           3        3        0        0    2.1   1.0
  DSNDB01  SPT01    001 BP00           3        3        0        0    2.1   1.0
  DSNDB01  SYSLGRNX 001 BP00          12       12        0        1    8.3   4.0
  DSNDB06  DSNADH01 001 BP00           3        3        0        0    2.1   1.0
  DSNDB06  DSNAPH01 001 BP00           3        3        0        0    2.1   1.0
  DSNDB06  DSNATX02 001 BP00           5        5        0        0    3.4   1.7
  DSNDB06  DSNAUH01 001 BP00           3        3        0        0    2.1   1.0
  DSNDB06  DSNDDH01 001 BP00           3        3        0        0    2.1   1.0
  DSNDB06  DSNDDX02 001 BP00           3        3        0        0    2.1   1.0
  DSNDB06  DSNDLX01 001 BP00           3        3        0        0    2.1   1.0
```

Figure 90. PSCACHE View—Page Set Cache

You can use this view to determine virtual pool and hiperpool (scroll right) usage per page set.

The default functions shipped with this view are as follows:

- Sort by
  - Page Set column (ascending)
- Hyperlink from
  - Page Set column to PSDTL to see detailed information on the selected page set
  - Bfrpl ID column to PSBPS to see all page sets in the selected buffer pool

PSLIST—Page Set List

The PSLIST view, shown in Figure 91, lists all open page sets, with all data elements provided per DB2 target (scroll right).

```
>W1 =PSLIST===========(ALL======*=======)17MAR2001==12:22:13====MVDB2=======147
C Page Set Page Set DS/      DB2        Total TotalMax TotalAvg
- Database   Object Prt Typ Target       I/Os I/O Wait I/O Wait 0.....40....80
  DB1GWORK DSN4K01  001 TS  DB1GMV54        1       32        0
  DB2GWORK DSN4K01  001 TS  DB2GMV54        1       32        0
  DB2HWORK DSN4K01  001 TS  DB2HMV55        1       22        0
  DMR55DB1 DMRPRTAD 001 TS  DB2HMV55     2681      266       19 ***
  DSNDB01  DBD01    001 TS  DB1GMV54       11       36        0
  DSNDB01  DBD01    001 TS  DB2GMV54       11       27        0
  DSNDB01  DBD01    001 TS  DB2HMV55       27       90       19 ***
  DSNDB01  DSNLLX01 001 IX  DB1GMV54       15       39        0
  DSNDB01  DSNLLX01 001 IX  DB2GMV54       18       80       20 ***
  DSNDB01  DSNLLX01 001 IX  DB2HMV55       10       48       19 ***
  DSNDB01  DSNLLX02 001 IX  DB1GMV54        4       34        0
  DSNDB01  DSNLLX02 001 IX  DB2GMV54        4       26       12 **
  DSNDB01  DSNLLX02 001 IX  DB2HMV55        7       38       16 **
  DSNDB01  DSNLUX01 001 IX  DB2HMV55        5      120       32 *****
  DSNDB01  DSNLUX02 001 IX  DB2HMV55        5       82       28 ****
```

Figure 91. PSLIST View—Page Set List

You can use this view as the destination for various selective hyperlinks from summary views and to customize page set views.

The default functions shipped with this view are as follows:

- Sort by
  - Page Set / Database column (ascending)
  - Page Set / Object column (ascending)
  - DS / Prt column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Page Set / Database column to PSDTL to see detailed information on the selected page set
  - Total I/Os column to PSLISTTZ to see I/O activity for the selected page set over the last two hours (SSI)

PSLISTZ—Page Set List (SSI)

The PSLISTZ view, shown in Figure 92, lists all open page sets, with all data elements provided (scroll right), summarized by page set across multiple members in a data sharing group in SSI mode.

```
>W1 =PSLISTZ==========DB2G=====*========17MAR2001==15:32:30====MVDB2========37
C Page Set Page Set DS/  No.     Total   I/O   TotalMax  TotalAvg
- Database   Object Prt Mbrs      I/Os    %    I/O Wait  I/O Wait 0....40...80
  DB2GWORK DSN4K01  001    1         0    0.0        30         0
  DSNDB01  DSNSCT02 001    1         0    0.0        32         0
  DSNDB01  DBD01    001    1         0    0.0        43         0
  DSNDB01  DSNLLX01 001    1        14   35.9        42        21 ***
  DSNDB01  DSNLLX02 001    1         4   10.3        37        25 ****
  DSNDB01  SCT02    001    1         0    0.0        18         0
  DSNDB01  SPT01    001    1         0    0.0        32         0
  DSNDB01  SYSLGRNX 001    1        16   41.0        37        20 ***
  DSNDB01  DSNSPT01 001    1         0    0.0        23         0
  DSNDB06  DSNDDH01 001    1         0    0.0        31         0
  DSNDB06  DSNAUH01 001    1         0    0.0        32         0
  DSNDB06  SYSDBAUT 001    1         0    0.0        24         0
  DSNDB06  SYSSTR   001    1         0    0.0        28         0
  DSNDB06  DSNDDX02 001    1         0    0.0        28         0
  DSNDB06  SYSDBASE 001    1         0    0.0        34         0
```

Figure 92. PSLISTZ View—Page Set List (SSI)

You can use this view as the destination for various selective hyperlinks from summary views and to customize SSI page set views.

The default functions shipped with this view are as follows:

- Sort by
  - Page Set / Database column (ascending)
  - Object column (ascending)
  - DS / Prt column (ascending)
- Hyperlink from
  - Page Set / Database column to PSLIST to see the detailed data per DB2 member
  - Total I/Os column to PSLISTTZ to see I/O activity within the data sharing group for the selected page set over the last two hours

PSLISTTZ—Page Set 2-Hour Summary

The PSLISTTZ view, shown in Figure 93, shows activity for the selected page set for the last 2 hours. Additional I/O and cache information is available (scroll right).

```
>H1 =PSLISTTZ==========DB2GMV54=*========17MAR2001==12:18=108M==MVDB2====D====8
C ------Page Set------- Intvl  DB2        Total   I/O  TotalMax TotalAvg
- Database Object   Prt  Time Target       I/Os    %   I/O Wait I/O Wait 0.40.8
  DSNDB01  DSNLLX01 001 12:18 DB2GMV54        0    0.0       80       20 ***
  DSNDB01  DSNLLX01 001 12:15 DB2GMV54        0    0.0       80       20 ***
  DSNDB01  DSNLLX01 001 12:00 DB2GMV54        0    0.0       80       20 ***
  DSNDB01  DSNLLX01 001 11:45 DB2GMV54        0    0.0       80       20 ***
  DSNDB01  DSNLLX01 001 11:30 DB2GMV54        0    0.0       80       20 ***
  DSNDB01  DSNLLX01 001 11:15 DB2GMV54        0    0.0       80       20 ***
  DSNDB01  DSNLLX01 001 11:00 DB2GMV54        0    0.0       80       20 ***
  DSNDB01  DSNLLX01 001 10:45 DB2GMV54        0    0.0       80       20 ***
```

Figure 93. PSLISTTZ View—Page Set 2-Hour Summary

You can use this view to evaluate page set usage patterns over time.

The default functions shipped with this view are as follows:

- Sort by
  - Page Set column (ascending)
  - Intvl Time column (descending)
  - DB2 Target column (ascending)

PSBPGBPZ—Buffer Pool Page Set GBP-DEP Summary

The PSBPGBPZ view, shown in Figure 94, summarizes group buffer pool dependent page sets and inter-DB2 interest by buffer pool and target.

```
>W1 =PSBPGBPZ=========(ALL======*=======)17MAR2001==15:21:47====MVDB2====D====3
C Bfrpl   DB2     Nr.    GBP         Local          Remote        VP         VP
-  ID    Target   PSs Dependent  R/W Interest  R/W Interest  Current  Changed
  BP00   DB1GMV54  39         5             0             5      152         0
  BP00   DB2GMV54  80         5             5             0      198         0
  BP00   DB2HMV55  13         0             0             0       43         0
```

Figure 94. PSBPGBPZ View—Buffer Pool Page Set GBP-DEP Summary

You can use this view when analyzing the amount of interaction within a data sharing group.

The default functions shipped with this view are as follows:

- Sort by
  - Page Set column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Bfrpl ID column to PSGBP to see all page sets for the selected buffer pool and all targets
  - Nr. PSs column to PSGBP to see all page sets for the selected buffer pool and target
  - GBP Dependent column to PSGBP to see GBP-dependent page sets for this buffer pool for all targets

PSGBP—Page Set GBP-DEP Status

The PSGBP view, shown in Figure 95, shows which page sets are group buffer pool dependent and the local and remote inter-DB2 interest.

```
>W1 =PSBPGBPZ=PSGBP===(ALL======*=======)17MAR2001==15:14:12====MVDB2========52
 ------Page Set-------  DB2          No. GBP Local    Remote      VP       VP
 Database Object   Prt Target   Ty Usrs Dep Interest Interest  Current  Changed
 DSN8D41A DSN8S41E 001 DB1GMV54 PS    0  Y  R/O      R/W             6        0
 DSN8D41A DSN8S41E 003 DB1GMV54 PS    0     R/O      N/RO            2        0
 DSN8D41A DSN8S41P 001 DB1GMV54 TS    0  Y  R/O      R/W             3        0
 DSN8D41A XEMP1    001 DB1GMV54 IX    0     R/O      N/RO            3        0
 DSN8D41A XEMP1    003 DB1GMV54 IX    0     R/O      N/RO            3        0
 DSN8D41A XPROJ1   001 DB1GMV54 IX    0     R/O      N/RO            3        0
```

Figure 95. PSGBP View—Page Set GBP-DEP Status

You can use this view when analyzing the amount of interaction within a data sharing group.

The default functions shipped with this view are as follows:

- Sort by
  - Page Set column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Page Set column to PSDTL to see detailed information on the selected page set
  - No. Usrs column to the USERS analyzer display to see those threads currently accessing the selected page set

PSDTL—Page Set Detail

The PSDTL view, shown in Figure 96, presents full data about the selected page set.

```
W1 =PSSTAT===PSDTL====DB2GMV54=*========17MAR2001==12:45:27====MVDB2====D====1
                 Product Header   Cache Data........  Current   Percents
DB2 Target....... DB2GMV54         VP Curr Cached....       24          8
DB2 Location..... DB2G             VP Max Cached.....       24
DB2 ID........... DB2G             VP Cur Changed....        1          0
DataShar Group... DBGG             VP Max Changed....        2
DataShar Member.. DB2G             VP Curr Pgs.......       25          9
MVS Name......... SYSC             HP Cur Cached.....        0          0
DB2 Release......          410     HP Max Cached.....        0
MVDB2 Release....          510     VP Pool Size......      300
                 DB/TS Details     HP Pool Size......      200
Database......... DEMOD41A         % Pageset in VP...      104
Object (TS/IX)... DEMOS41P         % Pageset in HP...        0
Partition/Dataset 001              % Pgset in VP/HP..      104
Object Type...... TS
Bpool ID......... BP00             Sync I/O..........  Session   Interval
Workfile......... N                Page I/Os.........        4          0
Volser (First)... BAB312           Avg Time..........       14          0
Page Size........         4096     Max Time..........       33          0
Data Set Size(K).          192     Pages/Sec.........                   0
Pgset % Util.....           50
First Data Page..          512     Async I/O.........  Session   Interval
High Alloc Page..           48     Page I/Os.........       21          0
High Format Page.           24     Start I/Os........        1          0
                 Current Details   Avg Time..........       66          0
Number Extents...            1     Max Time..........       63          0
Def Write Q......            2     Pages/Sec.........                   0
Current Users....            0     SIOs/Sec..........                   0
Error Indicator.. N
Commit LSN....... AE7C9CC67F8C     Total I/O.........  Session   Interval
GBP Dependent....                  I/Os..............        5          0
Local Interest... R/W              Avg Time..........       24          0
Remote Interest.. None             Max Time..........       63          0
Interval Secs....           27     I/Os /Sec.........        0          0
Hist Int Secs....            0
Secs per Int.....          300
Date & Time key.. 19991020131843
```

Figure 96. PSDTL View—Page Set Detail

Page Set Summary Views

The following views summarize page set information by buffer pool, database, object, or volume.

PSBPSZ—Buffer Pool Page Set Summary—Session

The PSBPSZ view, shown in Figure 97, summarizes buffer cache statistics and I/O activity by buffer pool and DB2.

```
>W1 =PSBPSZ============DB2G=====*========17MAR2001==15:35:08====MVDB2====D====1
C Bfrpl   DB2     Nr.    VP        VP       HP      Total    VP Max  VPMaxChg
-  ID    Target   PSs  Current  Changed  Current     I/Os  (1 PSet)  (1 PSet)
  BP00   DB2G      37      145        0        0       39        13         2
```

Figure 97. PSBPSZ View—Buffer Pool Page Set Summary—Session

You can use this view when analyzing buffer pool usage and threshold and size specifications. When in SSI mode for a data sharing group, you can identify which DB2 members are causing the most activity per buffer pool.

The default functions shipped with this view are as follows:

- Sort by
  - Bfrpl ID column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Bfrpl ID column to PSBPS to see the page sets in that pool
  - Nr. PSs column to PSBPS to see the page sets in that pool, with only the activity from this DB2
  - VP Current column to PSBPTMZ to see activity for that buffer pool over the last two hours

PSBPS—Buffer Pool Page Sets—Session

The PSBPS view, shown in Figure 98, lists the page sets for a selected buffer pool.

```
>W1 =PSBPS=============DB2G=====*========17MAR2001==15:35:55====MVDB2========37
C  Bfrpl ------Page Set-------  DB2        VP        VP       HP        Total
-   ID   Database Object   Prt Target    Current  Changed  Current       I/Os
  BP00   DB2GWORK DSN4K01  001 DB2G            2        0        0          0
  BP00   DSNDB01  DBD01    001 DB2G           11        0        0          0
  BP00   DSNDB01  DSNLLX01 001 DB2G           13        0        0         14
  BP00   DSNDB01  DSNLLX02 001 DB2G            3        0        0          4
  BP00   DSNDB01  DSNSCT02 001 DB2G            3        0        0          0
  BP00   DSNDB01  DSNSPT01 001 DB2G            3        0        0          0
  BP00   DSNDB01  SCT02    001 DB2G            3        0        0          0
  BP00   DSNDB01  SPT01    001 DB2G            3        0        0          0
  BP00   DSNDB01  SYSLGRNX 001 DB2G           12        0        0         16
  BP00   DSNDB06  DSNADH01 001 DB2G            3        0        0          0
  BP00   DSNDB06  DSNAPH01 001 DB2G            3        0        0          0
  BP00   DSNDB06  DSNATX02 001 DB2G            5        0        0          0
  BP00   DSNDB06  DSNAUH01 001 DB2G            3        0        0          0
  BP00   DSNDB06  DSNDDH01 001 DB2G            3        0        0          0
  BP00   DSNDB06  DSNDDX02 001 DB2G            3        0        0          0
  BP00   DSNDB06  DSNDLX01 001 DB2G            3        0        0          0
```

Figure 98. PSBPS View—Buffer Pool Page Sets—Session

You can use this view to help determine whether the access characteristics of the page set are similar and fit with the buffer pool thresholds. Scroll right to see additional data such as synchronous or asynchronous I/O.

The default functions shipped with this view are as follows:

- Sort by
  - Bfrpl ID column (ascending)
  - Page Set column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Page Set column to PSDTL to see detailed information on the selected page set

PSBPTMZ—Buffer Pool Page Set 2-Hour Summary

The PSBPTMZ view, shown in Figure 99, shows buffer pool activity for the last 2 hours. It is usually invoked by a hyperlink to select a specific buffer pool and DB2 target.

```
>H1 =PSBPTMZ===========DB2GMV54=*========17MAR2001==12:51=96M===MVDB2====D====7
C Bfrpl   Time  DB2     No.    VP        VP       HP      Total     I/O     Syn
-  ID    Intvl Target   PSs  Current  Changed  Current     I/Os      %      I/O
  BP00   12:51 DB2GMV54  81      148       37      198       23    79.3       1
  BP00   12:45 DB2GMV54  77      181       32      191        6    20.7
  BP00   12:30 DB2GMV54  35      130        0        0        0     0.0
  BP00   12:15 DB2GMV54  35      130        0        0        0     0.0
  BP00   12:00 DB2GMV54  35      130        0        0        0     0.0
  BP00   11:45 DB2GMV54  35      130        0        0        0     0.0
  BP00   11:30 DB2GMV54  35      130        0        0        0     0.0
```

Figure 99. PSBPTMZ View—Buffer Pool Page Set 2-Hour Summary

The default functions shipped with this view are as follows:

- Sort by
  - Bfrpl ID column (ascending)
  - Time Intvl column (descending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Bfrpl ID column to PSBPS to see page set activity for the selected buffer pool in that history interval

PSDBSZ—Database Page Set Summary—Session

The PSDBSZ view, shown in Figure 100, summarizes page set activity by database and DB2 target.

```
+W1 =PSDBSZ============DB2G=====*========17MAR2001==15:37:22====MVDB2====D====5
C Page Set  DB2      Nr.     Total    I/O      Sync    Async    Async    VP
- Database Target    PSs      I/Os     %       I/Os     I/Os    Pages  Current
  DB2GWORK DB2G        1         0    0.0         0        1        2        2
  DSNDB01  DB2G        8        34   87.2        53        4        4       51
  DSNDB06  DB2G       20         0    0.0        66        0        0       66
  DSNDDF   DB2G        4         0    0.0        11        0        0       11
  DSN8D41A DB2G        4         5   12.8        16        1        2       15
```

Figure 100. PSDBSZ View—Database Page Set Summary—Session

You can use this view to evaluate I/O and cache information per database.

The default functions shipped with this view are as follows:

- Sort by
  - Page Set / Database column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Page Set / Database column to PSLISTZ to see the page set activity in this database (or summarized for the group if in SSI mode)
  - Nr. PSs column to PSLIST to see page set activity in the database for this DB2
  - Total I/Os column to PSDBTMZ to see activity for the selected database over the last two hours

PSDBTMZ—Database Page Set 2-Hour Summary

The PSDBTMZ view, shown in Figure 101, shows database activity for the last 2 hours. It is usually invoked by a hyperlink to select a specific database and target.

```
>H1 =PSDBTMZ===========DB2GMV54=*========17MAR2001==12:58=103M==MVDB2====D====7
C Page Set  Time  DB2     No.     Total    I/O     Sync    Async    Async    VP
- Database Intvl Target   PSs      I/Os     %      I/Os     I/Os    Pages  Curr
  DSNDB06  12:58 DB2GMV54  60         0    0.0        0        0        0
  DSNDB06  12:45 DB2GMV54  57         4   40.0        4        0        0
  DSNDB06  12:30 DB2GMV54  19         0    0.0        0        0        0
  DSNDB06  12:15 DB2GMV54  19         0    0.0        0        0        0
  DSNDB06  12:00 DB2GMV54  19         0    0.0        0        0        0
  DSNDB06  11:45 DB2GMV54  19         0    0.0        0        0        0
  DSNDB06  11:30 DB2GMV54  19         0    0.0        0        0        0
```

Figure 101. PSDBTMZ View—Database Page Set 2-Hour Summary

The default functions shipped with this view are as follows:

- Sort by
  - Page Set / Database column (ascending)
  - Time Intvl column (descending)
  - DB2 Target column (ascending)

PSOBSZ—Object Page Set Summary—Session

The PSOBSZ view, shown in Figure 102, summarizes page set activity by database object and DB2 target.

```
+W1 =PSOBSZ============DB2G=====*========17MAR2001==15:45:32====MVDB2========37
C ----Page Set-----  DB2     Nr.        Total   I/O     Sync    Async    Async
- Database Object   Target   PSs Typ     I/Os    %      I/Os     I/Os    Pages
  DB2GWORK DSN4K01  DB2G       1 TS         0   0.0        0        1        2
  DSNDB01  DBD01    DB2G       1 TS         0   0.0       11        0        0
  DSNDB01  DSNLLX01 DB2G       1 IX        14  35.9       13        1        1
  DSNDB01  DSNLLX02 DB2G       1 IX         4  10.3        3        1        1
  DSNDB01  DSNSCT02 DB2G       1 IX         0   0.0        3        0        0
  DSNDB01  DSNSPT01 DB2G       1 IX         0   0.0        3        0        0
  DSNDB01  SCT02    DB2G       1 TS         0   0.0        3        0        0
  DSNDB01  SPT01    DB2G       1 TS         0   0.0        3        0        0
  DSNDB01  SYSLGRNX DB2G       1 TS        16  41.0       14        2        2
```

Figure 102. PSOBSZ View—Object Page Set Summary—Session

You can use this view to evaluate I/O and cache information per database object.

The default functions shipped with this view are as follows:

- Sort by
  - Page Set / Database Object column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Page Set / Database Object column to PSLISTZ to see the page set activity in this database object (or summarized for the group if in SSI mode)
  - Nr. PSs column to PSLIST to see page set activity in the database object for this DB2
  - Total I/Os column to PSOBTMZ to see activity for the selected database object over the last two hours

PSOBTMZ—Object Page Set 2-Hour Summary

The PSOBTMZ view, shown in Figure 103, shows database object activity for the last 2 hours. It is usually invoked by a hyperlink to select a specific database object and target.

```
>H1 =PSOBTMZ===========DB2GMV54=*========17MAR2001==13:02=91M===MVDB2====D====6
C ----Page Set-----  Time  DB2     No.        Total   I/O     Sync    Async
- Database Object   Intvl Target   PSs Typ     I/Os    %      I/Os     I/Os
  DSNDB01  DSNLLX01 13:02 DB2GMV54   1 IX         0   0.0        0        0
  DSNDB01  DSNLLX01 12:45 DB2GMV54   1 IX         1  10.0        1        0
  DSNDB01  DSNLLX01 12:30 DB2GMV54   1 IX         0   0.0        0        0
  DSNDB01  DSNLLX01 12:15 DB2GMV54   1 IX         0   0.0        0        0
  DSNDB01  DSNLLX01 12:00 DB2GMV54   1 IX         0   0.0        0        0
  DSNDB01  DSNLLX01 11:45 DB2GMV54   1 IX         0   0.0        0        0
```

Figure 103. PSOBTMZ View—Object Page Set 2-Hour Summary

The default functions shipped with this view are as follows:

- Sort by
  - Page Set / Database Object column (ascending)
  - Time Intvl column (descending)
  - DB2 Target column (ascending)

PSVOLSSI—Volume I/O SSI Summary—Session

The PSVOLSSI view, shown in Figure 104, summarizes I/O activity by volume across multiple DB2 targets in SSI mode.

```
>W1 =PSVOLSSI=========(ALL======*=======)17MAR2001==15:54:53====MVDB2====D====2
C            Sync   I/O Sync Max  Sync Avg                 Async   I/O    Async
- Volume     I/Os    %  I/O Wait  I/O Wait 0....20...40     I/Os    %     Pages
  BAB310       39  88.6       37        23                    1 100.0        2
  BAB321        5  11.4       28        20                    0   0.0        0
```

Figure 104. PSVOLSSI View—Volume I/O SSI Summary—Session

This data is especially valuable for a data sharing group to analyze total I/O.

The default functions shipped with this view are as follows:

- Sort by
  - Volume column (ascending)
- Hyperlink from
  - Volume column to PSVOLSZ to see I/O activity summarized by volume and DB2
  - Sync I/Os column to PSVOLTMZ to see I/O activity for that volume over the last two hours

PSVOLSZ—Volume I/O Summary—Session

The PSVOLSZ view, shown in Figure 105, summarizes I/O activity by volume and DB2.

```
>W1 =PSVOLSZ==========(ALL======*=======)17MAR2001==13:05:43====MVDB2========35
C         DB2     Nr.     Sync   I/O Sync Max  Sync Avg                    Async
- Volume Target   PSs     I/Os    %  I/O Wait  I/O Wait 0....20....40     I/Os
  BAB309 DB1GMV54   1        2   0.2       52        29 *********           0
  BAB309 DB2GMV54   1        7   0.5      103        34 ***********         3
  BAB310 DB1GMV54   4       24   1.9       30        23 *******             0
  BAB310 DB2GMV54  13       69   5.4      800       234 ************+       20
  BAB310 DB2HMV55  17      155  12.0       73        23 ********            21
  BAB311 DB2HMV55  12      274  21.3       90        24 ********            17
  BAB312 DB1GMV54   6       24   1.9       42        17 ******              0
  BAB312 DB2GMV54   9       36   2.8       37        20 *******             8
  BAB313 DB1GMV54   1        3   0.2       14        10 ***                 0
  BAB313 DB2GMV54   1        4   0.3       17        13 ****                1
  BAB314 DB1GMV54   3       10   0.8       41        22 *******             1
  BAB314 DB2GMV54  11       35   2.7       72        30 **********          6
  BAB315 DB1GMV54   5       11   0.9       26        18 ******              1
  BAB315 DB2GMV54  15       55   4.3       53        31 **********          15
  BAB316 DB1GMV54  11       42   3.3       46        19 ******              0
  BAB316 DB2GMV54  11       55   4.3       48        24 ********            9
  BAB317 DB1GMV54   2       18   1.4       39        13 ****                0
  BAB317 DB2GMV54   2       29   2.3       80        22 *******             5
  BAB318 DB2GMV54   1        3   0.2       32        16 *****               1
  BAB318 DB2HMV55  23      177  13.8       98        40 *************       44
  BAB320 DB1GMV54   1        3   0.2       16        11 ****                0
  BAB320 DB2GMV54   1        4   0.3      967       251 ************+        2
```

Figure 105. PSVOLSZ View—Volume I/O Summary—Session

You can use this view to analyze workload and I/O response time.

The default functions shipped with this view are as follows:

- Sort by
  - Volume column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Volume column to PSVOLPSZ to see page set statistics for the selected volume in SSI mode (summarized across multiple members if the context is for a data sharing group)
  - Nr. PSs column to PSVOLPS to see page set statistics for the selected volume for one DB2
  - Sync I/Os column to PSVOLTMZ to see I/O activity for that volume over the last two hours

PSVOLPSZ—Volume Page Sets (SSI)

The PSVOLPSZ view, shown in Figure 106, summarizes I/O activity by volume and page sets in SSI mode.

```
>W1 =PSVOLSZ==PSVOLPSZ(ALL======*=======)17MAR2001==16:14:55====MVDB2========30
C        ------Page Set-------  No.     Sync   I/O Sync Max Sync Avg
- Volume Database Object   Prt Mbrs     I/Os    %  I/O Wait I/O Wait 0..20..40
  BAB310 DB2HWORK DSN4K01  001    1        0   0.0        0        0
  BAB310 DSNDB01  DBD01    001    2       47   2.7       73       17 ****
  BAB310 DSNDB01  DSNLLX01 001    2       19   1.1       46       18 ****
  BAB310 DSNDB01  DSNSCT02 001    2       14   0.8       40       20 *****
  BAB310 DSNDB01  SCT02    001    2       24   1.4       51       20 *****
  BAB310 DSNDB01  SYSLGRNX 001    4       68   3.9       48       22 *****
  BAB310 DSNDB06  DSNAPH01 001    2       14   0.8       36       22 *****
  BAB310 DSNDB06  DSNAPX01 001    1        3   0.2       21       14 ***
  BAB310 DSNDB06  DSNAUH01 001    2       18   1.0       62       21 *****
  BAB310 DSNDB06  DSNDDH01 001    2       16   0.9      137       27 ******
  BAB310 DSNDB06  DSNDDX02 001    2        6   0.3       26       15 ***
  BAB310 DSNDB06  DSNFNX01 001    2        6   0.3       31       18 ****
  BAB310 DSNDB06  DSNKAX01 001    1        4   0.2      800      234 ********+
  BAB310 DSNDB06  DSNKAX02 001    2        9   0.5       67       25 ******
  BAB310 DSNDB06  DSNKAX03 001    1        3   0.2       28       17 ****
  BAB310 DSNDB06  DSNKDX01 001    1        3   0.2       48       35 ********
```

Figure 106. PSVOLPSZ View—Volume Page Sets (SSI)

You can use this view to analyze total activity per page set within a data sharing group.

The default functions shipped with this view are as follows:

- Sort by
  - Volume column (ascending)
  - Page Set column (ascending)
- Hyperlink from
  - Volume column to PSVOLPS to see I/O activity for that volume per page set and DB2 member
  - Page Set column to PSVOLPS to see I/O activity for the selected page set per DB2 member

PSVOLPS—Volume Page Sets

The PSVOLPS view, shown in Figure 107, shows I/O activity by volume and page set per DB2.

```
>W1 =PSVOLSZ==PSVOLPS==DB2G=====*========17MAR2001==15:28:08====MVDB2========11
C        ------Page Set-------  DB2         Sync  Sync Max  Sync Avg
- Volume Database Object   Prt Target       I/Os  I/O Wait  I/O Wait 0..20..40
  BAB316 DSNDB01  DBD01    001 DB2G           97       136        24
  BAB316 DSNDB06  DSNAUH01 001 DB2G            3        41        20
  BAB316 DSNDB06  DSNDSX01 001 DB2G            4        37        29
  BAB316 DSNDB06  DSNDXX01 001 DB2G            4        68        39
  BAB316 DSNDB06  DSNSSX01 001 DB2G            4        39        18
  BAB316 DSNDB06  SYSSTR   001 DB2G           14        51        25
  BAB316 DSNDB06  SYSUSER  001 DB2G            2        63        47
  BAB316 DSNDDF   DSNDDFLL 001 DB2G            3        43        28
  BAB316 DSNDDF   DSNDDFLM 001 DB2G            3        45        37
  BAB316 DSNDDF   DSNDDFLN 001 DB2G            3        52        33
  BAB316 DSNDDF   SYSDDF   001 DB2G            2        39        30
```

Figure 107. PSVOLPS View—Volume Page Sets

You can use this view to analyze activity per page set on a volume.

The default functions shipped with this view are as follows:

- Sort by
  - Volume column (ascending)
  - Page Set column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Page Set column to PSDTL to see detailed information on the selected page set

PSVOLTMZ—Volume I/O 2-Hour Summary

The PSVOLTMZ view, shown in Figure 108, shows volume I/O activity over the last 2 hours. It is usually invoked by a hyperlink to select the volume.

```
>H1 =PSVOLTMZ=========(ALL======*=======)17MAR2001==13:07=97M===MVDB2========20
C          Time  DB2      Nr.     Sync  Sync Max  Sync Avg                Async
- Volume Intvl Target    PSs     I/Os  I/O Wait  I/O Wait 0...20...40    Pages
  BAB310 13:07 DB1GMV54    4        0        30         0                     0
  BAB310 13:07 DB2GMV54   13        2       800        12 ***                 3
  BAB310 13:07 DB2HMV55   17       31        73        34 *********          16
  BAB310 13:00 DB1GMV54    3        0        30         0                     0
  BAB310 13:00 DB2HMV55   15       22        65        34 *********          4
  BAB310 12:45 DB1GMV54    3        0        30         0                     0
  BAB310 12:45 DB2GMV54   12        0       800         0                     0
  BAB310 12:45 DB2HMV55   15        0        65         0                     0
  BAB310 12:30 DB1GMV54    3        0        30         0                     0
  BAB310 12:30 DB2GMV54    3        0        46         0                     0
  BAB310 12:30 DB2HMV55   15        0        65         0                     0
  BAB310 12:15 DB1GMV54    3        0        30         0                     0
  BAB310 12:15 DB2GMV54    3        0        46         0                     0
  BAB310 12:15 DB2HMV55   15        0        65         0                     0
  BAB310 12:00 DB1GMV54    3        0        30         0                     0
  BAB310 12:00 DB2GMV54    3        0        46         0                     0
  BAB310 12:00 DB2HMV55   15        0        65         0                     0
  BAB310 11:45 DB1GMV54    3        0        30         0                     0
  BAB310 11:45 DB2GMV54    3        0        46         0                     0
  BAB310 11:45 DB2HMV55   15        0        65         0                     0
```

Figure 108. PSVOLTMZ View—Volume I/O 2-Hour Summary

The default functions shipped with this view are as follows:

- Sort by
  - Volume column (ascending)
  - Time Intvl column (descending)
  - DB2 Target column (ascending)

I/O by Page Set Views

The following views display information about I/O by page set.

PSxIOSZ—I/O Page Set Summary—Session

The PSxIOSZ views, as shown in Figure 109, show I/O activity per page set since DB2 startup for each of these categories:

- Synchronous I/O
- Asynchronous I/O
- Total I/O

If in SSI mode, data from multiple DB2 data sharing members is combined.

```
>W1 =PSSIOSZ===========DB2G=====*========17MAR2001==15:53:09====MVDB2========37
CMD ------Page Set-------  No.      Sync    I/O  Sync Max  Sync Avg
--- Database Object   Prt Mbrs      I/Os     %   I/O Wait  I/O Wait 0...20...40
    DB2GWORK DSN4K01  001    1         0    0.0         0         0
    DSNDB01  DBD01    001    1        11    7.5        43        18 ******
    DSNDB01  DSNLLX01 001    1        13    8.9        42        20 *******
    DSNDB01  DSNLLX02 001    1         3    2.1        35        20 *******
    DSNDB01  DSNSCT02 001    1         3    2.1        32        16 *****
    DSNDB01  DSNSPT01 001    1         3    2.1        23        13 ****
    DSNDB01  SCT02    001    1         3    2.1        18        12 ****
    DSNDB01  SPT01    001    1         3    2.1        32        21 *******
    DSNDB01  SYSLGRNX 001    1        14    9.6        37        19 ******
    DSNDB06  DSNADH01 001    1         3    2.1        50        34 ***********
    DSNDB06  DSNAPH01 001    1         3    2.1        26        14 *****
    DSNDB06  DSNATX02 001    1         5    3.4        40        13 ****
```

Figure 109. PSSIOSZ View—I/O Page Set Summary—Session

You can use these views to analyze the amount of I/O activity per page set and identify I/O response time problems.

There are three similar views that present the data for either synchronous, asynchronous, or total I/O:

- PSSIOSZ—Synchronous I/O
- PSAIOSZ—Asynchronous I/O
- PSTIOSZ—Total I/O

The default functions shipped with these views are as follows:

- Sort by
  - Page Set column (ascending)
- Hyperlink from
  - Page Set column to PSxIOS to see I/O activity per DB2 (in SSI mode)

PSxIOS—I/O Page Set Member Detail—Session

The PSxIOS views, as shown in Figure 110, show I/O activity per page set since DB2 startup for each of these categories:

- Synchronous I/O
- Asynchronous I/O
- Total I/O

```
 W1 =PSSIOS============DB2G=====*========17MAR2001==15:53:54====MVDB2========37
C ------Page Set-------  DB2          Sync  Sync Max  Sync Avg
- Database Object   Prt Target        I/Os  I/O Wait  I/O Wait 0....20....40
  DB2GWORK DSN4K01  001 DB2G             0         0         0
  DSNDB01  DBD01    001 DB2G            11        43        18 **
  DSNDB01  DSNLLX01 001 DB2G            13        42        20 ***
  DSNDB01  DSNLLX02 001 DB2G             3        35        20 ***
  DSNDB01  DSNSCT02 001 DB2G             3        32        16 **
  DSNDB01  DSNSPT01 001 DB2G             3        23        13 **
  DSNDB01  SCT02    001 DB2G             3        18        12 **
  DSNDB01  SPT01    001 DB2G             3        32        21 ***
  DSNDB01  SYSLGRNX 001 DB2G            14        37        19 **
  DSNDB06  DSNADH01 001 DB2G             3        50        34 ****
  DSNDB06  DSNAPH01 001 DB2G             3        26        14 **
  DSNDB06  DSNATX02 001 DB2G             5        40        13 **
  DSNDB06  DSNAUH01 001 DB2G             3        32        19 ***
```

Figure 110. PSSIOS View—I/O Page Set Member Detail—Session

You can use these views to analyze the amount of I/O activity per page set and DB2 and identify I/O response time problems.

There are three similar views that present the data for either synchronous, asynchronous, or total I/O:

- PSSIOS—Synchronous I/O
- PSAIOS—Asynchronous I/O
- PSTIOS—Total I/O

The default functions shipped with these views are as follows:

- Sort by
  - Page Set column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Page Set column to PSDTL to see detailed information on the selected page set

PSxIOZ—I/O Page Set Summary—Interval

The PSxIOZ views, as shown in Figure 111, show I/O activity per page set in the last interval for each of these categories:

- Synchronous I/O
- Asynchronous I/O
- Total I/O

If in SSI mode, data from multiple DB2 data sharing members is combined.

```
>W1 =PSSIOZ============DB2G=====*========17MAR2001==15:54:35====MVDB2========37
CMD ------Page Set-------  No.     Sync   I/O Sync Max Sync Avg
--- Database Object   Prt Mbrs     I/Os    %  I/O Wait I/O Wait 0.....20....40
    DB2GWORK DSN4K01  001    1        0   0.0        0        0
    DSNDB01  DBD01    001    1        0   0.0       43        0
    DSNDB01  DSNLLX01 001    1        0   0.0       42        0
    DSNDB01  DSNLLX02 001    1        0   0.0       35        0
    DSNDB01  DSNSCT02 001    1        0   0.0       32        0
    DSNDB01  DSNSPT01 001    1        0   0.0       23        0
    DSNDB01  SCT02    001    1        0   0.0       18        0
    DSNDB01  SPT01    001    1        0   0.0       32        0
    DSNDB01  SYSLGRNX 001    1        0   0.0       37        0
    DSNDB06  DSNADH01 001    1        0   0.0       50        0
    DSNDB06  DSNAPH01 001    1        0   0.0       26        0
    DSNDB06  DSNATX02 001    1        0   0.0       40        0
    DSNDB06  DSNAUH01 001    1        0   0.0       32        0
    DSNDB06  DSNDDH01 001    1        0   0.0       31        0
    DSNDB06  DSNDDX02 001    1        0   0.0       28        0
```

Figure 111. PSSIOZ View—I/O Page Set Summary—Interval

You can use these views to see the current I/O workload and response times.

There are three similar views that present the data for either synchronous, asynchronous, or total I/O:

- PSSIOZ—Synchronous I/O
- PSAIOZ—Asynchronous I/O
- PSTIOZ—Total I/O

The default functions shipped with these views are as follows:

- Sort by
  - Page Set column (ascending)
- Hyperlink from
  - Page Set column to PSxIO to see I/O activity in the last interval for the selected page set

PSxIO—I/O Page Set Member Detail—Interval

The PSxIO views, as shown in Figure 112, show I/O activity per page set in the last interval for each of these categories:

- Synchronous I/O
- Asynchronous I/O
- Total I/O

```
 W1 =PSSIO=============DB2G=====*========17MAR2001==15:55:23====MVDB2========37
C ------Page Set-------  DB2         Sync Sync Max Sync Avg            Sync I/O
- Database Object   Prt Target       I/Os I/O Wait I/O Wait 0...20..40 Rate/Sec
  DB2GWORK DSN4K01  001 DB2G            0        0        0                0.00
  DSNDB01  DBD01    001 DB2G            0       43        0                0.00
  DSNDB01  DSNLLX01 001 DB2G            0       42        0                0.00
  DSNDB01  DSNLLX02 001 DB2G            0       35        0                0.00
  DSNDB01  DSNSCT02 001 DB2G            0       32        0                0.00
  DSNDB01  DSNSPT01 001 DB2G            0       23        0                0.00
  DSNDB01  SCT02    001 DB2G            0       18        0                0.00
  DSNDB01  SPT01    001 DB2G            0       32        0                0.00
  DSNDB01  SYSLGRNX 001 DB2G            0       37        0                0.00
  DSNDB06  DSNADH01 001 DB2G            0       50        0                0.00
  DSNDB06  DSNAPH01 001 DB2G            0       26        0                0.00
  DSNDB06  DSNATX02 001 DB2G            0       40        0                0.00
  DSNDB06  DSNAUH01 001 DB2G            0       32        0                0.00
  DSNDB06  DSNDDH01 001 DB2G            0       31        0                0.00
```

Figure 112. PSSIO View—I/O Page Set Member Detail—Interval

You can use these views to analyze the amount of I/O activity per page set and DB2 from one DB2.

There are three similar views that present the data for either synchronous, asynchronous, or total I/O:

- PSSIO—Synchronous I/O
- PSAIO—Asynchronous I/O
- PSTIO—Total I/O

The default functions shipped with these views are as follows:

- Sort by
  - Page Set column (ascending)
  - DB2 Target column (ascending)
- Hyperlink from
  - Page Set column to PSDTL to see detailed information on the selected page set

Chapter 14. Threads

Views for thread analysis are organized into two groups:

- Thread summary views
- Thread detail views

One thread record is created for each active thread. These records provide the most important indicators of current thread activity.

Using SSI mode with these views allows the threads from multiple DB2s to be shown together in one display. This ability is especially important in a sysplex where incoming work may be processed in any of several different systems and it can be difficult to locate a particular user.

Table 6 lists all the views available for threads.

Table 6. Thread Views

View Name	Group / Type	Description
THDACTV	Detail Tabular	All Active Threads (see page 190) Displays information about each active thread.
THDALL	Detail Tabular	All Connected Threads (see page 191) Displays information about each connected thread.
THDCICPR	Detail Tabular	CICS Protected Thread Averages (see page 193) Displays information about CICS protected threads. You can use this view to see average counts and times across the multiple CICS transactions executed under a single protected thread.
THDCONNZ	Summary Summary	Thread Summary by Connection (see page 184) Summarizes current thread activity by connection name. You can use this view to see an overview of current activity by the source of each workload, such as CICS, IMS, batch, or TSO connections. In SSI mode, it shows the total workload in the defined context. This can be especially valuable in a data sharing sysplex.
THDCTYPZ	Summary Summary	Thread Summary by Connection Type (see page 185) Summarizes current thread activity by connection type. You can use this view to see an overview of current activity by attach type, such as CICS, TSO, IMS-MPP, or IMS-BMP. In SSI mode, it shows the total workload in the defined context. This can be especially valuable in a data sharing sysplex.

Table 6. Thread Views (Continued)

View Name	Group / Type	Description
THDDB2Z	Summary Summary	Thread Summary by DB2 ID (see page 186) Summarizes current thread activity by the target DB2 subsystem ID. You can use this view to see an overview of current activity for each DB2 in the defined context.
THDDETL	Detail Detail	Thread Detail (see page 195) Shows detailed information about the selected user. You can use this view to view all collected information for a thread. Additional information is available through the alternative hyperlinks to the DUSER display.
THDLIST	Detail Tabular	All Active Threads—Long Form (see page 192) Displays information about each active thread. You can use this view to customize one or more views with exactly the data you want to see for your workload(s).
THDPLANZ	Summary Summary	Thread Summary by Plan Name (see page 187) Summarizes current thread activity by plan name. You can use this view to see an overview of current activity by application. In SSI mode, it shows the total workload in the defined context. This can be especially valuable in a data sharing sysplex.
THDPRLLD	Detail Tabular	Parallel Query Detail (see page 194) Shows each active task of a parallel query. You can use this view to understand the total scope of a parallel query. In a data sharing group context, it shows all parallel tasks running in multiple DB2 members with sysplex query parallelism.
THDPRLLZ	Summary Summary	Summary of Parallel Queries (see page 188) Summarizes all queries that have invoked the parallel processing feature. You can use this view to see an overview of all parallel queries currently active in the defined context. In a data sharing group, it includes all parallel tasks running with sysplex query parallelism.
THDUSERZ	Summary Summary	Thread Summary by User ID (see page 189) Summarizes current thread activity by user ID. You can use this view to see an overview of current activity by user ID and DB2. This is useful mainly for sources of multiple threads like CICS or the DB2 internal threads labeled SYSOPR.

Table 6. Thread Views (Continued)

View Name	Group / Type	Description
THDWARN	Detail Tabular	Key Indicator/Warnings (see page 197) Provides information about the most important key indicators of failures or degradation. You can use this view to see if the selected threads have more than one warning indicator set. A hyperlink on the Indicator Msg column shows more information on these warnings.
THDWARND	Detail Detail	Key Indicator/Warnings Detail (see page 198) Displays detailed information about key indicator warning messages for the selected user. You can use this view to analyze threads that have more than one warning.

Thread Summary Views

The following views display summary information about all active threads.

THDCONNZ—Thread Summary by Connection

The THDCONNZ view, shown in Figure 113, summarizes current thread activity by connection name.

```
W1 =THDCONNZ==========DB2G=====*========17MAR2001==13:48:31====MVDB2====D====5
Connect  Threads Threads  Active  Thds   Average           SQL          Getpg
Name     Connect in Plan  in DB2  Susp   Elapsed    Warn   Rate  Locks   Rate
CICSCN4       14       2       0     0 00:00:00.00  Yes       0      7      0
CICS41C3      27       1       0     0 00:00:00.00  No        0      4      0
DB2CALL       13       4       8     0 00:45:22.26  No        0      0      0
SYSTEM        91       0      91    76 00:00:00.00  Yes       0      4      0
X18H           2       0       0     0 00:00:00.00  No        0      0      0
```

Figure 113. THDCONNZ View—Thread Summary by Connection

You can use this view to see an overview of current activity by the source of each workload, such as CICS, IMS, batch, or TSO connections. In SSI mode, it shows the total workload in the defined context. This can be especially valuable in a data sharing sysplex.

The default functions shipped with this view are as follows:

- Sort by
  - Connect Name column (ascending)
- Hyperlink from
  - Connect Name column to THDCICPR to see information about CICS protected threads when connection type equals CICS and a protected thread has been reused
  - Threads Connect column to THDALL to see all connected threads for the selected connection in the defined context
  - Threads in Plan column to THDACTV to see all active threads for the selected connection in the defined context
  - Warn column to THDWARN to see information about the key indicators of failures or degradation for the selected connection
  - Locks column to LOCKU analyzer display to see a summary of lock contention by user if any locks are held by threads of this connection

THDCTYPZ—Thread Summary by Connection Type

The THDCTYPZ view, shown in Figure 114, summarizes current thread activity by connection type.

```
W1 =THDCTYPZ==========DB2G=====*========17MAR2001==17:05:07====MVDB2====D====2
Connect  Threads Threads  Active Thrds   Average           SQL          Getpg
Type     Connect in Plan  in DB2  Susp   Elapsed    Warn   Rate  Locks   Rate
DB2CALL       13       4       8     0 01:46:42.36  No        0      0      0
SYSTEM       112       0     112    97 00:00:00.00  No        0      2      0
```

Figure 114. THDCTYPZ View—Thread Summary by Connection Type

You can use this view to see an overview of current activity by attach type, such as CICS, TSO, IMS-MPP, or IMS-BMP. In SSI mode, it shows the total workload in the defined context. This can be especially valuable in a data sharing sysplex.

The default functions shipped with this view are as follows:

- Sort by
  - Connect Type column (ascending)
- Hyperlink from
  - Connect Type column to THDCICPR to see information about CICS protected threads when connection type equals CICS and a protected thread has been reused
  - Threads Connect column to THDALL to see all connected threads for the selected connection in the defined context
  - Threads in Plan column to THDACTV to see all active threads for the selected connection in the defined context
  - Warn column to THDWARN to see information about the key indicators of failures or degradation for the selected connection
  - Locks column to LOCKU analyzer display to see a summary of lock contention by user if any locks are held by threads of this connection type

THDDB2Z—Thread Summary by DB2 ID

The THDDB2Z view, shown in Figure 115, summarizes current thread activity by the target DB2 subsystem ID.

```
W1 =THDDB2Z===========DB2G=====*========17MAR2001==17:57:08====MVDB2====D====1
          Threads Threads  Active Thrds   Average           SQL          Getpg
DB2  MVS  Connect in Plan  in DB2  Susp   Elapsed    Warn   Rate  Locks   Rate
DB2G SYSD      54       2      38     0 00:15:35.16  No        0      1      0
```

Figure 115. THDDB2Z View—Thread Summary by DB2 ID

You can use this view to see an overview of current activity for each DB2 in the defined context.

The default functions shipped with this view are as follows:

- Sort by
  - DB2 column (ascending)
- Hyperlink from
  - Threads Connect column to THDALL to see all connected threads for the selected DB2 in the defined context
  - Threads in Plan column to THDACTV to see all active threads for the selected DB2 in the defined context
  - Warn column to THDWARN to see information about the key indicators of failures or degradation for the selected DB2
  - Locks column to LOCKU analyzer display to see a summary of lock contention by user if any locks are held by threads of this DB2

THDPLANZ—Thread Summary by Plan Name

The THDPLANZ view, shown in Figure 116, summarizes current thread activity by plan name.

```
>W1 =THDPLANZ==========DB2G=====*========17MAR2001==14:31:48====MVDB2====D====7
          Threads Threads  Active  Thds   Average      In DB2            SQL
 Plan     Connect in Plan  in DB2  Susp   Elapsed      Elapsed    Warn   Rate
 -noname-      52       3       8     0 00:13:26.59  00:00:00.12  No        0
 DB2GDBM1      68       0      68    66 00:00:00.00  00:00:00.00  Yes       0
 DB2GDIST       6       0       6     4 00:00:00.00  00:00:00.00  Yes       0
 DB2GMSTR      17       0      17     6 00:00:00.00  00:00:00.00  Yes       0
 DSN8CC0        1       1       0     0 00:00:00.00  00:00:00.00  No        0
 TSMCOM3        1       1       0     0 00:00:00.00  00:00:00.00  No        0
 TSMPL08        1       1       0     0 00:00:00.00  00:00:00.00  Yes       0
```

Figure 116. THDPLANZ View—Thread Summary by Plan Name

You can use this view to see an overview of current activity by application. In SSI mode, it shows the total workload in the defined context. This can be especially valuable in a data sharing sysplex.

The default functions shipped with this view are as follows:

- Sort by
  - Plan column (ascending)
- Hyperlink from
  - Plan column to THDCICPR to see information about CICS protected threads when connection type equals CICS and a protected thread has been reused
  - Threads Connect column to THDALL to see all connected threads for the selected plan in the defined context
  - Threads in Plan column to THDACTV to see all active threads for the selected plan in the defined context
  - Warn column to THDWARN to see information about the key indicators of failures or degradation for the selected plan
  - Locks column to LOCKU analyzer display to see a summary of lock contention by user if any locks are held by execution of this plan

THDPRLLZ—Summary of Parallel Queries

The THDPRLLZ view, shown in Figure 117, summarizes all queries that have invoked the parallel processing feature.

```
W1 =THDPRLLZ==========DBGG=====*========17MAR2001==13:48:31====MVDB2====D====5
Query           Totl Connect               Average      SQL          Getpg
Nr.    User ID  Task Name     CPU Time     Elapsed    Stmts  Locks   Total
    1  ACCTDEP     2 CICSCN4 00:00:01.32 00:01:40.09      2      0       0
    2  BOLHHH4     4 TSO     00:00:00.79 00:00:55.36      1     10   25312
```

Figure 117. THDPRLLZ View—Summary of Parallel Queries

You can use this view to see an overview of all parallel queries currently active in the defined context. In a data sharing group, it includes all parallel tasks running with sysplex query parallelism.

The default functions shipped with this view are as follows:

- Sort by
  - Query Nr. column (ascending)
- Hyperlink from
  - Query Nr. column to THDPRLLD to see detailed information about each task of a parallel query

THDUSERZ—Thread Summary by User ID

The THDUSERZ view, shown in Figure 118, summarizes current thread activity by user ID.

```
W1 =THDUSERZ==========DB2G=====*========17MAR2001==17:58:32====MVDB2========19
                    Connect                Average           SQL           Getpg
User ID  DB2   Totl Name     CPU Time     Elapsed    %CPU Stmts  Locks    Total
-noname- DB2G    43 CICS*** 00:00:00.00 00:00:00.00   0.0     0      0        0
ACCTDEP  DB2G     2 CICSCN4 00:00:00.00 00:00:00.00   0.0     0      0        0
BABUSER  DB2G     1 CICSCN4 00:00:00.00 00:00:00.00   0.0     0      0        0
BOLBPL1  DB2G     9 DB2CALL 00:00:00.00 00:00:00.00   0.0     0      0        0
BOLBPL4  DB2G     1 DB2CALL 00:00:18.15 02:32:55.04   0.0     0      0        0
BOLHHH2  DB2G     1 DB2CALL 00:00:00.79 00:10:55.36   0.0     0      0        0
BOLSMR2  DB2G     1 DB2CALL 00:00:02.16 00:10:55.36   0.0     0      0        0
CICSTC   DB2G     1 CICS41C 00:00:00.00 00:00:00.00   0.0     0      0        0
CIM4X    DB2G     1 X18H    00:00:00.00 00:00:00.00   0.0     0      0        0
CMR4     DB2G     1 CICSCN4 00:00:00.00 00:00:00.00   0.0     0      0        0
DMRA     DB2G     1 DB2CALL 00:00:30.89 03:49:22.56   0.0     0      0        0
OLTR     DB2G     1 DB2CALL 00:00:56.38 08:11:31.20   0.0     0      0        0
PAYROLDP DB2G     1 CICSCN4 00:00:00.00 00:00:00.00   0.0     0      0        0
PDRIVER  DB2G     1 X18H    00:00:00.00 00:00:00.00   0.0     0      0        0
SYSOPR   DB2G   104 SYSTEM  00:00:00.00 00:00:00.00   0.0     0      4      147
```

Figure 118. THDUSERZ View—Thread Summary by User ID

You can use this view to see an overview of current activity by user ID and DB2. This is useful mainly for sources of multiple threads like CICS or the DB2 internal threads labeled SYSOPR.

The default functions shipped with this view are as follows:

- Sort by
  - User ID column (ascending)
  - DB2 column (ascending)
- Hyperlink from
  - DB2 column to THDACTV to see all active threads for the selected DB2 and user ID
  - Locks column to LOCKU analyzer display to see a summary of lock contention by user if any locks are held by threads from this user ID

Thread Detail Views

The following views display detailed information about each active thread.

THDACTV—All Active Threads

The THDACTV view, shown in Figure 119, displays information about each active thread.

```
>W1 =THDACTV==========DB2G=====*========17MAR2001==13:53:53====MVDB2====D====7
          DB2  Connect               Elapsed              SQL
 Auth ID  ID   Name      CPU Time     Time       %CPU   Stmts Warn  Locks User
 ACCTDEP  DB2G CICSCN4  00:00:00.00 00:00:00.00   0.0       2 No        3 ACTIV
 BOLHHH2  DB2G DB2CALL  00:00:03.04 00:32:46.08   0.0       0 No        0 BBI M
 DMRA     DB2G DB2CALL  00:00:16.58 02:43:50.40   0.0       0 No        0 BBI M
 DSN8410  DB2G CICS41C3 00:00:00.00 00:00:00.00   0.0       1 No        4 ACTIV
 OLTR     DB2G DB2CALL  00:00:06.72 01:05:32.16   0.0       0 No        0 BBI M
 TSGSTC   DB2G DB2CALL  00:00:36.88 06:11:22.24   0.0       0 No        0 BBI M
 TSM8     DB2G CICSCN4  00:00:00.00 00:00:00.00   0.0     348 Yes       4 ACTIV
```

Figure 119. THDACTV View—All Active Threads

The default functions shipped with this view are as follows:

- Hyperlink from
  - Auth ID column to DUSER analyzer display to see detailed information about the selected user in each of these categories:
    - Status
    - Environmental indicators
    - Elapsed time analysis
    - SQL statement execution counts
    - Buffer pool activity
    - Lock activity
    - Parallelism
    - DDF activity
    - Stored procedures
  - Connect Name column to THDCICPR to see information about CICS protected threads when connection type equals CICS and a protected thread has been reused
  - Warn column to THDWARND to see details about key indicator warning messages for the selected user
  - Locks column to LOCKE analyzer display to see lock contention by user details if this thread is holding locks
  - User Status column to THDDETL to see more detailed information about the selected user

THDALL—All Connected Threads

The THDALL view, shown in Figure 120, displays information about each connected thread.

```
>W1 =THDALL============DB2G=====*========17MAR2001==12:28:56====MVDB2=======120
                Connect                Elapsed                            SQL
 User ID  DB2  Name       CPU Time      Time       %CPU User Status   Stmts Warn
 ACCTDEP  DB2G CICSCN4  00:00:00.00 00:00:00.00   0.0 ACTIVE-USER       4 No
 ACCTDEP  DB2G CICSCN4  00:00:00.00 00:00:00.00   0.0 ACTIVE-USER       0 No
 BABUSER  DB2G CICSCN4  00:00:00.00 00:00:00.00   0.0 ACTIVE-USER       0 No
 BOLBPL1  DB2G DB2CALL  00:00:00.00 00:00:00.00   0.0 ACTIVE-DB2        0 No
 BOLSMR2  DB2G DB2CALL  00:00:14.03 02:21:59.68   0.0 BBI MONITOR       0 No
 CMR4     DB2G CICSCN4  00:00:00.00 00:00:00.00   0.0 ACTIVE-USER       0 No
 DMRA     DB2G DB2CALL  00:00:07.99 01:16:27.52   0.0 BBI MONITOR       0 No
 OLTR     DB2G DB2CALL  00:00:27.37 04:43:59.36   0.0 BBI MONITOR       0 No
 PAYROLDP DB2G CICSCN4  00:00:00.00 00:00:00.00   0.0 ACTIVE-USER       0 No
 PPE2     DB2G X18H     00:00:00.00 00:00:00.00   0.0 ACTIVE-USER       0 No
 SYSOPR   DB2G SYSTEM   00:00:00.00 00:00:00.00   0.0 SUSP - IRLM       0 No
 SYSOPR   DB2G SYSTEM   00:00:00.00 00:00:00.00   0.0 SUSP - IRLM       0 No
 SYSOPR   DB2G SYSTEM   00:00:00.00 00:00:00.00   0.0 SUSP - IRLM       0 No
 SYSOPR   DB2G SYSTEM   00:00:00.00 00:00:00.00   0.0 SUSP - IRLM       0 No
 SYSOPR   DB2G SYSTEM   00:00:00.00 00:00:00.00   0.0 SYSTEM TASK       0 No
```

Figure 120. THDALL View—All Connected Threads

The default functions shipped with this view are as follows:

- Sort by
  - User ID column (ascending)
  - DB2 column (ascending)
- Hyperlink from
  - User ID column to DUSER analyzer display to see detailed information about the selected user in each of these categories:
    - Status
    - Environmental indicators
    - Elapsed time analysis
    - SQL statement execution counts
    - Buffer pool activity
    - Lock activity
    - Parallelism
    - DDF activity
    - Stored procedures
  - DB2 column to THDACTV to see all active threads for the selected target
  - Connect Name column to THDCICPR to see information about CICS protected threads when connection type equals CICS and a protected thread has been reused
  - User Status column to THDDETL to see more detailed information about the selected user
  - Warn column to THDWARND to see details about key indicator warning messages for the selected user
  - Lock column to LOCKE analyzer display to see lock contention by user details if this user is holding locks

THDLIST—All Active Threads—Long Form

The THDLIST view, shown in Figure 121, displays information about each active thread.

```
>W1 =THDLIST===========DB2G=====*========17MAR2001==12:05:10====MVDB2=======120
                Connect  Plan                              Addr space        Tra
 User ID  DB2   Name     Name      CPU Time    SRB Time      Time      %CPU   E
 ACCTDEP  DB2G  CICSCN4  TSMCOM3  00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 ACCTDEP  DB2G  CICSCN4  -noname- 00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 BABUSER  DB2G  CICSCN4  -noname- 00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 BOLBPL1  DB2G  DB2CALL  -noname- 00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 BOLSMR2  DB2G  DB2CALL  -noname- 00:00:11.66 00:00:05.80 00:03:08.80   0.0 02:
 CMR4     DB2G  CICSCN4  -noname- 00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 DMRA     DB2G  DB2CALL  -noname- 00:00:05.78 00:00:01.35 00:00:43.42   0.0 00:
 OLTR     DB2G  DB2CALL  -noname- 00:00:25.06 00:00:30.22 00:13:48.83   0.0 04:
 PAYROLDP DB2G  CICSCN4  -noname- 00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 PPE2     DB2G  X18H     -noname- 00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 SYSOPR   DB2G  SYSTEM   DB2GDBM1 00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 SYSOPR   DB2G  SYSTEM   DB2GMSTR 00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 SYSOPR   DB2G  SYSTEM   DB2GDBM1 00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 SYSOPR   DB2G  SYSTEM   DB2GDBM1 00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 SYSOPR   DB2G  SYSTEM   DB2GDBM1 00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 SYSOPR   DB2G  SYSTEM   DB2GMSTR 00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 SYSOPR   DB2G  SYSTEM   DB2GMSTR 00:00:00.00 00:00:00.00 00:00:00.00   0.0 00:
 TSGSTC   DB2G  DB2CALL  -noname- 00:00:25.60 00:00:05.74 00:05:01.47   0.0 04:
```

Figure 121. THDLIST View—All Active Threads—Long Form

You can use this view to customize one or more views with exactly the data you want to see for your workload(s).

The default functions shipped with this view are as follows:

- Sort by
  - User ID column (ascending)
  - DB2 column (ascending)
- Hyperlink from
  - User ID column to DUSER analyzer display to see detailed information about the selected user in each of these categories:
    - Status
    - Environmental indicators
    - Elapsed time analysis
    - SQL statement execution counts
    - Buffer pool activity
    - Lock activity
    - Parallelism
    - DDF activity
    - Stored procedures
  - Warn column to THDWARND to see details about key indicator warning messages for the selected user
  - User Status column to THDDETL to see more detailed information about the selected user

  - Locks column to LOCKE analyzer display to see lock contention by user details if this thread is holding locks

THDCICPR—CICS Protected Thread Averages

The THDCICPR view, shown in Figure 122, displays information about CICS protected threads.

```
>W1 =THDCICPR==========DB2G=====*========17MAR2001==13:53:53====MVDB2====D====3
          Nr.  CICS      Average     Average   Average Average   Average
 Auth ID  Tran Name      CPU Time    Elapsed       SQL Getpages SyncRead
 ACCTDEP    10 CICSCN4  00:00:00.00 00:00:01.02     2      325      112
 DSN8410     1 CICS41C3 00:00:02.65 00:00:30.09     1       10        2
 TSM8        3 CICSCN4  00:00:00.00 00:00:05.15   348     7923      821
```

Figure 122. THDCICPR View—CICS Protected Thread Averages

You can use this view to see average counts and times across the multiple CICS transactions executed under a single protected thread.

The default functions shipped with this view are as follows:

- Sort by
  - Auth ID column (ascending)
- Hyperlink from
  - Auth ID column to THDDETL to see more detailed information about the selected user
  - CICS Name column to THDACTV to see all active threads for the selected CICS system in the defined context

THDPRLLD—Parallel Query Detail

The THDPRLLD view, shown in Figure 123, shows each active task of a parallel query.

```
W1 =THDPRLLD==========DBGG=====*========17MAR2001==13:48:43====MVDB2====D====5
              Connect             Getpage   SQL      Task
User ID  DB2  Name      CPU Time    Total Stmts Warn Type    User Status
BOLHHH4  DB2G TSO      00:00:00.08    255     4 No   Coord   ACTIVE-DB2
BOLHHH4  DB0G TSO      00:00:00.01     17     0 No   Assist  IRLM
BOLHHH4  DB1G TSO      00:00:00.63  25109     0 No   Assist  ACTIVE-DB2
BOLHHH4  DB2G TSO      00:00:00.23   5989     0 No   Assist  ACTIVE-DB2
```

Figure 123. THDPRLLD View—Parallel Query Detail

You can use this view to understand the total scope of a parallel query. In a data sharing group context, it shows all parallel tasks running in multiple DB2 members with sysplex query parallelism.

The default functions shipped with this view are as follows:

- Hyperlink from
  - User ID column to DUSER to see more detailed information about the selected user

THDDETL—Thread Detail

The THDDETL view, shown in Figure 124, shows detailed information about the selected user.

```
>W1 =THDWARN==THDDETL==DB2H=====*========17MAR2001==13:48:58====MVDB2====D====1
 - - -Identifier Data - - - - - - -  - - - - - - - - - - - - - - - - - -
 Primary User ID..... BOLHHH4        Job Name........... BOLHHH4
 Auth ID............. BOLHHH4        Correlation ID..... BOLHHH4
 SQL ID.............. BOLHHH4        DB2 Target......... DB2GHH
 Plan Name........... DSNESPRR       DB2 ID............. DB2G
 Package Id.......... DSNESM68       Connect Name....... TSO
 - - - - - SQL Counts - - - - - -    Connect Type....... TSO
 Total SQL...........         5      Location Name...... DB2G
 Total DCL...........         0      D.S Group Name..... DBGG
 Total DDL...........         0      D.S. Member Name... DB2G
 Total DML...........         5      MVS System Name.... SYSD
 Commits.............         0      - - - - - Time Data - - - - - -
 Aborts..............         0      CPU Time........... 00:00:00.20
 Selects.............         0      SRB Time........... 00:00:00.00
 Fetches.............         2      Addr space time.... 00:00:35.65
 Inserts.............         0      Percent CPU........      0.1
 Updates.............         0      Trans Elapsed...... 00:00:03.10
 Deletes.............         0      Addr Space Elap.... 00:01:26.88
 Prepares............         1      In DB2 CPU Time.... 00:00:00.04
  Other SQL..........         2      In DB2 SRB Time.... 00:00:00.00
 SQL Writes..........         0      In DB2 Elapsed..... 00:00:01.96
 - - Buffer Pool Data - - - - - - -  Adjusted TCB Time..      180
 Total Getpages......        66      Adjusted SRB Time..        3
 Getpage Rate........         0      Adjusted ASCB Time.    31555
 Sync Reads..........         0      Adj In DB2 CPU.....       44
 Async Reads.........         0      Adj In DB2 SRB.....        0
 Sync Read Rate......         0      - - - Miscellaneous - - - - - -
 Async Read Rate.....         0      Locks..............        7
 Getpage/Update......         0      Thread in Plan.....      YES
 Prefetch Requests...         4      Warn Indicators....       No
 Succ HP Reads.......         0      User Status........ SWAPPED OUT
 Unsucc HP Reads.....         0      Warning Msg........
 VP Hit Ratio........      10.0      User State Flg1....       11
 HP Hit Ratio........       0.0      User State Flg2....
 Updates/Commit......         0      VTAM State.........
 Updates/Commit (B)..         0      Current Activity... CLOSE
 Coupling Fac.Reads..         0
 Coupling Fac.Writes.         0      ACE Address........ ACE=0ECFE768
```

Figure 124. THDDETL View—Thread Detail

You can use this view to view all collected information for a thread. Additional information is available through the alternative hyperlinks to the DUSER display.

The default functions shipped with this view are as follows:

- Hyperlink from
  - Primary User ID column to DUSER analyzer display to see detailed information about the selected user in each of these categories:
    - Status
    - Environmental indicators
    - Elapsed time analysis
    - SQL statement execution counts
    - Buffer pool activity
    - Lock activity
    - Parallelism
    - DDF activity
    - Stored procedures
  - Warn Indicators and User Status columns to THDWARND to see more information on all warning indicators
  - Locks column to LOCKE analyzer display to see lock contention by user details if this thread is holding locks

THDWARN—Key Indicator/Warnings

The THDWARN view, shown in Figure 125, provides information about the most important key indicators of failures or degradation.

```
>W1 =THDWARN===========DB2H=====*========17MAR2001==13:30:40====MVDB2========47
                Plan                                      Ind Ind Ind Ind Ind Ind
 User ID  DB2   Name     User Status  Indicator Msg        1   2   3   4   5   6
 BOLBPL4  DB2H  -noname- BBI MONITOR                      0   0   0   0   0   0
 BOLHHH2  DB2H  -noname- BBI MONITOR                      0   0   0   0   0   0
 BOLSMR3  DB2H  RXDB2    SWAPPED OUT                      0   0   0   0   0   0
 BOLSTC   DB2H  -noname- ACTIVE-DB2                       0   0   0   0   0   0
 BOLSTC   DB2H  -noname- ACTIVE-DB2                       0   0   0   0   0   0
 BOLSTC   DB2H  -noname- ACTIVE-DB2                       0   0   0   0   0   0
 BOLSTC   DB2H  -noname- BBI MONITOR                      0   0   0   0   0   0
 BOLSTC   DB2H  -noname- ACTIVE-DB2                       0   0   0   0   0   0
 BOLSTC   DB2H  -noname- ACTIVE-DB2                       0   0   0   0   0   0
 BOLSTC   DB2H  -noname- ACTIVE-USER  CLAIM FAILURE       0   0   0   0   9   0
 BOLSTC   DB2H  -noname- ACTIVE-DB2                       0   0   0   0   0   0
 BOLSTC   DB2H  -noname- ACTIVE-DB2                       0   0   0   0   0   0
 BOLSTC   DB2H  -noname- ACTIVE-DB2                       0   0   0   0   0   0
 SYSOPR   DB2H  -noname- SYSTEM TASK                      0   0   0   0   0   0
 SYSOPR   DB2H  -noname- SYSTEM TASK                      0   0   0   0   0   0
```

Figure 125. THDWARN View—Key Indicator/Warnings

You can use this view to see if the selected threads have more than one warning indicator set. A hyperlink on the Indicator Msg column shows more information on these warnings.

The default functions shipped with this view are as follows:

- Hyperlink from
  - User ID column to DUSER analyzer display to see detailed information about the selected user in each of these categories:
    - Status
    - Environmental indicators
    - Elapsed time analysis
    - SQL statement execution counts
    - Buffer pool activity
    - Lock activity
    - Parallelism
    - DDF activity
    - Stored procedures
  - User Status column to THDDETL to see more detailed information about the selected user
  - Indicator Msg column to THDWARND to see more information on all warning indicators

THDWARND—Key Indicator/Warnings Detail

The THDWARND view, shown in Figure 126, displays detailed information about key indicator warning messages for the selected user.

```
W1 =THDWARN==THDWARND=DB2G=====*========17MAR2001==12:50:45====MVDB2====D====1
User's Authorization ID..................... TSTUSER1
DB2 Subsystem Name.......................... DB2G
Indicator Message........................... SPAS REQ ABENDED
Number of Key Warning Occurrences.............        3

Stored Procedure Failed (ABEND)..............        1
Stored Procedure Failed (TIMEOUT)............        0
Stored Procedure Failed (REJECTED)...........        0
RID List Failed (# RIDS).....................        0
RID List Failed (STORAGE)....................        0
Number Of Claim Failures.....................        0
Number Of Drain Failures.....................        0
CPU Parallelism Failed - NO ENCLAVE Support...       0
CPU Parallelism Failed - RLF.................        0
I/O Parallelism Fallback (Storage)...........        0
I/O Parallelism Fallback (NO ESA SORT)........       0
I/O Parallelism Fallback (UPDATE CURSOR)......       0
Incremental Bind Occurred....................        2
Thread Currently Waiting On A Stored Procedure       0
PLEX Parallelism Reduced to Single DB2 System.       0
I/O Parallelism Reduced Below Planned Degree..       0


Alias of Target DB2.......................... DB2G
Current Task Status.......................... QUEUED THRD
User State Flag 1............................       82
User State Flag 2............................       20
VTAM State Flag..............................       80
```

Figure 126. THDWARND View—Key Indicator/Warnings Detail

You can use this view to analyze threads that have more than one warning.

The default functions shipped with this view are as follows:

- Hyperlink from
  - User's Authorization ID column to DUSER analyzer display to see detailed information about the selected user in each of these categories:
    - Status
    - Environmental indicators
    - Elapsed time analysis
    - SQL statement execution counts
    - Buffer pool activity
    - Lock activity
    - Parallelism
    - DDF activity
    - Stored procedures
  - Indicator Message and Current Task Status columns to THDDETL to see more detailed information

Chapter 15. Workloads

Views for workload analysis are grouped into a single category:

- Workload objective views

The workload objective views show the response or elapsed time performance of DB2 transactions that occur within workloads defined as part of a MAINVIEW for DB2 workload. Workloads are ranked according to the percentage of transactions that are completed in less time than the response time objective defined for the workload.

You can use these views to see how well MAINVIEW for DB2 workloads are meeting their defined response time objectives.

Table 7 lists all the views available for workloads.

Table 7. Workload Views

View Name	Group / Type	Description
DOBJ	Objective Tabular	Objectives Review—Interval (see page 201) Shows a workload's transaction performance for each target DB2 subsystem for the current interval.
DOBJR	Objective Tabular	Objectives Review—Realtime (see page 201) Shows a workload's transaction performance for each target DB2 subsystem for the current realtime period.
DOBJRZ	Objective Summary	Objective Summary—Realtime (see page 202) Summarizes workload performance across all DB2 subsystems in the current context for the current realtime period.
DOBJS	Objective Tabular	Objectives Review—Session (see page 201) Shows a workload's transaction performance for each target DB2 subsystem for the current session since DB2 was started.
DOBJSZ	Objective Summary	Objective Summary—Session (see page 202) Summarizes workload performance across all DB2 subsystems in the current context for the current session since DB2 was started.
DOBJZ	Objective Summary	Objective Summary—Interval (see page 202) Summarizes workload performance across all DB2 subsystems in the current context for the current interval.

Workload Objective Views

The following views display information about workload objectives.

DOBJ—Objectives Review

The Objectives Review views, as shown in Figure 127, show a workload's transaction performance for each target DB2 subsystem.

```
 W1 =DOBJ==============DB2G=====*========17MAR2001==14:49:33====MVDB2====D====1
CMD Workload       % <= Resp Goal Resp  Goal Avg     Tran  Composite Target
--- Name----       0.....50...100 Goal-    % Resp--- Count Workload- --------
    ALLWORK   95.6                 1.00   95   0.843   125 SAMPLE    DB2G
    ALLWORK   66.7                 1.00   95   1.428   167 SAMPLE    DB1G
```

Figure 127. DOBJ View—Objectives Review

There are three similar views that present the data from different time periods:

- DOBJ—Interval
- DOBJR—Realtime
- DOBJS—Session

The default functions shipped with these views are as follows:

- Hyperlink from
  - Workload Name column to DWKLDDET to see the current values of the definition for that workload
  - % Resp Goal column to D@ELTD plot view to see a graph of DB2 elapsed time values for this workload

DOBJZ—Objective Summary

The Objective Summary views, as shown in Figure 128, summarize workload performance across all DB2 subsystems in the current context.

```
 W1 =DOBJZ=============DB2G=====*========17MAR2001==11:31:55====MVDB2====D====1
CMD Workload       % <= Resp Goal Resp  Goal Avg     Tran  Composite
--- Name----       0.....50...100 Goal-    % Resp--- Count Workload- Wklds---
    ALLWORK   92.3                 1.00   95   0.892  1417 SAMPLE           2
```

Figure 128. DOBJZ View—Objective Summary

There are three similar views that present the data from different time periods:

- DOBJZ—Interval
- DOBJRZ—Realtime
- DOBJSZ—Session

The default functions shipped with these views are as follows:

- Hyperlink from
  - Workload Name column to DOBJ to see the data for each target

Chapter 16. Lockouts

Views for lock contention analysis based on timeout and deadlock events are organized into three groups:

- Lockout event views
- Resource conflict views
- Involved thread views (victims, blockers, waiters)

Lockout records are created per resource involved in a lockout (usually just one for a timeout, but two or more for a deadlock). This enables views by resource, blocker, and waiter, not just the lockout events and the victim identifiers. Each record is marked as having the victim as the waiter or blocker, or only containing participants in a deadlock. Lockout event-related views select only those records where the victim is the waiter, whereas resource or waiter/blocker views select all records.

MAINVIEW for DB2 automatically captures the DB2 IFCIDs 172 (deadlocks) and 196 (timeouts) to collect this data. The records are written to history as they occur and can be retrieved by TIME period. If no TIME is specified, the latest events still in the active LKOUT buffer (default of 100) are shown. The default can be adjusted with the LOCKOUTS parameter in the DMRBEX00 BBPARM member.

Note: Instead of *holder*, the term *blocker* is used, since a priority waiter or a retained lock also can block a resource and cause lockouts.

Table 8 lists all the views available for lockouts.

Table 8. Lockout Views

View Name	Group / Type	Description
LKBLOCK	Thread Detail	Lockout Blocker Plan Detail (see page 217) Lists all conflicts by blocker plan and timestamp. You can use this view to identify all specific conflicts caused by a plan over time.
LKBLOCKZ	Thread Summary	Lockout Blocker Plan Summary (see page 216) Summarizes conflicts by blocker IDs. You can use this view to analyze plans and users causing lockouts.
LKBWZ	Thread Summary	Lockout Blocker/Waiter Summary (see page 215) Lists a summary of blocker / waiter plans. You can use this view to identify conflicting plans.
LKBWZSSI	Thread Summary	Lockout Global Blocker/Waiter Summary (see page 214) Lists a summary of blocker / waiter plans and systems. You can use this view to identify conflicting plans across multiple data sharing DB2 members.
LKCONZ	Thread Summary	Lockout Connection Summary (see page 213) Lists a summary of lockout victims by connection type. You can use this view to identify scheduling problems with incompatible workloads (for example, IMS/CICS transactions blocked by batch).
LKEVD	Event Detail	Lockout Event Resource Detail (see page 209) Provides full data about the selected resource conflict.
LKEVENT	Event Tabular	Lockout Events (see page 206) Lists the latest timeout (IFCID 196) or deadlock (IFCID 172) events that have occurred in this DB2.
LKEVRES	Event Tabular	Lockout Event Resources (see page 208) Lists each resource involved in the selected lockout.
LKEVSSI	Event Tabular	Global Lockout Events (see page 207) Lists lockout events within a data sharing group.

Table 8. Lockout Views (Continued)

View Name	Group / Type	Description
LKRESD	Event Tabular	Lockout Resource Conflict Detail (see page 212) Lists each occurrence by time of any lockout where the selected resource (database / table space or specific page) was involved. You can use this view to identify all plans involved in conflicts on this resource and help identify potential application scheduling problems.
LKRESNRZ	Resource Summary	Lockout Resource Number Summary (see page 211) Lists each page / row involved in any conflict, usually for a selected resource (database / table space) from LKRESZ. You can use this view to see the hot spots in a table by identifying the pages hit.
LKRESZ	Resource Summary	Lockout Resource Summary (see page 210) Lists each resource (database / table space) involved in any conflict. You can use this view to see which table spaces cause the most conflicts.
LKWAIT	Thread Detail	Lockout Waiter Plan Detail (see page 219) Lists all conflicts by waiter plan and timestamp. You can use this view to identify all specific conflicts over time where a plan was a waiter.
LKWAITZ	Thread Summary	Lockout Waiter Plan Summary (see page 218) Lists conflicts by waiter IDs. You can use this view to analyze plans and users suffering most from lockouts.

Lockout Event Views

The following views display information about lockout events.

LKEVENT—Lockout Events

The LKEVENT view, shown in Figure 129, lists the latest timeout (IFCID 196) or deadlock (IFCID 172) events that have occurred in this DB2.

```
>W1 =LKEVENT===========DB2G=====*========17MAR2001==16:31:07====MVDB2====D====5
Date / Time    Lockout   Victim   Victim   Victim   Victim Victim       Nr.
-------------- Type      Plan     AuthID   Connect  CType  Corr ID      Res.
17MAR-15:27:45 DEADLOCK  RXDB2    BOLJGQ2  DB2CALL  CAF    BOLJGQ2         2
17MAR-15:19:24 TIMEOUT   RXDB2    BOLJGQ3  DB2CALL  CAF    BOLJGQ3         1
17MAR-15:10:43 TIMEOUT   RXDB2    BOLJGQ3  DB2CALL  CAF    BOLJGQ3         1
17MAR-15:00:10 TIMEOUT   RXDB2    BOLJGQ2  DB2CALL  CAF    BOLJGQ2         1
17MAR-14:59:01 TIMEOUT   RXDB2    BOLJGQ2  DB2CALL  CAF    BOLJGQ2         1
```

Figure 129. LKEVENT View—Lockout Events

The default functions shipped with this view are as follows:

- Sort by
  - Date / Time column (descending)
- Hyperlink from
  - Date / Time column to LKEVRES to see the resources involved
  - Victim Plan column to LKWAIT to see other events where this plan was a waiter

LKEVSSI—Global Lockout Events

The LKEVSSI view, shown in Figure 130, lists lockout events within a data sharing group.

```
>W1 =LKEVSSI==========(DBGG=====*=======)17MAR2001==11:00:44====MVDB2====D====9
Date / Time    Lockout   Victim   Victim   Victim   Victim   Victim   Global
-------------- Type      Member   Plan     AuthID   Connect  CorrName Cont.
17MAR-10:46:11 TIMEOUT   DB1G     RXDB2    BOLJGQ2  DB2CALL  BOLJGQ2   YES
17MAR-10:44:09 DEADLOCK  DB2G     RXDB2    BOLJGQ1  DB2CALL  BOLJGQ1   YES
17MAR-10:42:41 TIMEOUT   DB1G     RXDB2    BOLJGQ2  DB2CALL  BOLJGQ2
17MAR-10:40:39 DEADLOCK  DB2G     RXDB2    BOLJGQ1  DB2CALL  BOLJGQ1   YES
17MAR-10:39:59 DEADLOCK  DB2G     RXDB2    BOLJGQ1  DB2CALL  BOLJGQ1   YES
17MAR-10:38:41 DEADLOCK  DB1G     RXDB2    BOLJGQ1  DB2CALL  BOLJGQ1
17MAR-10:37:41 TIMEOUT   DB1G     RXDB2    BOLJGQ2  DB2CALL  BOLJGQ2
17MAR-10:29:46 DEADLOCK  DB2G     RXDB2    BOLJGQ2  DB2CALL  BOLJGQ2
17MAR-10:24:01 TIMEOUT   DB2G     RXDB2    BOLJGQ2  DB2CALL  BOLJGQ2
```

Figure 130. LKEVSSI View—Global Lockout Events

The default functions shipped with this view are as follows:

- Sort by
  - Date / Time column
- Hyperlink from
  - Date / Time column to LKEVRES to see the resources involved
  - Victim Plan column to LKWAIT to see other events where this plan was a waiter
  - Global Contention column to LKBWZSSI to see conflicting plans across multiple data sharing DB2 members

LKEVRES—Lockout Event Resources

The LKEVRES view, shown in Figure 131, lists each resource involved in the selected lockout.

```
>W1 =LKEVENT==LKEVRES==DB2G=====*========17MAR2001==18:24:40====MVDB2====D====2
 Res --Resource Name-- Resource   Resource Blocker  Waiter   G Blocker  Waiter
 Seq Database Object   Number     Type     PlanName PlanName B Member   Member
   1 DSN8D41A DSN8S41P 0000000201 ROW      RXDB2    RXDB2      DB2G     DB2G
   2 DSN8D41A DSN8S41E 0000001200 DATAPAGE RXDB2    RXDB2      DB2G     DB2G
```

Figure 131. LKEVRES View—Lockout Event Resources

The default functions shipped with this view are as follows:

- Sort by
  - Res Seq (resource sequence number) column
- Hyperlink from
  - Res Seq column to LKEVD to see full data about the selected resource conflict
  - Resource Name column to LKRESD to see each occurrence by time of any lockout where the selected resource was involved
  - Resource Number column to LKRESD to see each occurrence by time of any lockout where the selected resource was involved

LKEVD—Lockout Event Resource Detail

The LKEVD view, shown in Figure 132, provides full data about the selected resource conflict.

```
>W1 =LKEVRES==LKEVD===(DBGG=====DB1G====)17MAR2001==19:32:05====MVDB2====D====1
                    -- Prod Header --                        -- Blocker Data--
 DB2 Target........ DB1G                    Plan Name....... RXDB2
 DB2 Location...... DB2G                    Connect......... DB2CALL
 DataShar Group.... DBGG                    Corr ID......... BOLJGQ2
 DataShar Member... DB1G                    Member DB2...... DB2G
 MVS Name.......... SYSC                    LUW-NetID....... USBOOL01
 DB2 Release.......              410        LUW-LUname...... LUDB2G
 MVDB2 Release.....              510        LUW-UniqValue...     AE3DF10B5DD9
                    -- Event Data ---        LUW-CC..........             0001
 Lockout Type...... TIMEOUT                 LUW-Token.......
 Date.............. 17MAR2001               Owning WU....... 00C2006206EC62E8
 Time.............. 15:24:07.00             State........... EXCLUSIVE
 Seq Number........                1        Duration........ COMMIT
 Total Conflicts...                1        Blocker Flag.... H

                    -- Victim Data --                        -- Waiter Data--
 Plan Name......... RXDB2                   Plan Name....... RXDB2
 AuthID............ BOLJGQ3                 Connect......... DB2CALL
 Connect........... DB2CALL                 Corr ID......... BOLJGQ3
 ConnType.......... CAF                     Member DB2...... DB1G
 Corr ID........... BOLJGQ3                 LUW-NetID.......
 Victim Flag....... W                       LUW-LUname......
 ZPARM T/O Invtl...               60        LUW-UniqValue...     000000000000
 ZPARM T/O Count...                1        LUW-CC..........             0000
 Deadlock IntvCount                0        LUW-Token.......
 Global Lockout....              YES        Owning WU....... 00C2006206EC62E8
                    --Resource Data--        Requesting WU... 00C3002B06EC2B88
 Resource Name..... DSN8D41A DSN8S41E       Function........ LOCK
 Resource Number...        0000001200       State........... EXCLUSIVE
 Resource Type..... DATAPAGE                Duration........ COMMIT
 Hash Value........             19012       Worth...........               00
 BPID(BP lock)..... 
                                   0
 Global Conflict...              YES
```

Figure 132. LKEVD View—Lockout Event Resource Detail

Resource Conflict Views

The following views display information about resource conflicts.

LKRESZ—Lockout Resource Summary

The LKRESZ view, shown in Figure 133, lists each resource (database / table space) involved in any conflict.

```
>W1 =LKRESZ============DB2G=====*========17MAR2001==18:59:15====MVDB2====D====2
 --Resource Name--  Total           % Total                          Global
 Database Object    Conflicts       0...50..100   PAGE   ROW  INDEX  Conflicts
 DSN8D41A DSN8S41E          3  50.0                   3     0      0          0
 DSN8D41A DSN8S41P          3  50.0                   0     3      0          0
```

Figure 133. LKRESZ View—Lockout Resource Summary

You can use this view to see which table spaces cause the most conflicts.

The default functions shipped with this view are as follows:

- Sort by
  - Resource Name column
- Hyperlink from
  - Resource Name column to LKRESNRZ to see each page / row involved in any conflict for the selected resource

LKRESNRZ—Lockout Resource Number Summary

The LKRESNRZ view, shown in Figure 134, lists each page / row involved in any conflict, usually for a selected resource (database / table space) from LKRESZ.

```
>W1 =LKRESZ===LKRESNRZ(DBGG=====*=======)17MAR2001==11:09:06====MVDB2====D====2
 --Resource Name-- Resource   Resource  Total           % Total     Global
 Database Object   Number     Type      Conflicts       0...50..100 Conflicts
 DSN8D41A DSN8S41E 0000001200 DATAPAGE         10  73.9                     6
 DSN8D41A DSN8S41E 0020000200 DATAPAGE          3  26.1                     0
```

Figure 134. LKRESNRZ View—Lockout Resource Number Summary

You can use this view to see the hot spots in a table by identifying the pages hit.

The default functions shipped with this view are as follows:

- Sort by
  - Resource Name column
  - Resource Number column
- Hyperlink from
  - Resource Name column to LKRESD to see each occurrence by time of the lockouts where the selected resource was involved
  - Resource Number column to LKRESD to see each occurrence by time of the lockouts where the selected resource name/resource number was involved

LKRESD—Lockout Resource Conflict Detail

The LKRESD view, shown in Figure 135, lists each occurrence by time of any lockout where the selected resource (database / table space or specific page) was involved.

```
>W1 =LKRESD===========(DBGG=====*=======)17MAR2001==15:20:12====MVDB2========23
--Resource Name-- Resource   Resource   Time   Lockout  Blocker  Waiter   Gbl
Database Object   Number     Type     -------- Type     PlanName PlanName Con
DSN8D41A DSN8S41E 0000000004 PART-DS  12:31:26 TIMEOUT  DSNESPRR DSNESPRR
DSN8D41A DSN8S41E 0000000004 PART-DS  12:27:35 TIMEOUT  DSNESPRR DSNESPRR
DSN8D41A DSN8S41E 0000001200 DATAPAGE 10:13:11 DEADLOCK RXDB2    RXDB2
DSN8D41A DSN8S41E 0000001200 DATAPAGE 10:12:41 TIMEOUT  RXDB2    RXDB2
DSN8D41A DSN8S41E 0000001200 DATAPAGE 10:08:41 DEADLOCK RXDB2    RXDB2    Yes
```

Figure 135. LKRESD View—Lockout Resource Conflict Detail

You can use this view to identify all plans involved in conflicts on this resource and help identify potential application scheduling problems.

The default functions shipped with this view are as follows:

- Sort by
  - Resource Name column
  - Resource Number column
  - Date / Time (hidden) column (descending)

Involved Thread Views

The following views display information about involved threads.

LKCONZ—Lockout Connection Summary

The LKCONZ view, shown in Figure 136, lists a summary of lockout victims by connection type.

```
 W1 =LKCONZ===========(DBGG=====*=======)17MAR2001==16:02:57====MVDB2====D====3
DB2      Victim    Victim   Blocker   Timeouts Deadlocks        % Lockouts
Target   ConnType  Connect  Connect                            0....50..100
DB1G     CAF       DB2CALL  DB2CALL          1         1   14.3
DB2G     CAF       DB2CALL  DB2CALL          3         7   71.4
DB2G     TSO       TSO      TSO              2         0   14.3
```

Figure 136. LKCONZ View—Lockout Connection Summary

You can use this view to identify scheduling problems with incompatible workloads (for example, IMS/CICS transactions blocked by batch).

The default functions shipped with this view are as follows:

- Sort by
  - DB2 target
  - Victim ConnType column
  - Victim Connect column
  - Blocker Connect column
- Hyperlink from
  - Victim ConnType column to LKEVSSI to see all lockout events for the selected victim connection type
  - Victim Connect column to LKEVSSI to see all lockout events for the selected victim connection type/connection name
  - Blocker Connect column to LKEVSSI to see all lockout events for the selected blocker connection name

LKBWZSSI—Lockout Global Blocker/Waiter Summary

The LKBWZSSI view, shown in Figure 137, lists a summary of blocker / waiter plans and systems.

```
>W1 =LKBWZSSI=========(DBGG=====*=======)17MAR2001==17:04:41====MVDB2====D====5
Blocker  Blocker  Waiter   Waiter   Timeout Deadlock        % Conflicts   Gbl
PlanName Member   PlanName Member   Involv.  Invovl.   .... 0....50..100  Con
DSNESPRR DB2G     DSNESPRR DB2G           2        0    8.7                 0
RXDB2    DB1G     RXDB2    DB1G           2        2   17.4                 0
RXDB2    DB1G     RXDB2    DB2G           1        5   26.1                 6
RXDB2    DB2G     RXDB2    DB1G           0        5   21.7                 5
RXDB2    DB2G     RXDB2    DB2G           2        4   26.1                 0
```

Figure 137. LKBWZSSI View—Lockout Global Blocker/Waiter Summary

You can use this view to identify conflicting plans across multiple data sharing DB2 members.

The default functions shipped with this view are as follows:

- Sort by
  - Blocker PlanName column
  - Blocker Member column
  - Waiter PlanName column
  - Waiter Member column
- Hyperlink from
  - Blocker PlanName column to LKBLOCK to see all conflicts caused by the selected plan
  - Waiter PlanName column to LKWAIT to see all conflicts where the selected plan was a waiter

LKBWZ—Lockout Blocker/Waiter Summary

The LKBWZ view, shown in Figure 138, lists a summary of blocker / waiter plans.

```
>W1 =LKBWZ=============DB2GXAL==*========17MAR2001==19:40:46====MVDB2====D====1
 Blocker  Waiter    Timeout Deadlock        % Conflicts   Global  Participant
 PlanName PlanName  Involv.  Invovl.   .... 0....50..100  Confl.  -Only Count
 RXDB2    RXDB2           0       10  100.0                   0            0
```

Figure 138. LKBWZ View—Lockout Blocker/Waiter Summary

You can use this view to identify conflicting plans.

The default functions shipped with this view are as follows:

- Sort by
  - Blocker PlanName column
  - Waiter PlanName column
- Hyperlink from
  - Blocker PlanName column to LKBLOCK to see all conflicts caused by the selected plan
  - Waiter PlanName column to LKWAIT to see all conflicts where the selected plan was a waiter

LKBLOCKZ—Lockout Blocker Plan Summary

The LKBLOCKZ view, shown in Figure 139, summarizes conflicts by blocker IDs.

```
>W1 =LKBLOCKZ==========DB2GXAL==*========17MAR2001==14:39:08====MVDB2====D====2
Blocker   Blocker    Blocker      Timeout Deadlock        % Conflicts    Gbl
PlanName  Connect    Corr ID      Involv.  Invovl.   .... 0....50..100
RXDB2     DB2CALL    BOLJGQ1            1        2   55.6                 0
RXDB2     DB2CALL    BOLJGQ2            0        2   44.4                 0
```

Figure 139. LKBLOCKZ View—Lockout Blocker Plan Summary

You can use this view to analyze plans and users causing lockouts.

The default functions shipped with this view are as follows:

- Summarize and sort by:
  - Blocker PlanName column
  - Blocker Connect column
  - Blocker Corr ID column
- Hyperlink from
  - Blocker PlanName column to LKBLOCK to see all conflicts caused by the selected plan

LKBLOCK—Lockout Blocker Plan Detail

The LKBLOCK view, shown in Figure 140, lists all conflicts by blocker plan and timestamp.

```
>W1 =LKBLOCK===========DB2G=====*========17MAR2001==11:18:27====MVDB2====D====3
Blocker   Blocker  Date / Time       Lockout   Blocker    Blocker        Gbl
PlanName  Member                     Type      Connect    Corr ID        Con
RXDB2     DB1G     24MAY-11093599    DEADLOCK  DB2CALL    BOLJGQ2        YES
RXDB2     DB2G     24MAY-11093599    DEADLOCK  DB2CALL    BOLJGQ1        YES
RXDB2     DB2G     24MAY-11082634    TIMEOUT   DB2CALL    BOLJGQ1
```

Figure 140. LKBLOCK View—Lockout Blocker Plan Detail

You can use this view to identify all specific conflicts caused by a plan over time.

The default functions shipped with this view are as follows:

- Sort by
  - Blocker PlanName column
  - Blocker Member column
  - Date / Time column
- Hyperlink from
  - Date / Time column to LKEVD to see complete details about the selected conflict

LKWAITZ—Lockout Waiter Plan Summary

The LKWAITZ view, shown in Figure 141, lists conflicts by waiter IDs.

```
>W1 =LKWAITZ===========DB2G=====*========17MAR2001==19:55:47====MVDB2====D====2
 Waiter    Waiter    Waiter        Timeout Deadlock        % Conflicts    Gbl
 PlanName  Connect   Corr ID       Involv.  Invovl.   .... 0....50..100
 RXDB2     DB2CALL   BOLJGQ2             0        3   50.0                  0
 RXDB2     DB2CALL   BOLJGQ3             0        3   50.0                  0
```

Figure 141. LKWAITZ View—Lockout Waiter Plan Summary

You can use this view to analyze plans and users suffering most from lockouts.

The default functions shipped with this view are as follows:

- Summarize and sort by:
  - Waiter PlanName column
  - Waiter Connect column
  - Waiter Corr ID column
- Hyperlink from
  - Waiter PlanName column to LKWAIT to see all conflicts where the selected plan was a waiter

LKWAIT—Lockout Waiter Plan Detail

The LKWAIT view, shown in Figure 142, lists all conflicts by waiter plan and timestamp.

```
>W1 =LKWAIT============DB2G=====*========17MAR2001==11:27:01====MVDB2====D====3
Waiter    Waiter   Date / Time       Lockout   Waiter     Waiter         Gbl
PlanName  Member                     Type      Connect    Corr ID        Con
RXDB2     DB1G     24MAY-11093599    DEADLOCK  DB2CALL    BOLJGQ2        YES
RXDB2     DB2G     24MAY-11093599    DEADLOCK  DB2CALL    BOLJGQ1        YES
RXDB2     DB2G     24MAY-11082634    TIMEOUT   DB2CALL    BOLJGQ2
```

Figure 142. LKWAIT View—Lockout Waiter Plan Detail

You can use this view to identify all specific conflicts over time where a plan was a waiter.

The default functions shipped with this view are as follows:

- Sort by
  - Waiter PlanName column
  - Waiter Member column
  - Date / Time column
- Hyperlink from
  - Date / Time column to LKEVD to see complete details about the selected conflict

Chapter 17. ZPARM Installation Parameters

Views for ZPARM installation parameter analysis are organized into seven groups:

- DB2 System
- Locking
- Logging
- Distributed
- Storage and Data Sets
- Authorization
- Application-Related

You can easily access all the views for installation parameter analysis from the DB2 ZPARM Easy Menu (EZDZPARM), as shown in Figure 143.

```
W1 =EZDZPARM==========DB2GMV54=*========17MAR2001==10:39:45====MVDB2====D====1
                             DB2 ZPARM Menu
         DB2 Target ---> DB2J61E
  DB2 System                                    Distributed
. DB2 Definition         +----------------------+ . Dist Data Facility
. System Definition      |   Place cursor on    |
. Trace Parameters       |    menu item and     |   Authorization
. Data Sharing           |     press ENTER      | . Authorization
. Thread Parameters      +----------------------+ . Resource Limit (RLF)

  Locking                  Storage and Data Sets    Application-Related
. IRLM Definitions       . Storage-Related Parms  . Query Parallelism
. IRLM Lockout Detection . Data Set Management    . Routine Parms (SPROC)
                         . Buffer Manager         . Appl Prog Defaults
  Logging                . Data Def Control
. Active Log Definitions
. Archive Log Definition                          . SAP R/3-Related Parms
. Archive Log Allocation > ZPARM Index            . Return...
```

Figure 143. EZDZPARM Easy Menu—DB2 Installation Parameters

An index view provides an alphabetic list of all ZPARM names with hyperlinks to the view where they are displayed.

Many of the ZPARM views also provide hyperlinks to related statistics views or tuning wizards to simplify analysis of the effects of various parameters on DB2 performance. You can hyperlink on the following buttons when they are displayed on the right side of a view:

- The WIZARD button to access a DB2 tuning wizard that leads you through all the related information about the selected area of DB2 performance
- The STATS button to see related statistics for each of these time periods:
  - The current recording interval
  - The current session since DB2 was started

You can also hyperlink on the NEXT and PREV buttons to easily browse through several or all of the ZPARM views.

Installation parameters highlighted in green (the default color for fields with a defined action) can be modified by overtyping the value, provided you have

- The appropriate authorization
- The BMC Software OPERTUNE for DB2 product installed

When an action is invoked by overtyping a field, the new value is displayed after the successful completion of the OPERTUNE command. The command and the resulting messages are written to the Journal Log. If the command was not successful, ERR appears at the top left of the view and provides a direct hyperlink to display the error messages.

For more information about these commands, see the *OPERTUNE for DB2 Reference Manual*.

Table 9 lists all the views available for installation parameters.

Table 9. Installation Parameter Views

View Name	Group/Type	Description
ZPARCALD	Logging Detail	Archive Log Allocation Definitions (see page 235) Shows the installation parameter settings for • Archive Log Allocation Definitions
ZPARCDFD	Logging Detail	Archive Log Definitions (see page 234) Shows the installation parameter settings for • Archive Log Read Parameters • Archive Log Definitions
ZPAUTHD	Authorization Detail	Authorization (see page 241) Shows the installation parameter settings for • Authorization Definitions • Authorization Cache Sizes • DDF-Related Authorization
ZPBFMGRD	Storage and Data Sets Detail	Buffer Manager (see page 239) Shows the installation parameter settings for • Buffer Manager—Default Pools • Buffer Manager—Data Sharing Castout • Buffer Manager—Internal Work Elements
ZPDB2D	DB2 System Detail	DB2 Definition (see page 226) Shows the installation parameter settings for • DB2 Definition
ZPDDFD	Distribution Detail	DDF—Distributed Data Facility (see page 236) Shows the installation parameter settings for • DDF—Distributed Data Facility Definitions • DBAT Thread Controls • DDF-Related Authorization
ZPDDLCTD	Storage and Data Sets Detail	Data Definition Control (see page 240) Shows the installation parameter settings for • Data Definition Control
ZPDSETD	Storage and Data Sets Detail	Data Set Management (see page 238) Shows the installation parameter settings for • Data Set Management

Table 9. Installation Parameter Views (Continued)

View Name	Group/Type	Description
ZPDSHRD	DB2 System Detail	Data Sharing (see page 229) Shows the installation parameter settings for • Data Sharing • Sysplex Query Parrallelism
ZPHDECPD	Application-Related Detail	DSNHDECP—Application Programming Defaults (see page 245) Shows the installation parameter settings for • DSNHDECP—Application Programming Defaults
ZPIRLMDD	Locking Detail	IRLM Definitions (see page 231) Shows the installation parameter settings for • IRLM Definitions
ZPIRLMLD	Locking Detail	IRLM—Lockout Detection (see page 232) Shows the installation parameter settings for • IRLM—Timeout/Deadlock Detectioin • IRLM—Application Lock Usage
ZPLOGD	Logging Detail	Active Log Definitions (see page 233) Shows the installation parameter settings for • Active Log Definitions • Active Log Write Parameters
ZPQPARD	Application-Related Detail	Query Parallelism (see page 243) Shows the installation parameter settings for • Query Parallelism • Sysplex Query Parallelism
ZPRLFD	Authorization Detail	Resource Limit Facility (RLF) (see page 242) Shows the installation parameter settings for • Resource Limit Facility (RLF)
ZPROUTD	Application-Related Detail	Routine Parameters (Stored Procedures/UDFs) (see page 244) Shows the installation parameter settings for • Stored Procedures • User-Defined Functions

Table 9. Installation Parameter Views (Continued)

View Name	Group/Type	Description
ZPSAPD	Application-Related Detail	SAP R/3–Related Parameters (see page 246) Shows the installation parameter settings for • Parameters with Required Settings for SAP R/3 • Parameters with Recommented Settings for SAP R/3
ZPSTGD	Storage and Data Sets Detail	Storage-Related Parameters (see page 237) Shows the installation parameter settings for • Storage-Related Parameters • Sort Pool • RID Pool • LOB Storage • Miscellaneous Storage • Reserved DBM1 Storage • Trace Storage
ZPSYSD	DB2 System Detail	System Definitions (see page 227) Shows the installation parameter settings for • System Definitions • Data Propagation
ZPTHDD	DB2 System Detail	Thread Parameters (see page 230) Shows the installation parameter settings for • Thread Parameters • DDF DBATs • Automatic Bind • Dynamic SQL Caching • Miscellaneous Thread Parameters
ZPTRACED	DB2 System Detail	Trace Parameters (see page 228) Shows the installation parameter settings for • Trace Parameters

DB2 System ZPARM Views

The following views display information about DB2 system installation parameters.

ZPDB2D—DB2 Definition

The ZPDB2D view, shown in Figure 144, shows the installation parameter settings for

- DB2 Definition

```
W1 =ZPDB2D============DB2J61E==*========17MAR2001==18:54:07====MVDB2====D====1
                                                        . PREV
   DB2 Definition.....................................
    Subsystem ID (SSID)...............................            DB2J
    Release...........................................             610
    Command Prefix....................................           )DB2J
    Location..........................................            DB2J
    Group.............................................            DBGJ
    Data Sharing Member...............................            DB2J
    DSNZPARM Assembly Date............................        01/06/00
    DSNZPARM Name.....................................          DSN610
                                                        . NEXT
```

Figure 144. ZPDB2D View—DB2 Definition

The default functions shipped with this view are as follows:

- Hyperlink from
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPSYSD—System Definitions

The ZPSYSD view, shown in Figure 145, shows the installation parameter settings for

- System Definitions
- Data Propagation

```
W1 =ZPSYSD============DB2J61E==*========17MAR2001==18:55:39====MVDB2====D====1
                                                          . PREV
   System Definitions.....................................
    MVS Environment.........................(MVS).......           XA
    WTO Route Code Bitmap...................(ROUTCDE)...         8000
    Type of Site (Local or Recovery)........(SITETYP)...    LOCALSITE
    Remote Tracker Site.....................(TRKRSITE)..

    3990 Sequential Cache Prefetch Mode.....(SEQCACH)...            B
    Utility Cache Option....................(SEQPRES)...            N

    Enable Database Checking................(DBCHK).....
    Activate I/O Scheduling Feature.........(SPRMIOP)...     I/O FEAT
    Maximum LE Tokens.......................(LEMAX).....           20
    Maximum ZIVLEMPEL Dictionary Entries....(SPRMMDE)...         4096
   Data Propagation..................................... . STATS
    Enable Change Data Capture..............(CHGDC).....
    Enforce DPROP...........................(EDPROP)....
                                                          . NEXT
```

Figure 145. ZPSYSD View—System Definitions

The default functions shipped with this view are as follows:

- Hyperlink from
  - STATS button to STCHKPD to see interval and session counts for data propagation statistics
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPTRACED—Trace Parameters

The ZPTRACED view, shown in Figure 146, shows the installation parameter settings for

- Trace Parameters

```
W1 =ZPTRACED==========DB2J61E==*========17MAR2001==18:56:01====MVDB2====D====1
                                                          . PREV
   Trace Parameters.....................................
    Statistics Time Interval (Minutes).........(STATIME)...         30
    Statistics Synchronize Within Hour.........(SYNCVAL)...         58
    SMF Statistics Trace Start Classes.........(SMFSTAT)...          *
    SMF Statistics History Collection..........(STATHIST).. ACCESSPATH
    SMF Accounting Trace Start Classes.........(SMFACCT)...   43000000
    Roll Up Parallel Task Accounting...........(PTASKROL)..          Y
    SMF Audit Trace Start Classes..............(AUDITST)...
    Monitor Trace Start Classes................(MON).......
    Global Trace Start Classes.................(TRACSTR)...
                                                          . NEXT
```

Figure 146. ZPTRACE View—Trace Parameters

The default functions shipped with this view are as follows:

- Hyperlink from
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPDSHRD—Data Sharing

The ZPDSHRD view, shown in Figure 147, shows the installation parameter settings for

- Data Sharing
- Sysplex Query Parallelism

```
W1 =ZPDSHRD==========DB2J61E==*========17MAR2001==18:56:20====MVDB2====D====1
                                                              . PREV
   Data Sharing..................................... . WIZARD
    Data Sharing Enabled.....................(DSHARE)....      YES
    Group Name...............................(GRPNAME)...     DBGJ
    Member Name..............................(MEMBNAME)..     DB2J
    Maximum Number of Data Sharing Members.................      248
    Service Unit (SU) Conversion Factor....................     1742
    GBP-Dependent Page Immed. or Phase 1 Write.(IMMEDWRI)..
   Sysplex Query Parallelism........................... . STATS
    Coordinate Parallel Processing.............(COORDNTR)..        Y
    Assist Parallel Processing.................(ASSIST)....        Y
                                                              . NEXT
```

Figure 147. ZPDSHRD View—Data Sharing

The default functions shipped with this view are as follows:

- Hyperlink from
  - WIZARD button to WZDSHAR tuning wizard to step through an analysis of the performance of a data sharing group
  - STATS button to STQPARD to see interval and session counts for query parallelism statistics
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPTHDD—Thread Parameters

The ZPTHDD view, shown in Figure 148, shows the installation parameter settings for

- Thread Parameters
- DDF DBATs
- Automatic Bind
- Dynamic SQL Caching
- Miscellaneous Thread Parameters

```
W1 =ZPTHDD============DB2J61E==*========17MAR2001==18:56:38====MVDB2====D====1
                                                              . PREV
   Thread Parameters..................................... . STATS
    Max Concurrent Threads.....................(CTHREAD)...      100
    Max TSO Connections........................(IDFORE)....       40
    Max BATCH Connections......................(IDBACK)....       20
   DDF DBATs............................................. . STATS
    Max Concurrent Remote Connections..........(CONDBAT)...       64
    Max Remote Active Database Access Thds.....(MAXDBAT)...       64
    Max Type 1 Inactive Threads................(MAXTYPE1)..        0
   Automatic Bind........................................ . STATS
    Automatic Bind Mode........................(ABIND).....        Y
   Dynamic SQL Caching................................... . CACHE
    Cache Dynamic SQL..........................(CACHEDYN)..        N
    Maximum Kept Dynamic SQL Statements........(MAXKEEPD)..     5000
    Maximum EDM Pool Data Space Size...........(EDMDSPAC)..        0
   Miscellaneous Thread Parameters.......................
    UR Checkpoint Frequency....................(URCHKTH)...        0
    UR Log Write Check Frequency (in K)........(URLGWTH)...        0
    Default CURRENT DEGREE.....................(CDSSRDEF)..      ANY
    Optimization Hints.........................(OPTHINTS)..        Y
    EXPLAIN Allowed During Automatic Rebind....(ABEXP).....    ALLOW
    NPAGE Threshold (Access Path Adjstmnt).....(NPGTHRSH)..        0
    Enable Star Join Processing................(STARJOIN)..        Y
    Aggregate Partition Statistics for REOR....(STATROLL)..        Y
    Suppress Recoverable RDS Abends............(SUPERRS)...        Y
    May DB2 Use Index Access for IN List.......(SPRMNOI)...      YES
    Maximum Level for Index ANDing.............(SPRMAND)...       32
    Minimum  Percent Level for Index ORing.....(SPRMOR)....       25
    Enable Filter Factor Refinement............(SPRMFFB)...       NO
                                                             . NEXT
```

Figure 148. ZPTHDD View—Thread Parameters

The default functions shipped with this view are as follows:

- Hyperlink from
  - STATS button to see interval and session counts for thread parameters, DDF database access threads, or automatic BINDs
  - CACHE button to STCACHE to see all the counts related to dynamic SQL cache usage
  - NEXT and PREV buttons to see the next or previous ZPARM view

Locking ZPARM Views

The following views display information about locking installation parameters.

ZPIRLMDD—IRLM Definitions

The ZPIRLMDD view, shown in Figure 149, shows the installation parameter settings for

- IRLM Definitions

```
W1 =ZPIRLMDD==========DB2J61E==*========17MAR2001==18:56:57====MVDB2====D====1
                                                              . PREV
   IRLM Definitions.....................................
    IRLM Subsystem ID.....................(IRLMSID)...     IR2J
    MVS Procname (Procedure Name).........(IRLMPRC)...  DB2IR2J
    IRLM Identifier.......................(IRLMID)....        1
    IRLM Automatic Start..................(IRLMAUT)...       80
    Initialization Query Time in Seconds..................       1
    Initialization Delay Limit............(IRLMSWT)...      300
    IRLM Internal Trace Status............(ITRACE)....       15

    Cross Memory (PC=YES / NO)............(PC).........        1
    Maximum ECSA Usage (when PC=NO).......(MAXCSA)....  6291456
    Current Used ECSA (Applies when PC=NO)..............   610304
    High Water Mark ECSA (Valid when PC=NO).............   611328
                                                              . NEXT
```

Figure 149. ZPIRLMDD View—IRLM Definitions

The default functions shipped with this view are as follows:

- Hyperlink from
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPIRLMLD—IRLM—Lockout Detection

The ZPIRLMLD view, shown in Figure 150, shows the installation parameter settings for

- IRLM—Timeout/Deadlock Detection
- IRLM—Application Lock Usage

```
W1 =ZPIRLMLD==========DB2J61E==*========17MAR2001==18:57:49====MVDB2====D====1
                                                                . PREV
   IRLM - Lockout Detection.............................. . WIZARD
    Timeout Interval.........................(IRLMRWT)....      300
    Deadlock Detection Time (Seconds)..........(DEADLOK)....        5
    Global Deadlock Detection Cycles...........(DEADLOK)....        1
    Wait for Retained Locks....................(RETLWAIT)...        0
    Utility Timeout Factor.....................(UTIMOUT)....        6
    IMS BMP Timeout Factor.....................(BMPTOUT)....        4
    DL/I Batch Timeout Factor..................(DLITOUT)....        6
   IRLM - Application Lock Usage.......................... . STATS
    Maximum Locks per Application..............(NUMLKUS)....    10000
    Maximum Locks per Table Space..............(NUMLKTS)....     1000
    Use Update Lock for RR Isolation Access....(RRULOCK)....        N
    Evaluate on Uncommited Data................(EVALUNC)....        Y
    Use X Lock for Seached Update/Delete.......(XLKUPDLT)...        Y
    Release Locks for Held Csrs at Commit......(RELCURHL)...        Y
    Maximum Number of DDs with Hold............................     3
    Enable VARCHAR Data Retrieval from Index...(RETVLCFK)...        N
    Default Index Type.........................(DEFIXTP)....        2
    Value for Trigger Drain....................................     1
                                                                . NEXT
```

Figure 150. ZPIRLMLD View—IRLM Lockout Detection

The default functions shipped with this view are as follows:

- Hyperlink from
  - WIZARD button to WZLOCK tuning wizard to step through the analysis of lock contention in DB2, either for one subsystem, or for a data sharing group
  - STATS button to STLOCKD to see interval and session counts for IRLM application lock usage statistics
  - NEXT and PREV buttons to see the next or previous ZPARM view

Logging ZPARM Views

The following views display information about logging installation parameters.

ZPLOGD—Active Log Definitions

The ZPLOGD view, shown in Figure 151, shows the installation parameter settings for

- Active Log Definitions
- Active Log Write Parameters

```
W1 =ZPLOGD============DB2J61E==*========17MAR2001==18:58:20====MVDB2====D====1
                                                              . PREV
   Active Log Definitions.............................
    Use Two Active Logs.....................(TWOACTV)...
    Use Two Bootstrap Data Sets (BSDS).....(TWOBSDS)...     DUAL
    Limit Restart Backout (YES\NO\AUTO).....(LBACKOUT)..    AUTO
    Restart Backout Limit (0-255)..........(BACKODUR)..       5
    Max DBM1 Storage for Fast Log Apply.....(LOGAPSTG)..       0
   Active Log Write Parameters.......................... . STATS
    Checkpoint Frequency...................(LOGLOAD)...  100000
    UR Checkpoint Frequency................(URCHKTH)...       0
    Output Buffer Size (1K Blocks).........(OUTBUFF)...    4000
    Write Threshold-Max Buffers before Write...(WRTHRSH)...   20
                                                              . NEXT
```

Figure 151. ZPLOGD View—Active Log Definitions

The default functions shipped with this view are as follows:

- Hyperlink from
  - STATS button to STLOGD to see interval and session counts for active log write parameter statistics
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPARCDFD—Archive Log Definitions

The ZPARCDFD view, shown in Figure 152, shows the installation parameter settings for

- Archive Log Read Parameters
- Archive Log Definitions

```
W1 =ZPARCDFD==========DB2J61E==*========17MAR2001==18:58:49====MVDB2====D====1
                                                              . PREV
   Archive Log Definitions.............................
   Archive Log Read Parameters.......................... . STATS
    Input Buffer Size (1K Blocks).............(INBUFF)....        0
    Maximum Archive Read Tape Units...........(MAXRTU)....        2
    Tape Volume Deallocation Time (Minutes)....(DEALLCT)...        0
   Archive Log Definitions.............................
    Use Two Archive Logs......................(TWOARCH)...        N
    Read Copy2 Archive First..................(ARC2FRST)..        Y
    WTO Msg to Operator at Archive............(ARCWTOR)...        Y
    Maximum Archive Logs in BSDS..............(MAXARCH)...     1000
    Archive Log Retention Period (Days)........(ARCRETN)...        0
    RACF-Protect Archive Logs.................(PROTECT)...        Y
    Timestamp Archive Logs....................(TSTAMP)....       NO
    Max Quiesce Time for -ARCHIVE LOG (Sec)....(QUIESCE)...        5
                                                              . NEXT
```

Figure 152. ZPARCDFDS View—Archive Log Definitions

The default functions shipped with this view are as follows:

- Hyperlink from
  - STATS button to STLOGD to see interval and session counts for archive log read parameter statistics
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPARCALD—Archive Log Allocation Definitions

The ZPARCALD view, shown in Figure 153, shows the installation parameter settings for

- Archive Log Allocation Definitions

```
W1 =ZPARCALD==========DB2J61E==*========17MAR2001==18:59:12====MVDB2====D====1
                                        . PREV
   Archive Log Allocation Definitions.....
    Use IDRC (Data Compaction)..(COMPACT).                                  N
    Archive Log Alloc. Blksize..(BLKSIZE).                              28672
    Archive Log Allocation Unit.(ALCUNIT).                                CYL
    Primary Allocation Amount...(PRIQTY)..                               1234
    Secondary Allocation Amount.(SECQTY)..                                154
    Archive Unit 1 Name.........(UNIT).....                             CARTS
    Archive Unit 2 Name.........(UNIT2)....
    MSS Volume Group 1..........(MSVGP)....
    MSS Volume Group 2..........(MSVGP2)...
    Archive Dataset 1 Prefix....(ARCPFX1).                 DSN610.DB2J.ARCLG1
    Archive Dataset 2 Prefix... (ARCPFX2).                 DSN610.DB2J.ARCLG2
                                        . NEXT
```

Figure 153. ZPARCALD View—Archive Log Allocation Definitions

The default functions shipped with this view are as follows:

- Hyperlink from
  - NEXT and PREV buttons to see the next or previous ZPARM view

Distributed ZPARM Views

The following view displays information about distributed installation parameters.

ZPDDFD—Distributed Data Facility

The ZPDDFD view, shown in Figure 154, shows the installation parameter settings for

- Distributed Data Facility Definitions
- DBAT Thread Controls
- DDF-Related Authorization

```
W1 =ZPDDFD============DB2J61E==*========17MAR2001==18:59:40====MVDB2====D====1
                                                              . PREV
   DDF - Dist Data Facility Definitions..................... . STATS
    Local Location.....................................          DB2J
    DDF Startup Facility Name..........................           DDF
    DDF Start Option.........................(DDF).......            A
    Database Protocol for 3-Part Names.........(DBPROTCL)..       DRDA
    DDF Max Number of Facility Entries.....................            1
    DBAT Status after Commit..................(CMTSTAT)...     ACTIVE
    Idle Thread Timeout (Seconds).............(IDTHTOIN)..            5
    Minutes between Resync Periods............(RESYNC).....           2
    TCP/IP KEEPALIVE..........................(TCPKPALV)..           0
    DDF Interval Cycle Frequency..............(SPRMINT)...         180
    DDF Queued Conversation Time..............(SPRMQCT)...         120
    DDF Receive Buffer Size...................(SPRMDRB)...       30720
    Max Extra DRDA Query Blocks for DB2 Req....(EXTRAREQ)..         100
    Max Extra DRDA Query Blocks for DB2 Svr....(EXTRASRV)..         100
   DBAT Thread Controls..................................... . STATS
    Max Concurrent Database Access Threads.....(CONDBAT)...          64
    Maximum Remote Database Access Threads.....(MAXDBAT)...          64
    Maximum Type 1 Inactive Threads............(MAXTYPE1)..           0
    DDF Pool Thread Timeout Value..............(POOLINAC)..         120
   DDF-Related Authorization.............................
    Extended Security.........................(EXTSEC).....           N
    ID Sent to Second Server..................(HOPAUTH)...         YES
    Accept Already Verified TCP/IP Connects....(TCPALVER)..           Y
    DDF RLF Access Error Parameter............(RLFERRD)...    NOLIMIT
    DDF RLF Service Unit Limit................(RLFERRD)...           0
                                                             . NEXT
```

Figure 154. ZPDDFD View—Distributed Data Facility

The default functions shipped with this view are as follows:

- Hyperlink from
  - STATS button to see interval and session counts for DDF definitions or DBAT thread controls
  - NEXT and PREV buttons to see the next or previous ZPARM view

Storage and Data Set ZPARM Views

The following views display information about storage and data set installation parameters.

ZPSTGD—Storage-Related Parameters

The ZPSTGD view, shown in Figure 155, shows the installation parameter settings for

- Storage-Related Parameters
- Sort Pool
- RID Pool
- LOB Storage
- Miscellaneous Storage
- Reserved DBM1 Storage
- Trace Storage

```
W1 =ZPSTGD============DB2J61E==*========17MAR2001==18:59:57====MVDB2====D====1
                                                                 . PREV
   Storage-Related Parameters.............................. . WIZARD
    Maximum EDM Pool Size (Bytes).............(EDMPOOL)... 16128000
    EDM Pool Data Space Size..................(EDMDSPAC).. 41943040
    Maximum EDM Pool Data Space Size..........(EDMDSMAX).. 41943040
    EDM Pool Best Fit Algorithm...............(EDMBFIT)...  EDM 1st
   Sort Pool.............................................. . STATS
    Maximum SORT Pool Size (Bytes)............(SRTPOOL)...  1024000
    Number of Sort Work Files.................(SPRMSNW)...      140
    Sort Work Files Obtained Unconditionally...(SPRMSWF)...       5
    Maximum Number of Nodes in Sort Tree.......(SPRMSMX)...    32000
   RID Pool............................................... . STATS
    RID Pool Size (16K Blocks)................(MAXRBLK)...      250
    Minimum RID Lists.........................(MINRBLK)...        1
   LOB Storage.............................................
    Kilobytes for LOB Values - per Agent.......(LOBVALA)...     2048
    Megabytes for LOB Values - per System......(LOBVALS)...     2048
   Miscellaneous Storage...................................
    Minimize Thread Storage...................(MINSTOR)...        Y
    Max Utility Buffer Size (4K Pages).........(SPRMUBS)...       80
    Max DBM1 Storage for Fast Log Apply........(LOGAPSTG)..        0
    Max Extra DRDA Query Blocks for DB2 Req....(EXTRAREQ)..      100
    Max Extra DRDA Query Blocks for DB2 Svr....(EXTRASRV)..      100
   Reserved DBM1 Storage...................................
    Reserved DBM1 Space for Critical.Work......(CRIT)......  3379200
    Reserved DBM1 Space for MVS Functions..................    40960
    Additional DBM1 Reserved Space.............(SOS).......  3379200
   Trace Storage...........................................
    Monitor Trace Buffer Size (Bytes).........(MONSIZE)...    65536
    Size of Internal Trace Table (4K.Pages)....(TRACTBL)...       16
    Max Allocated READS Storage Area...........(SPRMIFS)...     4192
    Size of Local Trace Table (4K Pages).......(TRACLOC)...       16
                                                                 . NEXT
```

Figure 155. ZPSTGD View—Storage-Related Parameters

The default functions shipped with this view are as follows:

- Hyperlink from
  - WIZARD button to WZEDMPL tuning wizard to step through an analysis of the performance and usage of the EDM pool
  - STATS button to see interval and session counts for sort pool or RID pool statistics
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPDSETD—Data Set Management

The ZPDSETD view, shown in Figure 156, shows the installation parameter settings for

- Data Set Management

```
W1 =ZPDSETD===========DB2J61E==*========17MAR2001==19:00:14====MVDB2====D====1
                                                              . PREV
   Data Set Management..................................... . STATS
    Maximum Data Sets Open at Once.............(DSMAX).....     3000
    Pseudo-CLOSE Frequency (RO Switch Ckpts)...(PCLOSEN)...        5
    Pseudo-CLOSE Timer (RO Switch Time).........(PCLOSET)...       10
    Checkpoints between Level ID Updates.......(DLDFREQ)...        5

    Recall Database............................(RECALL)....        Y
    Auto Recall Wait (Seconds).................(RECALLD)...      300

    VSAM Catalog Name..........................(CATALOG)...   DSN610
    Auto-Start Databases.....................................      80
    SMS Data Class for Tablespaces.............(SMSDCFL)...
    SMS Data Class for Index Tablespaces.......(SMSDCIX)...
    Allow Update of Partitioning Key...........(PARTKEYU)..        Y
    Time between Reset of Data Set Stats.......(DSSTIME)...        5
    Max Storage Blocks above the 16M Line......(SPRMKDA)...     1300
    Max Storage Blocks below the 16M Line......(SPRMKDB)...     1000
                                                              . NEXT
```

Figure 156. ZPSETD View—Data Set Management

The default functions shipped with this view are as follows:

- Hyperlink from
  - STATS button to STDSAD to see interval and session counts for data set management statistics
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPBFMGRD—Buffer Manager

The ZPBFMGRD view, shown in Figure 157, shows the installation parameter settings for

- Buffer Manager—Default Pools
- Buffer Manager—Data Sharing Castout
- Buffer Manager—Internal Work Elements

```
W1 =ZPBFMGRD==========DB2J61E==*========17MAR2001==19:00:35====MVDB2====D====1

   Buffer Manager - Default Pools.........................
    Default BPOOL for User Data.............(TBSBPOOL)..      BP0
    Default BPOOL for User Indexes..........(IDXBPOOL)..      BP2

   Buffer Manager - Data Sharing Castout.................. . STATS
    Castout Timer Interval (Seconds)........(SPRMSCT)...       10
    Maximum Number of Pages Cast Out........(SPRMCO1)...      128
    Reverse Threshold for Structure Castout....(SPRMCO2)...    10

   Bfr Manager - Internal Work Elements................... . STATS
    Maximum Number of Read Engines..........(SPRMDEU)...      600
    Number of BM Async Write Engines........(SPRMWRN)...      300
    Media Manager Request Blocks............(SPRMMMRB)..      408
                                                           . NEXT
```

Figure 157. ZPBFMGRD View—Buffer Manager

The default functions shipped with this view are as follows:

- Hyperlink from
  - STATS button to see interval and session counts for data sharing castout or internal work element statistics
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPDDLCTD—Data Definitions Control

The ZPDDLCTD view, shown in Figure 158, shows the installation parameter settings for

- Data Definition Control

```
W1 =ZPDDLCTD==========DB2J61E==*========17MAR2001==19:01:11====MVDB2====D====1
                                                          . PREV
   Data Definition Control.............................
    Registration Facility Enabled.............(RGFINSTL)..       30
    DDL Registration Enforced.................(RGFDEDPL)..       30
    Action if DDL Not Registered..............(RGFDEFLT)..       30
    Fully Qualified Object Registry Table......(RGFFULLQ)..       30
    DDL Registration Owner....................(RGFCOLID).. DSNRGCOL
    DDL Registration Database Name............(RGFDBNAM).. DSNRGFDB
    DDL Application Registration Table Name....(RGFNMPRT).. DSN_REGI
    DDL Object Registration Table Name.........(RGFNMORT).. DSN_REGI
    ART/ORT Escape Character..................(RGFFESCP)..
                                                          . NEXT
```

Figure 158. ZPDDLCTD View—Data Definition Control

The default functions shipped with this view are as follows:

- Hyperlink from
  - NEXT and PREV buttons to see the next or previous ZPARM view

Authorization ZPARM Views

The following views display information about authorization installation parameters.

ZPAUTHD—Authorization

The ZPAUTHD view, shown in Figure 159, shows the installation parameter settings for

- Authorization Definitions
- Authorization Cache Sizes
- DDF-Related Authorization

```
W1 =ZPAUTHD==========DB2J61E==*========17MAR2001==19:01:26====MVDB2====D====1
                                                          . PREV
   Authorization Definitions.............................
    DB2 Authorization Enabled.................(AUTH)......        Y
    SYSADM 1 User ID..........................(SYSADM)....  BOLHHH1
    SYSADM 2 User ID..........................(SYSADM2)...  BOLBPL1
    SYSOPR 1 User ID..........................(SYSOPR1)...  BOLHHH1
    SYSOPR 2 User ID..........................(SYSOPR2)...  BOLBPL1
    Default User ID...........................(DEFLTID)...  BABUSER
    Bind Authority............................(BINDNV)....  BINDADD
    DBADM Create View Authorization...........(DBACRVW)...        Y
    RACF-Protect Archive Logs.................(PROTECT)...        Y
   Authorization Cache Sizes.............................. . STATS
    Plan Authorization Cache Size.............(AUTHCACH)..     1024
    Package Authorization Cache Size..........(CACHEPAC)..    32768
    Routine Authorization Cache Size..........(CACHERAC)..    32768
   DDF-Related Authorization.............................
    Extended Security.........................(EXTSEC)....        N
    ID Sent to Second Server..................(HOPAUTH)...      YES
    Accept Already Verified TCP/IP Connects....(TCPALVER)..        Y
                                                          . NEXT
```

Figure 159. ZPAUTHD View—Authorization

The default functions shipped with this view are as follows:

- Hyperlink from
  - STATS button to STAUTHD to see interval and session counts for authorization cache size statistics
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPRLFD—Resource Limit Facility (RLF)

The ZPRLFD view, shown in Figure 160, shows the installation parameter settings for

- Resource Limit Facility (RLF)

```
W1 =ZPRLFD============DB2J61E==*========17MAR2001==19:01:42====MVDB2====D====1
                                                              . PREV
   Resource Limit Facility (RLF).........................
    Authorization ID for RLF..................(RLFAUTH)..   SYSIBM
    RLF Table Suffix..........................(RLFTBL)...       01
    Start RLF when DB2 Starts.................(RLF)......       40

    Execute with No Limit (NOLIMIT)............(RLFERR)...       40
    Terminate SQL Statement (NORUN)............(RLFERR)...       40
    RLF Service Unit Limit.....................(RLFERR)...

    DDF RLF Error Parameter (NOLIMIT).........(RLFERRD)..  NOLIMIT
    DDF RLF Error Parameter (NORUN)............(RLFERRD)..
    DDF RLF Service Unit Limit................(RLFERRD)..        0
                                                              . NEXT
```

Figure 160. ZPRLFD View—Resource Limit Facility (RLF)

The default functions shipped with this view are as follows:

- Hyperlink from
  - NEXT and PREV buttons to see the next or previous ZPARM view

Application-Related ZPARM Views

The following views display information about application-related installation parameters.

ZPQPARD—Query Parallelism

The ZPQPARD view, shown in Figure 161, shows the installation parameter settings for

- Query Parallelism
- Sysplex Query Parallelism

```
W1 =ZPQPARD==========DB2J61E==*========17MAR2001==19:01:55====MVDB2====D====1
                                                              . PREV
   Query Parallelism..................................... . STATS
    Default CURRENT DEGREE.....................(CDSSRDEF)..        1
    Maximum Degree of Parallelism..............(PARAMDEG)..       22
   Sysplex Query Parallelism.............................
    Coordinate Parallel Processing.............(COORDNTR)..        Y
    Assist Parallel Processing.................(ASSIST)....        Y
                                                              . NEXT
```

Figure 161. ZPQPARD View—Query Parallelism

The default functions shipped with this view are as follows:

- Hyperlink from
  - STATS button to STQPARD to see interval and session counts for query parallelism statistics
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPROUTD—Routine Parameters (Stored Procedures/UDFs)

The ZPROUTD view, shown in Figure 162, shows the installation parameter settings for

- Stored Procedures
- User-Defined Functions

```
W1 =ZPROUTD===========DB2J61E==*========17MAR2001==19:02:19====MVDB2====D====1
                                                              . PREV
   Routine Parameters (Stored Procs/UDF)..................... . STATS
    Maximum Abends.............................(STORMXAB)..        1
    MVS Procname (Procedure Name)..............(STORPROC).. DB2JSPAS
    Timeout Value..............................(STORTIME)..      180
    Default WLM Environment....................(WLMENV)....
                                                              . NEXT
```

Figure 162. ZPROUTD View—Routine Parameters (Stored Procedures/UDFs)

The default functions shipped with this view are as follows:

- Hyperlink from
  - STATS button to STROUTD to see interval and session counts for routine parameter statistics
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPHDECPD—DSNHDECP—Application Programming Defaults

The ZPHDECPD view, shown in Figure 163, shows the installation parameter settings for

- DSNHDECP—Application Programming Defaults

```
W1 =ZPHDECPD==========DB2J61E==*========17MAR2001==19:02:31====MVDB2====D====1
                                                              . PREV
   DSNHDECP - Appl Programming Defaults...................
    Default Programming Language..............(DEFLANG)...   IBMCOB
    Decimal Point.............................(DECIMAL)...   PERIOD
    Minimum Divide Scale of 3.................(DECDIV3)...
    Default String Delimiter..................(DELIM).....  QUOTE=0
    Default SQL String Delimiter..............(SQLDELI)...       64
    Distributed SQL String Delimiter..........(DSQLDELI)..  QUOTE=0
    Mixed Data................................(MIXED).....       NO
    EBCDIC GBCS CCSID.........................(GCCSID).... FFFE0100
    EBCDIC MBCS CCSID.........................(MCCSID).... FFFEFFFE
    EBCDIC SBCS CCSID.........................(SCCSID).... 0025FFFE
    ASCII GBCS CCSID..........................(AGCCSID)... FFFE0000
    ASCII MBCS CCSID..........................(AMCCSID)... FFFEFFFE
    ASCII SBCS CCSID..........................(ASCCSID)... 0000FFFE
    UNICODE GBCS CCSID........................(UGCCSID)...      367
    UNICODE MBCS CCSID........................(UMCCSID)...     1208
    UNICODE SBCS CCSID........................(USCCSID)...     1200
    Default Encoding Scheme...................(ENSCHEME)..   EBCDIC
    Default Application Encoding Scheme.......(APPENSCH)..   EBCDIC
    Decimal Arithmetic........................(DECARTH)...  DEC31=0
    Use DSNHDECP for Dynamic Statements.......(DYNRULS)...       80
    Generate DESCRIBE SQLDA for Static SQL.....(DESCSTAT)..        N
    Date Format...............................(DATE)......      ISO
    Date Length when Date Format = LOCAL.......(DATELEN)...
    Time Format...............................(TIME)......      ISO
    Time Length when Time Format = LOCAL.......(TIMELEN)...
    Standard SQL Level........................(STDSQL)....        1
    Default Character Set.....................(CHARSET)... ALPHANUM
    Locale Character Functions................(LC_CTYPE)..
    Default DB2 Subsystem ID (SSID)...........(SSID)......     DBGJ
    Compatibility Option......................(COMPAT)....
                                                              . NEXT
```

Figure 163. ZPHDECPD View—DSNHDECP—Application Programming Defaults

The default functions shipped with this view are as follows:

- Hyperlink from
  - NEXT and PREV buttons to see the next or previous ZPARM view

ZPSAPD—SAP R/3–Related Parameters

The ZPSAPD view, shown in Figure 164, shows the installation parameter settings for

- Parameters with Required Settings for SAP R/3
- Parameters with Recommended Settings for SAP R/3

```
W1 =ZPSAPD============DB2JHH===*========17MAR2001==15:26:25====MVDB2====D====1
                                                              . PREV
   Parameters with Required Settings.....................
    ASCII SBCS CCSID.........................(ASCCSID).... 0000FFFE
    EBCDIC SBCS CCSID........................(SCCSID)..... 0025FFFE
    Decimal Arithmetic.......................(DECARTH)....    DEC31
    Max Concurrent Threads...................(CTHREAD)....      100
    Max BATCH Connections....................(IDBACK).....       20
   Parameters with Recommended Settings..................
    Maximum Data Sets Open at Once...........(DSMAX)......     3000
    Decimal Point............................(DECIMAL)....   PERIOD
    Default Encoding Scheme..................(ENSCHEME)...   EBCDIC
    Cache Dynamic SQL........................(CACHEDYN)...        N
    Maximum Kept Dynamic SQL Statements.....(MAXKEEPD)...     5000
    Maximum Locks per Application............(NUMLKUS)....    10000
    Release Locks for Held Csrs at Commit....(RELCURHL)...        Y
    Timeout Interval.........................(IRLMRWT)....      300
    Utility Timeout Factor...................(UTIMOUT)....        6
    Cross Memory (PC=YES / NO)...............(PC).........        1
    Global Deadlock Detection Cycles.........(DEADLOK)....        1
    Deadlock Detection Time (Seconds)........(DEADLOK)....        5
    Checkpoint Frequency.....................(LOGLOAD)....   100000
    Input Buffer Size (1K Blocks)............(INBUFF).....      n/a
    Max Quiesce Time for -ARCHIVE LOG (Sec)....(QUIESCE)....        5
    Output Buffer Size (1K Blocks)...........(OUTBUFF)....     4000
    UR Checkpoint Frequency..................(URCHKTH)....        0
    Use Two Active Logs......................(TWOACTV)....
    Use Two Archive Logs.....................(TWOARCH)....        N
    Max DBM1 Storage for Fast Log Apply.....(LOGAPSTG)...        0
    Maximum EDM Pool Size (Bytes)............(EDMPOOL).... 16128000
    Maximum SORT Pool Size (Bytes)...........(SRTPOOL)....  1024000
    RID Pool Size (16K Blocks)...............(MAXRBLK)....      250
    Monitor Trace Buffer Size (Bytes)........(MONSIZE)....    65536
    MVS Procname (Procedure Name)............(STORPROC)... DB2JSPAS
    3990 Sequential Cache Prefetch Mode.....(SEQCACH)....        B
    Default WLM Environment..................(WLMENV).....
    Limit Restart Backout (YES/NO/AUTO).....(LBACKOUT)...     AUTO
    SMF Accounting Trace Start Classes......(SMFACCT).... 43000000
    SMF Statistics Trace Start Classes......(SMFSTAT).... B8000000
    Use X Lock for Seached Update/Delete....(XLKUPDLT)...        N
    NPAGE Threshold (Access Path Adjstmnt).....(NPGTHRSH)...        0
    Allow Update of Partitioning Key.........(PARTKEYU)...
    Free Unused Thread Storage...............(CONTSTOR)...        N
    Commits Before THRD Storage Contraction....(SPRMCTH)....       50
    Max Storage Before THRD Stg Contraction....(SPRMSTH)....  2097152
                                                             ..NEXT
```

Figure 164. ZPSAPD View—SAP R/3–Related Parameters

The default functions shipped with this view are as follows:

- Hyperlink from
  - NEXT and PREV buttons to see the next or previous ZPARM view

Chapter 18. Dynamic SQL Cache

Views for analysis of the dynamic SQL cache are organized into two groups:

- Dynamic SQL cache statistics views
- Dynamic SQL statement views

You can easily access all the views for dynamic SQL cache analysis from the Dynamic SQL Cache Menu (WZCACHE), as shown in Figure 165.

```
W1 =WZCACHE===========DB2K=====*========17MAR2001==11:17:24====MVDB2==== ====1
    Dynamic SQL Cache Menu...

    Quick Statistics......... Interval    Session
     Pages Used.............       20
     Inserts................        0        4.0
     Global Cache Hit ratio..      0.0       44.4
     Local Cache Hit ratio...      0.0        0.0

   . All Statistics..........

   . Statement Summary.......

    SQL Statement List Views.
   . SQL Identifiers.........
   . SQL Execution Statistics
   . SQL Wait Time Totals....
   . SQL List (To Customize).

   Statement Filters.........
   . Set/Clear Filters.......
```

Figure 165. WZCACHE—Dynamic SQL Cache Menu

WZCACHE provides a few key statistics about the dynamic SQL cache usage and performance for each of these time periods:

- The current recording interval
- The current session since DB2 was started

You can hyperlink from this menu to see the complete statistics about the dynamic SQL cache as well as several statement-related views.

The statement-related views will show you whether statistics are being collected at the statement level.

If you want to activate these statistics, issue the following DB2 command:

```
-START TRACE(MON) IFCID(318)
```

Make note of the TNO trace number that is returned in the message from DB2.

Stop the statistics gathering with this DB2 command:

```
-MODIFY TRACE(MON) IFCID(318) TNO(nn)
```

Table 10 lists all the views available for dynamic SQL cache.

Table 10. Dynamic SQL Cache Views

View Name	Group / Type	Description
SCFTOTZ	Statement Detail Summary	Dynamic SQL Cache Filter Results (see page 259) Summarizes the number of statements selected and provides hyperlinks to each of the statement-related tabular views. It gives you a choice of which tabular view of the selected statements you want to see.
SCLIST	Statement Tabular	SQL Cache Statement Elements List (see page 255) Is provided to make it easy for you to create a customized view of all the elements about the SQL statements in the cache that you want to see in each of the following categories: • SQL Identifiers • SQL Execution Statistics • SQL Wait Time Totals
SCSETF	Statement Detail	SQL Cache Statement Filters (see page 258) Allows you to specify filters to determine which SQL statements are returned. Once set, they remain in effect for your session until cleared. **Note:** It is recommended that you specify these filters to select only those statements you want, because the size of the internal buffer may limit the number of statements that can be returned for an unfiltered request.
SCSQL	Statement Tabular	SQL Cache Statement List (see page 252) Lists the SQL statements in the cache with the available identifiers, current usage, and the first part of the SQL text.
SCSQLD	Statement Detail	SQL Cache Statement Detail (see page 256) Provides the complete information available about a selected SQL statement, including identifiers, execution statistics, and wait time totals.
SCSTATS	Statement Tabular	SQL Cache Statement Statistics (see page 253) Is a tabular list of all the statements in the cache showing the collected statistics.
SCSTMTD	Statement Tabular	SQL Cache Statement Text (see page 257) Shows the complete SQL statement text for a selected statement.
SCWAITS	Statement Tabular	SQL Cache Statement Waits (see page 254) Shows the available wait time totals per statement.

Table 10. Dynamic SQL Cache Views (Continued)

View Name	Group / Type	Description
STCACHE	Cache Statistics Tabular	Dynamic SQL Cache Statistics (see page 250) Provides an overview of the current usage of the cache, whether in the EDM pool or the SQL cache data space. It then provides all the DB2 statistics concerning both global and local cache usage, including hit ratios.
STCACHED	Cache Statistics Detail	Dynamic SQL Cache Statistics Detail (see page 251) Provides an overview of the current usage of the cache, whether in the EDM pool or the SQL cache data space, for each of these time periods: • The current recording interval • The current session since DB2 was started

Dynamic SQL Cache Statistics Views

The following views display statistics about the dynamic SQL cache.

STCACHE—Dynamic SQL Cache Statistics

The STCACHE view, shown in Figure 166, provides an overview of the current usage of the cache, whether in the EDM pool or the SQL cache data space. It then provides all the DB2 statistics concerning both global and local cache usage, including hit ratios.

These statistics are shown for the current recording interval.

```
+H1 =STCACHE==========(ALL======*=======)17MAR2001==16:55:05====MVDB2==== ====9
DB2 Targ Intvl  Pages   Percent    Total    Pages     Free   Requests  Inserts
         Time- EDM Pool of Pool    Pages     Used    Pages
DB1HHH   17:00        0      0.0        0        0        0         0        0
DB1J     16:55        0      0.0        0        0        0         0        0
DB1JHH   17:00        0      0.0        0        0        0         0        0
DB1K     16:55        0      0.0   262144        0   262144         0        0
DB2CHH   17:00        0      0.0        0        0        0         0        0
DB2HHH   17:00        0      0.0        0        0        0         0        0
DB2J     16:55        0      0.0    10240        0    10240         0        0
DB2JHH   17:00        0      0.0    10240        0    10240         0        0
DB2K     16:55       10      0.1    10240       10    10230         0        0
```

Figure 166. STCACHE View—Dynamic SQL Cache Statistics

The default functions shipped with this view are as follows:

- Hyperlink from
  - DB2 Targ column to STCACHED to see an overview of the current usage of the cache
  - Stmt Discards column to ZPTHDD to see the ZPARM MAXKEEPD value that controls the size of the local cache

STCACHED—Dynamic SQL Cache Statistics—Detail

The STCACHED view, shown in Figure 167, provides an overview of the current usage of the cache, whether in the EDM pool or the SQL cache data space.

These statistics are shown for each of these time periods:

- The current recording interval
- The current session since DB2 was started

```
W1 =STCACHED==========DB2K=====*========17MAR2001==11:21:04====MVDB2==== ====1
   Dynamic SQL Cache Statistics.........

   . SQL Cache Statement Analysis.......

   SQL Cache Pages in EDM Pool..........
    Pages in EDM Pool...................        20
    Percent of Pool.....................       0.3

   Data Space Usage.....................
    Total Pages.........................     10240
    Pages Used..........................        20
    Free Pages..........................     10220

   Global Cache Usage...................  Interval   Session
    Requests............................         0          9
    Inserts.............................         0          5
    Found in Cache(Short Prepare).......         0        4.0
    Not Found in Cache(Long Prepare)....         0          5
    Global Cache Hit Ratio..............       0.0       44.4
    Data Space Full Failures............       0.0        0.0

   Local Cache Effectiveness............  Interval   Session
    Avoided PREPARE (Match).............         0          0
    Implicit PREPARE (No Match).........         0          0
    Local Cache Hit Ratio...............       0.0        0.0
    Statement Discarded (>MAXKEEPD).....         0          0
    Statement Purged (Drop/Alter/Revoke)         0          0
```

Figure 167. STCACHED View—Dynamic SQL Cache Statistics—Detail

The default functions shipped with this view are as follows:

- Hyperlink from
  - SQL Cache Statement Analysis field to WZCACHE to access the SQL Cache Menu
  - Statement Discarded field to ZPTHDD to see the ZPARM MAXKEEPD value that controls the size of the local cache

Dynamic SQL Statement Views

The following views display information about dynamic SQL statements. They are based on IFCIDs 316 and 317.

Note: It is recommended that you specify filters to select only those statements you want, because the size of the internal buffer may limit the number of statements that can be returned for an unfiltered request. (See "SCSETF—SQL Cache Statements Filters" on page 258.)

SCSQL—SQL Cache Statement List

The SCSQL view, shown in Figure 168, lists the SQL statements in the cache with the available identifiers, current usage, and the first part of the SQL text.

```
>W1 =SCSQL=============DB2K=====*========17MAR2001==11:23:04====MVDB2==== ====5
   Unique   Date       Time   Current  Current  St Execute  Program Name
     ID   Cached     Cached    Users    Copies      Count
       1 2001-03-17 08:53:23        0         0 OK        1 DSNESM68
       2 2001-03-17 08:53:34        0         0 OK        1 DSNESM68
       3 2001-03-17 08:53:41        0         0 OK        1 DSNESM68
       4 2001-03-17 08:53:47        0         0 OK        1 DSNESM68
       5 2001-03-17 10:41:27        0         0 OK        5 DSN@EP2L
```

Figure 168. SCSQL View—SQL Cache Statement List

The default functions shipped with this view are as follows:

- Sort by
  - Time Cached column (ascending)
- Hyperlink from
  - Time Cached column to SCSQLD to see more detailed information about the selected SQL statement
  - SQL Size column to SCSTMTD to see the complete text of the selected SQL statement

SCSTATS—SQL Cache Statement Statistics

The SCSTATS view, shown in Figure 169, is a tabular list of all the statements in the cache showing the collected statistics.

Note: If statistics are not being collected, the values are zero.

```
>W1 =SCSTATS===========DB2K=====*========17MAR2001==11:23:51====MVDB2==== ====5
 1st 20 Bytes of      Execute  Synch    Getpages  Rows     Rows     Sorts    In
  Program Name         Count    Reads             Examined Processd            S
DSNESM68                   1       16       59       44        0        0
DSNESM68                   1        0        4       44       44        0
DSNESM68                   1        0       47       44       44        0
DSNESM68                   1       15       36       54       27        0
DSN@EP2L                   5        0        0        0        0        5
```

Figure 169. SCSTATS View—SQL Cache Statement Statistics

The default functions shipped with this view are as follows:

- Sort by
  - Execute Count column (ascending)
- Hyperlink from
  - SQL Size column to SCSTMTD to see the complete text of the selected SQL statement

SCWAITS—SQL Cache Statement Waits

The SCWAITS view, shown in Figure 170, shows the available wait time totals per statement.

Note: If statistics are not being collected, the values are zero.

```
>W1 =SCWAITS===========DB2K=====*========17MAR2001==11:24:38====MVDB2==== ====5
 Program Name                  Execute  Synch I/O   Lock/Latch  Unit Switch Gl
                                Count
DSNESM68                             1 00:00:00.11 00:00:00.00 00:00:00.00 00
DSNESM68                             1 00:00:00.00 00:00:00.00 00:00:00.00 00
DSNESM68                             1 00:00:00.00 00:00:00.00 00:00:00.00 00
DSNESM68                             1 00:00:00.13 00:00:00.00 00:00:00.00 00
DSN@EP2L                             5 00:00:00.00 00:00:00.00 00:00:00.00 00
```

Figure 170. SCWAITS View—SQL Cache Statement Waits

The default functions shipped with this view are as follows:

- Sort by
  - Execute Count column (ascending)
- Hyperlink from
  - SQL Size column to SCSTMTD to see the complete text of the selected SQL statement

SCLIST—SQL Cache Statement Elements List

The SCLIST view, shown in Figure 171, is provided to make it easy for you to create a customized view of all the elements about the SQL statements in the cache you want to see in each of the following categories:

- SQL Identifiers
- SQL Execution Statistics
- SQL Wait Time Totals

Note: If statistics are not being collected, the values are zero and only the statement identifiers are available.

```
>W1 =SCLIST============DB2K=====*========17MAR2001==11:25:18====MVDB2==== ====5
   Unique   Date       Time   Current  Current  St Execute  Program Name
     ID   Cached     Cached    Users    Copies      Count
       1 2001-03-17 08:53:23        0         0 OK        1 DSNESM68
       2 2001-03-17 08:53:34        0         0 OK        1 DSNESM68
       3 2001-03-17 08:53:41        0         0 OK        1 DSNESM68
       4 2001-03-17 08:53:47        0         0 OK        1 DSNESM68
       5 2001-03-17 10:41:27        0         0 OK        5 DSN@EP2L
```

Figure 171. SCLIST View—SQL Cache Statement Elements List

The default functions shipped with this view are as follows:

- Sort by
  - Time Cached column (ascending)

SCSQLD—SQL Cache Statement Detail

The SCSQLD view, shown in Figure 172, provides the complete information available about a selected SQL statement, including identifiers, execution statistics, and wait time totals.

Note: The statistics values are valid only if data collection is active.

```
>W1 =SCSQLD============DB2K=====*========17MAR2001==11:26:27====MVDB2==== ====1

SQL Statement....                                    Usage...........
 Date Cached..... 2001-03-17                          Current Users...        0
 Time Cached..... 11:25:46                            Current Copies..        0
 Status.......... Currently valid
 Program......... JXRDSQL                            Collection......
 Line No.........       52                            Date Started.... 2001-03-17
 Tran. Name.......                                    Time Started.... 08:52:47
 User ID......... BOLCJN2                             Statistics......
 SQLID........... BOLCJN2                             Executions......        1
 Object Qual..... BOLCJN2                             Synch Bfr Reads.        0
 Table Qual...... DMR77                               Getpages........      198
 Table Name...... DMRACDTL                            Rows Examined...      387
 SQL Text(1)......   SELECT LOCATION,SUBSYSTEM,AU     Rows Processed..       20
 SQL Text(2)...... THID,                              Sorts Performed.        1
 ID String........                                    Index Scans.....        0
                                                      Tablespace Scans        1
BIND Options.....                                    Parallel Groups.        0
 ISOLATION........ CURSOR STABILITY                   Synch Bfr Writes        0
 CURRENTDATA...... YES                                RID Fail-Limit..        0
 DYNAMICRULES..... RUN                                RID Fail-Storage        0
 CURRENT DEGREE... ANY                                Wait Totals.....
 CURRENT RULES.... DB2                                Synch I/O....... 00:00:00
 CUR. PRECISION... DEC15                              Lock/Latch...... 00:00:00
 CURSOR HOLD...... NOT HELD CURSOR                    Unit Switch..... 00:00:00
                                                      Global Lock..... 00:00:00
                                                      Other Read...... 00:00:00
                                                      Other Write..... 00:00:00
                                                      CPU Time........ 00:00:00
```

Figure 172. SCSQLD View—SQL Cache Statement Detail

SCSTMTD—SQL Cache Statement Text

The SCSTMTD view, shown in Figure 173, shows the complete SQL statement text for a selected statement.

```
>W1 =SCSTMTD===========DB2K=====*========17MAR2001==11:57:01====MVDB2==== ===23
   Line                    SQL Statement Text
  Number
       1   SELECT LOCATION,SUBSYSTEM,AUTHID,
       2     DECIMAL(COUNT(*), 14, 0),
       3     DECIMAL(MAX(PARAMAXDEG), 14, 0),
       4     DECIMAL(SUM(PARATOTGRP), 14, 0),
       5     DECIMAL(SUM(PARANORGRP), 14, 0),
       6     DECIMAL(SUM(PARAREDGRP), 14, 0),
       7     DECIMAL(SUM(PARADEGBUF), 14, 0),
       8     DECIMAL(SUM(PARADEGCUR), 14, 0),
       9     DECIMAL(SUM(PARADEGESA), 14, 0),
      10     DECIMAL(SUM(PARADEGENC), 14, 0),
      11     DECIMAL(SUM(PARARLFDISABLE), 14, 0),
      12     DECIMAL(SUM(PARASETCDG), 14, 0),
      13     DECIMAL(SUM(BPNGT), 14, 0),
      14     DECIMAL(SUM(PARACOORNO), 14, 0),
      15     DECIMAL(SUM(PARAISORR), 14, 0),
      16     DECIMAL(SUM(PARACSKIP), 14, 0),
      17     DECIMAL(SUM(PARAXDSGRP), 14, 0),
      18     DECIMAL(SUM(PARACONFIG+PARANOBP+PARAGLOBALTT), 14, 0),
      19       MIN(DATETIME),MAX(DATETIME)
      20          FROM DMR77.DMRACDTL
      21          WHERE DATE >= '1999-04-01' AND DATE <  '2001-04-01'
      22          GROUP BY LOCATION,SUBSYSTEM,AUTHID
      23          HAVING MAX(PARAMAXDEG) >
```

Figure 173. SCSTMTD View—SQL Cache Statement Text

The default functions shipped with this view are as follows:

- Sort by
  - Line Number column (ascending)

SCSETF—SQL Cache Statements Filters

The SCSETF view, shown in Figure 174, allows you to specify filters to determine which SQL statements are returned. Once set, they remain in effect for your session until cleared.

Note: It is recommended that you specify these filters to select only those statements you want, because the size of the internal buffer may limit the number of statements that can be returned for an unfiltered request.

These filters are those provided by DB2 and can be based only on the statement statistics values.

```
W1 =SCSETF============DB2K=====*========17MAR2001==11:30:15====MVDB2==== ====1

Filter on Statistics (if active)...........

Clear Filters(Y,N).........................        N

Select Filter Type from List, Overtype *...        *
   E - number of executions................
   B - number of buffer reads..............
   G - number of getpages..................
   R - number of rows examined.............
   P - number of rows processed............
   S - number of sorts performed...........
   I - number of index scans...............
   T - number of tablespace scans..........
   L - number of parallel groups...........
   W - number of buffer writes.............
   A - total elapsed time..................
   X - RID list threshold failures.........
   Y - RID list storage failures...........
   C - accumulated CPU time................
   1 - accumulated wait for synch I/O......
   2 - accumulated wait for lock/latch.....
   3 - accum wait for execution switch.....
   4 - accum wait for global locks.........
   5 - accum wait read activity............
   6 - accum wait write activity...........

Filter Threshold Value................ ....        1
  Highest records returned if not specified
```

Figure 174. SCSETF View—SQL Cache Statement Filters

SCFTOTZ—Dynamic SQL Cache Filter Results

The SCFTOTZ view, shown in Figure 175, summarizes the number of statements selected and provides hyperlinks to each of the statement-related tabular views.

It gives you a choice of which tabular view of the selected statements you want to see.

```
W1 =SCFTOTZ===========DB2K=====*========17MAR2001==11:30:51====MVDB2==== ====1

Dynamic SQL Cache Filter Results

Summary of Selected Statements..
 Statements.....................       11
 Users..........................       11
 Copies.........................        0

Statistics.....................
 Executions.....................       11
 Sync I/O Wait Time............. 00:00:00.11
```

Figure 175. SCFTOTZ View—Dynamic SQL Cache Filter Results

The default functions shipped with this view are as follows:

- Hyperlink from
  - Statements field to SCSQL to see the identifiers of the selected statements
  - Executions field to SCSTATS to see the execution statistics for the selected statements
  - Sync I/O Wait Time field to SCWAITS to see the available wait time totals for the selected statements
  - Users field to SCLIST to see all the available elements (identifiers, execution statistics, wait time totals) for the selected statements

Chapter 19. Monitors

From the MAINVIEW for DB2 windows environment, you can view the DB2 Workload and Resource Monitor services described in Volume 2 of the *MAINVIEW for DB2 User Guide*. These services are timer-driven monitors that measure DB2 workload and resources over time as requested by a user. A set of monitors is generally activated automatically per DB2 target.

The windows-mode views described in this chapter present the monitor data either for a single DB2 target or for multiple targets in an SSI context. They are organized into three groups:

- Monitor summary views, which show you how many monitors are active and how many have exceeded their warning thresholds:

  DMON Summary by target.

  DMAREAZ Summary by target and monitor area.

  DSOVER Summary by monitor type across multiple targets in an SSI context.

- Monitor detail views, which list individual monitors:

  DSERV Lists each active monitor.

  DMWARN Lists each active monitor whose threshold has been exceeded.

- Plot views, which show the data collected by a single monitor.

Table 11 lists all the views available for monitors.

Table 11. Monitor Views

View Name	Group / Type	Description
DMAREAZ	Summary Summary	Monitor Summary by Area—Interval (see page 265) Summarizes the monitors by target and monitor area.
DMON	Summary Summary	Monitors by Target—Interval (see page 264) Summarizes the monitors by target for the current interval.
DMONC	Summary Summary	Monitors by Target—Cluster (see page 264) Summarizes the monitors by target for the current interval, for the current realtime period, and for the current session since DB2 was started.
DMONR	Summary Summary	Monitors by Target—Realtime (see page 264) Summarizes the monitors by target for the current realtime period.
DMONS	Summary Summary	Monitors by Target—Session (see page 264) Summarizes the monitors by target for the current session since DB2 was started.
DMWARN	Detail Tabular	Monitors in Warning—Realtime (see page 267) Lists each active monitor whose threshold has been exceeded for the current realtime period.
DSERV	Detail Tabular	Monitor Overview—Interval (see page 266) Lists each active monitor for the current interval.
DSERVC	Detail Tabular	Monitor Overview—Cluster (see page 266) Lists each active monitor for the current interval, for the current realtime period, and for the current session since DB2 was started.
DSERVR	Detail Tabular	Monitor Overview—Realtime (see page 266) Lists each active monitor for the current realtime period.
DSERVS	Detail Tabular	Monitor Overview—Session (see page 266) Lists each active monitor for the current session since DB2 was started.
DSOVER	Summary Summary	Monitors by Type—Interval (see page 265) Summarizes the monitors by type (service and parameter) across multiple targets in an SSI context for the current interval.

Table 11. Monitor Views (Continued)

View Name	Group / Type	Description
DSOVERC	Summary	Monitors by Type—Cluster (see page 265)
	Summary	Summarizes the monitors by type (service and parameter) across multiple targets in an SSI context for the current interval, for the current realtime period, and for the current session since DB2 was started.
DSOVERR	Summary	Monitors by Type—Realtime (see page 265)
	Summary	Summarizes the monitors by type (service and parameter) across multiple targets in an SSI context for the current realtime period.
DSOVERS	Summary	Monitors by Type—Session (see page 265)
	Summary	Summarizes the monitors by type (service and parameter) across multiple targets in an SSI context for the current session since DB2 was started.
Plot Views	Plot	Display the data collected by one monitor.
	Detail	See "Plot Views" on page 268 for a description of each of the plot views.

Monitor Summary Views

The following views display summary information about how many monitors are active and how many have exceeded their warning thresholds.

DMON—Target Monitor Summaries

The DMONx views, as shown in Figure 176, summarize the number of monitors started for each target and show how many of those have exceeded their warning thresholds and the average percent of warning. Avg % Warning measures how close the reported data is to the warning threshold set for each monitor.

```
 W1 =DMON==============DB2G=====*========17MAR2001==13:54:24====MVDB2====D====1
CMD Target   Actv     Number in Warn        Avg % Warning  Maximum
--- -------- Mntrs    0.....10....20        0.....50...100 % Warning
    DB2G        83  0                  5.4 *                   97.1
```

Figure 176. DMON View—Target Monitor Summaries

There are four similar views that present the data from different time periods:

- DMON—Interval
- DMONR—Realtime
- DMONS—Session
- DMONC—Cluster (all three)

The default functions shipped with these views are as follows:

- Hyperlink from
  - Target column or Actv Mntrs column to see a list of each active monitor for the same time period

DMAREAZ—Monitor Summary by Area

The DMAREAZ view, shown in Figure 177, summarizes the number of monitors by target and area and shows their status. It summarizes performance by the number of monitors that have exceeded their warning threshold and the average percent of the warning value.

```
 W1 =DMAREAZ==========DB2G=====*========17MAR2001==14:11:50====MVDB2====D====9
CMD                      Number  Number            Average Maximum Number
--- Target   Area     Monitors in Warn 0.......10 Warning Warning Active
    DB2G     WKLD            7       1 *            109.1   763.5      7
    DB2G     DMVS            5       0               31.3    93.7      5
    DB2G     LOG             8       0               11.2    22.4      8
    DB2G     EDM             2       0                4.1     4.1      2
    DB2G     USER           22       0                1.4     3.7     22
```

Figure 177. DMAREAZ View—Monitor Summary by Area

The default functions shipped with this view are as follows:

- Hyperlink from
  - Area column or Number Monitors column to DSERV to see a list of active monitors for the selected target and area
  - Number in Warn column to DSERV to see a list of monitors in warning for the selected target and area

DSOVER—Monitors by Type

The DSOVERx views, as shown in Figure 178, show a performance summary by monitor type (service and parameter) of monitors collecting data from active DB2 targets in the current context. In an SSI context, data from similar monitors across multiple targets are combined and then ranked according to the average percentage of warning threshold. Average percentage of warning measures how close the reported data is to the warning threshold set for the monitor that collects the data.

```
 W1 =DSOVER===========DB2G=====*========17MAR2001==15:02:38====MVDB2========83
CMD Serv  Parm           Avg % Warning  Avg      Avg      Area Count
--- ----- --------       0.....50...100 Value--  Warning- ---- -----
    ECSAP          108.6 *************+    76.00    70.00 DMVS     1
    CSAP            81.2 ************       65.00    80.00 DMVS     1
    LOGUT           22.4 ***                19.00    85.00 LOG      1
    EDMUT            4.7 *                   4.00    85.00 EDM      1
    CONUT BATCH      3.7 *                   3.00    80.00 USER     1
    DSUTL            1.2                     1.00    85.00 DSYS     1
```

Figure 178. DSOVER View—Monitors by Type

There are four similar views that present the data from different time periods:

- DSOVER—Interval
- DSOVERR—Realtime
- DSOVERS—Session
- DSOVERC—Cluster (all three)

Monitor Detail Views

The following views display detailed information about each active monitor.

DSERV—Active Monitors

The DSERVx views, as shown in Figure 179, list the individual monitors by name for each target.

Monitors are ranked according to their average percentage of warning threshold in the time period being reported.

```
 W1 =DSERV=============DB2G=====*========17MAR2001==14:09:07====MVDB2========83
CMD Serv  Parm             % Warning    Curr     Warn     Area Target
--- ----- --------       0.....50...100 Value--- Value--- ---- --------
    ECSAP           97.4 **************    68.17    70.00 DMVS DB2G
    CSAP            66.2 *********         53.00    80.00 DMVS DB2G
    LOGUT           22.4 ***               19.00    85.00 LOG  DB2G
    CONUT TSO        5.0 *                  4.00    80.00 USER DB2G
    EDMUT            4.7 *                  4.00    85.00 EDM  DB2G
```

Figure 179. DSERV View—Active Monitors

There are four similar views that present the data from different time periods:

- DSERV—Interval
- DSERVR—Realtime
- DSERVS—Session
- DSERVC—Cluster (all three)

The default functions shipped with these views are as follows:

- Hyperlink from
  - Serv column to see a plot of the data collected by the selected monitor

DMWARN—Monitors in Warning

The DMWARN view, shown in Figure 180, displays only those monitors in a warning condition. It shows how many are in warning and the defined threshold and current measured value for each monitor.

```
 W1 =DMWARN============DB2G=====*========17MAR2001==14:25:26====MVDB2====D====2
CMD Serv  Parm             % Warning    Curr     Warn     Area Target
--- ----- --------       0.....50...100 Value--- Value--- ---- --------
    @ELTD ALLWORK  127.8 *************+     1.28     1.00 WKLD DB2G
    ECSAP          102.1 *************+    71.50    70.00 DMVS DB2G
```

Figure 180. DMWARN View—Monitors in Warning

The default functions shipped with this view are as follows:

- Hyperlink from
  - Serv column to see a plot of the data collected by the selected monitor

Plot Views

When you select a monitor from DSERV or DMWARN, a view showing a plot of the data collected by that monitor is displayed, as shown in Figure 181.

```
>W1 =DCONUT============DB2G=====*========3/17/01===18:00:13====MVDB2====D====1
   >>STDB2D  |.....|......|  % Util   Parm..... BATCH
   18:00:00  *                  6.00 Warning..    80.00
   17:59:00                     0.00 Max/Min..  Maximum
   17:58:00                     0.00  Value...     6.00
   17:57:00                     0.00  Time.... 18:00:00
   17:56:00                     0.00 Graph Max    80.00
   17:55:00                     0.00 Target... DB2G
   17:54:00                     0.00 Descript. CONNECTION % UTILIZATION
   17:53:00                     0.00
   17:52:00                     0.00 Samples..        1
   17:51:00                     0.00 Period... 00:10:00
            |.....|......|  % Util   Samp Int. 00:01:00
   Total    *                  6.00 Start.... 18:00:00
   Prev Pd                     0.00 Elapsed.. 00:00:00
   Curr Pd                     0.00
```

Figure 181. Plot View

Each plot provided by a monitor has a hyperlink to a corresponding MVDB2 service that you can use for detail analysis of your target's performance. The hyperlink is indicated by >> in the upper left portion of the view. In the preceding example, it is >>STDB2D. This is a hyperlink to the DB2 Status Detail—Interval view. When you make this hyperlink, you have access to all the related windows mode views provided by MAINVIEW for DB2.

This section lists the monitor plot views for the DB2 workload and resource monitor services described in Volume 2 of the *MAINVIEW for DB2 User Guide*. The descriptions are in tabular form and categorized by DB2 area. Each table shows the plot view and its corresponding monitor and describes the performance data provided.

DB2 Resource Monitors

This section describes the views and monitors that provide performance plot displays about DB2:

- General DB2 system activity
- User activity
- Lock activity
- EDM pool activity
- Buffer pool activity
- Log activity
- MVS services
- DDF activity

General DB2 System Monitors (Area = DSYS)

The monitors listed in Table 12 measure general DB2 system activity and status.

Table 12. General DB2 System Monitors

View Name	Monitor	Description
DDSOPN	DSOPN	Reports the number of open DB2 database data sets during the sampling period.
DDSOPR	DSOPR	Reports the number of successful open requests for database data sets by buffer pool during the sampling period. If a large number of databases are specified to automatically open at DB2 startup, a measurement spike occurs at startup.
DDSUTL	DSUTL	Reports the percentage of the maximum number of concurrently accessible DB2 database data sets (DSNZPARM value DSMAX) that are open during the specified time interval.

User Activity Monitors (Area = USER)

The monitors listed in Table 13 measure user activity.

Table 13. User Activity Monitors

View Name	Monitor	Description
DBINDF	BINDF	Reports the number of attempted automatic binds that failed during the sampling period.
DBINDS	BINDS	Reports the number of automatic binds that completed successfully during the sampling period.
DBNPKF	BNPKF	Reports the number of failed automatic bind requests for packages during the sampling period. The reported value is the difference between the total automatic bind requests for packages minus the successful requests (QTAUTOBA).
DBNPKS	BNPKS	Reports the number of successful automatic bind requests for packages during the sampling period (QTPKABND).
DCOMP2	COMP2	Reports the number of successful phase 2 commit requests during the sampling period. A two-phase commit is used by both IMS and CICS transactions.
DCOMRO	COMRO	Reports the number of read-only commit requests during the sampling period. A read-only commit is a one-phase commit used by IMS and CICS in query-only processing.
DCOMSY	COMSY	Reports the number of synchronized commit requests during the sampling period. A synchronized commit is used by TSO applications, the Call Attach Facility, and batch applications.
DCONUT	CONUT	Reports the percentage of active connections of the total allowable during the specified sampling period. The total allowable connections are defined by the following members in the DSNZPARM data set: IDFORE TSO foreground (QMF or DB2I) IDBACK TSO background (batch jobs, CAF, or utilities) MAXBAT When CONUT is started without parameters, all active connections are monitored. The percentage is reported as the sum of active connections of the total.
DDBTQD	DBTQD	Reports the number of times a database access thread was queued because the number of concurrent remote threads was already at a maximum (QDSTQDBT).

Table 13. User Activity Monitors (Continued)

View Name	Monitor	Description
DDROWA	DROWA	Reports the number of attempts to use Direct Row Access to locate a record during the sampling period (QXROIMAT, QXROIIDX, QXROITS) with one of the following results: USED — DB2 used Direct Row Access to locate a record FAILIX — DB2 attempted to use Direct Row Access but reverted to using an index to locate a record FAILTS — DB2 attempted to use Direct Row Access but reverted to using a table space scan to locate a record FAILURES — Direct Row Access attempts failed If the DROWA monitor is started without parameters (blank), the reported number is the sum of all Direct Row Access attempts during the sampling period. (DB2 Release 6.1 and above)
DEOMFL	EOMFL	Reports the number of end of memory (EOM) failures during the sampling period. The count is incremented when an end of memory request is processed for a DB2-connected address space; for example, at TSO force.
DEOTFL	EOTFL	Reports the number of end of task (EOT) failures during the sampling period. The count is incremented when an end of task request is processed for a DB2-connected address space; for example, an abend of IMS or CICS tasks that have a DB2 thread.
DLOBMX	LOBMX	Reports the maximum storage used for LOB values, in megabytes, during the sampling period (QXSTLOBV). (DB2 Release 6.1 and above)
DNESTM	NESTM	Reports the maximum level of nested SQL cascading due to triggers, user-defined functions, and stored procedures during the sampling period (QXCASCDP). (DB2 Release 6.1 and above)
DPLBND	PLBND	Reports the number of successfully bound plans during the sampling period (QTPLNBD).
DPKBND	PKBND	Reports the number of successfully bound packages during the sampling period (QTPKGBD).
DPRLG	PRLG	Reports the number of parallel groups that executed to the planned parallel degree (QXNORGRP), which executed to a degree less than planned because of a storage shortage or contention on the buffer pool (QXREDGRP), or the total number of parallel groups executed (QXTOTGRP).

Table 13. User Activity Monitors (Continued)

View Name	Monitor	Description
DPRLF	PRLF	Reports the number of planned parallel groups that fallback to sequential execution during the sampling period (QXDEGCUR, QXDEGESA, QXDEGBUF, QXDEGENC) for one of the following reasons: CURSOR — Fallback to sequential because of ambiguous cursor (can be used for update or delete) NOSORT — Fallback to sequential because of lack of ESA Sort support NOBFR — Fallback to sequential because of storage shortage or buffer pool contention NOENCLAV — Fallback to sequential because MVS/ESA enclave services were unavailable (DB2 Release 4.1 and above) If the PRLF monitor is started without parameters (blank), the reported number is the sum of all fallbacks to sequential processing for any reason.
DPRLSF	PRLSF	Reports the number of sysplex query failures during the sampling period (QXCOORNO, QXISORR, QXXCSKIP) for one of the following reasons: COORNO — Failed because coordinator changed to NO ISORR — Failed because of ISOLATION RR/RS CSKIP — Skipped a DB2 because of buffer shortage (DB2 Release 5.1 and above)
DRSQLS	RSQLS	Reports the number of SQL statements sent to a remote site to be executed on behalf of a user at a local site (QLSTSQLS). If the RSQLS monitor is started without parameters (blank), the reported number is the sum of SQL statements sent to all remote sites.
DRSQLR	RSQLR	Reports the number of SQL statements received from a remote site to be executed locally on behalf of a remote user (QLSTSQLR). If the RSQLR monitor is started without parameters (blank), the reported number is the sum of SQL statements received from all remote sites.

Table 13. User Activity Monitors (Continued)

View Name	Monitor	Description
DSQLAC	SQLAC	Reports the number of SQL statements that executed during the sampling period (QXSETCRL, QXCALL). DSQLAC reports the number of executed statements by the following SQL types: Data Definition Language Lock statements Dynamic SQL Control statements Close statements Authorization statements Select/Fetch statements Update, insert, or delete statements Open statements Stored procedure calls (DB2 Release 4.1 and above) If the SQLAC monitor is started without parameters (blank), the reported number is the sum of all SQL statement types that executed during the sampling period.
DSPROC	SPROC	Reports the number of stored procedure calls for all users during the sampling period (QXCALL, QXCALLAB, QXCALLTO, QXCALLRJ). The reported value can be for one of the following types: CALLS — Number of SQL CALL statements that were executed ABENDS — Number of times a stored procedure terminated abnormally TIMEOUTS — Number of times an SQL CALL statement timed out while waiting to be scheduled REJECTS — Number of times an SQL CALL statement was rejected because the procedure was in the 'STOP ACTION(REJECT)' state If the SPROC monitor is started without parameters (blank), the reported number is the sum of all SQL CALL statements during the sampling period.
DTHDAB	THDAB	Reports the number of ABORTed threads during the sampling period.
DTHDAC	THDAC	Reports the number of active threads by one of the following types: TSO — Batch Utility — Call Attach Facility IMS — Database Access (DBAT) CICS — Distributed Allied Agent (DIST) Blank — Both DBAT and DIST If the THDAC monitor is started without parameters (blank), the reported number is the sum of active threads of all sampled types.
DTHDCR	THDCR	Reports the number of successful CREATE THREAD requests during the sampling period.
DTHDID	THDID	Reports the number of in doubt threads during the sampling period. Only IMS or CICS threads can be in doubt.

Table 13. User Activity Monitors (Continued)

View Name	Monitor	Description
DTHDQD	THDQD	Reports the number of queued threads by one of the following types: TSO Batch Utility Call Attach Facility IMS CICS If the THDQD monitor is started without parameters (blank), the reported number is the sum of queued threads of all sampled types.
DTHDUT	THDUT	Reports the percentage of active threads from the total allowable during the sampling period. Allowable threads are defined in member CTHREAD of the DSNZPARM data set.
DTHDWT	THDWT	Reports the number of CREATE THREAD requests that waited for an available thread during the sampling period.
DTRIGR	TRIGR	Reports the number of triggered actions during the sampling period (QXSTTRG, QXROWTRG, QXTRGERR). The reported value can be for one of the following types: STMT Number of times a statement trigger was activated ROW Number of times a row trigger was activated ERROR Number of times an SQL error occurred during execution of a triggered action If the TRIGR monitor is started without parameters (blank), the reported number is the sum of all activated triggers during the sampling period. (DB2 Release 6.1 and above)
DUDF	UDF	Reports the number of user-defined functions during the sampling period (QXCAUD, QXCAUDAB, QXCAUDTO, QXCAUDRJ). The reported value can be for one of the following types: EXECS Number of user-defined functions executed ABENDS Number of times a user-defined function terminated abnormally TIMEOUTS Number of times a user-defined function timed out while waiting to be scheduled REJECTS Number of times a user-defined function was rejected FAILURES Number of user-defined finctions that failed If the UDF monitor is started without parameters (blank), the reported number is the sum of all user-defined functions during the sampling period. (DB2 Release 6.1 and above)

Lock Monitors (Area = LOCK)

The monitors listed in Table 14 measure locking activity.

Table 14. Lock Monitors

View Name	Monitor	Description
DCLM	CLM	Reports the number of claim requests during the sampling period (QTXACLNO).
DCLMF	CLMF	Reports the number of unsuccessful claim requests during the sampling period (QTXACLUN).
DDRN	DRN	Reports the number of drain requests during the sampling period (QTXADRNO).
DDRNF	DRNF	Reports the number of unsuccessful drain requests during the sampling period (QTXADRUN).
DGNEG	GNEG	Reports the number of times this DB2 was driven to negotiate a p-lock or the number of p-lock change requests (QTGSPPPE, QTGSPGPE, QTGSCHNP, QTGSOTPE).
DGNOEN	GNOEN	Reports the number of times an engine is not available for a p-lock exit or a notify exit request (QTGSPEQW).
DGNTFM	GNTFM	Reports the number of notify messages sent or received (QTGSNTFY, QTGSNTFR).
DGPLK	GPLK	Reports the number of p-lock lock, change, and unlock requests (QTGSLPLK, QTGSCPLK, QTGSUPLK).
DGSUSP	GSUSP	Reports the number of suspends or global lock or change requests denied (QTGSIGLO, QTGSSGLO, QTGSFLSE, QTGSDRTA).
DGXES	GXES	Reports the number of both l-lock and p-lock lock, change, and unlock requests propagated to MVS XES synchronously (QTGSLSLM, QTGSCSLM, QTGSUSLM, QTGSKIDS).
DILREQ	ILREQ	Reports the number of requests to the IMS resource lock manager during the sampling period by one of the following types: Query — Change Other — All requests to the IRLM address space
DIXLOK	IXLOK	Reports the number of index space locks during the sampling period. An index space lock can be one of the following types: Shared — Shared index space locks that include SHARE, INTENT SHARE, and SHARE with INTENT EXCLUSIVE Exclusive — Exclusive index space locks that include UPDATE, INTENT EXCLUSIVE, and EXCLUSIVE If the IXLOK monitor is started without parameters (blank), the reported number is the sum of all index space locks during the sampling period.

Table 14. Lock Monitors (Continued)

View Name	Monitor	Description
DLDEAD	LDEAD	Reports the number of lock deadlock failures during the sampling period.
DLESCL	LESCL	Reports the number of lock escalations during the sampling period. A lock escalation can be one of the following types: Shared — Shared lock escalations that include SHARE, INTENT SHARE, and SHARE with INTENT EXCLUSIVE Exclusive — Exclusive lock escalations that include UPDATE, INTENT EXCLUSIVE, and EXCLUSIVE If the LESCL monitor is started without parameters (blank), the reported number is the sum of all lock escalations during the sampling period.
DLREQ	LREQ	Reports the number of lock or unlock requests during the sampling period. If the LREQ monitor is started without parameters (blank), the reported number is the sum of all lock and unlock requests during the sampling period.
DLSUSP	LSUSP	Reports the number of lock suspensions during the sampling period by one of the following types: Lock suspensions — Latch suspensions Other suspensions — All suspensions
DLTIME	LTIME	Reports the number of lock timeout failures during the sampling period.
DMXLOK	MXLOK	Reports the maximum number of locks of any kind (page, row, or table) held by a single user during the sampling period.
DPGLOK	PGLOK	Reports the number of page locks during the sampling period. A page lock can be one of the following types: Shared — Shared page locks that include SHARE, INTENT SHARE, and SHARE with INTENT EXCLUSIVE Exclusive — Exclusive page locks that include UPDATE, INTENT EXCLUSIVE, and EXCLUSIVE If the PGLOK monitor is started without parameters (blank), the reported number is the sum of all page locks during the sampling period.

Table 14. Lock Monitors (Continued)

View Name	Monitor	Description
DTSLOK	TSLOK	Reports the number of table space locks during the sampling period. A table space lock can be one of the following types: Shared — Shared table space locks that include SHARE, INTENT SHARE, and SHARE with INTENT EXCLUSIVE Exclusive — Exclusive table space locks that include UPDATE, INTENT EXCLUSIVE, and EXCLUSIVE If the TSLOK monitor is started without parameters (blank), the reported number is the sum of all table space locks during the sampling period.
DUSLOK	USLOK	Reports the number of suspended users because of lock conflicts during the sampling period. Lock conflicts are reported by the following attach types: • TSO • Batch • CICS • IMS • Utility • Call Attach Facility • Database Access (DDF servers) • Distributed Allied Agent (DDF requestors) • Both Database Access and Distributed Allied Agent • All (blank parameter)

EDM Pool Monitors (Area = EDM)

The monitors listed in Table 15 measure the EDM pool.

Table 15. EDM Pool Monitors

View Name	Monitor	Description
DEDMLD	EDMLD	Reports the average number of EDM page requests per load I/O during the sampling period by one of the following types: Cursor Table (CT) loads — Package Table (PT) loads DBD loads — All EDM page requests
DEDMDS	EDMDS	Reports the percentage of Data Space pages used by the EDM pool during the sampling period (QISEDFRE / QISEDPGE). (DB2 Release 6.1 and above)
DEDMUT	EDMUT	Reports the percentage of EDM pool pages in use during the sampling period.

Buffer Pool Monitors (Area = BUFR)

The monitors listed in Table 16 measure the buffer pools.

Table 16. Buffer Pool Monitors

View Name	Monitor	Description
DBPUSE	BPUSE	Reports the percentage of buffer pools specified as in use by a thread. The percentage usage is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools
DBPUTL	BPUTL	Reports the percentage of buffer pool usage. Unavailable buffer pool pages are assessed whether they are in use or being updated. The percentage usage is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools **Note:** Unavailable pages are sometimes referred to as nonstealable pages. This includes pages currently in use by a thread and those updated but not yet written to disk.
DDESRD	DESRD	Reports the number of pages for which a destructive read was requested during the sampling period.
DDWTX	DWTX	Reports the number of times that a buffer pool Vertical Deferred Write threshold was exceeded during the sampling period (QBSTDWV). When the number of updated pages for a given data set exceeds the Vertical Deferred Write threshold, deferred writes are initiated for that data set. The count of times that the Vertical Deferred Write threshold was exceeded is reported for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools

Table 16. Buffer Pool Monitors (Continued)

View Name	Monitor	Description
DG2WRF	G2WRF	Reports the number of coupling facility requests to write changed pages to the secondary group buffer pool for duplexing that failed due to a lack of storage in the coupling facility during the sampling period (QBGL2F). The count is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools (DB2 Release 6.1 and above)
DGCAST	GCAST	Reports the number of times group buffer pool castout was initiated because the class castout threshold was detected or the group buffer pool castout threshold was detected during the sampling period (QBGLCT, QBGLGT). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DGCTPG	GCTPG	Reports the number of pages cast out from the group buffer pool to DASD during the sampling period (QBGLRC). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DGETPG	GETPG	Reports the number of GETPAGE requests during the sampling period. The number of GETPAGE requests is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools
DGETRI	GETRI	Reports the average number of GETPAGE requests per read I/O during the sampling period. The average number of GETPAGE requests is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools

Table 16. Buffer Pool Monitors (Continued)

View Name	Monitor	Description
DGFAIL	GFAIL	Reports the number of times a castout engine was not available, a coupling facility write engine was not available for coupling facility writes, or coupling facility read or write requests could not complete because of a lack of coupling facility storage resources during the sampling period (QBGLCN, QBGLSU, QBGLRF, QBGLWF). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DGOTHR	GOTHR	Reports the number of other coupling facility requests that are not counted in any of the other QBGL fields during the sampling period (QBGLOS). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DGPGWR	GPGWR	Reports the number of changed or clean pages written to the group buffer pool during the sampling period (QBGLSW, QBGLWC, QBGLAW, QBGLAC). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DGRDIN	GRDIN	Reports the number of coupling facility read requests caused by the buffer being marked invalid or the requested page was not found in the buffer pool during the sampling period (QBGLXR, QBGLMR, QBGLAR). Data is not returned from the group buffer pool and a directory entry is created if it does not already exist. This means another DB2 in the group has R/W interest in the page set or partition. This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools

Table 16. Buffer Pool Monitors (Continued)

View Name	Monitor	Description
DGRDNO	GRDNO	Reports the number of coupling facility read requests caused by the buffer being marked invalid or the requested page was not found in the buffer pool during the sampling period (QBGLXN, QBGLMN, QBGLAN). Data is not returned from the group buffer pool and no directory entry is created for this page. This means no other DB2 in the group has R/W interest in the page set or partition. This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DGRDRQ	GRDRQ	Reports the number of coupling facility read requests with data returned during the sampling period (QBGLXD, QBGLMD, QBGLAD). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DHPRDF	HPRDF	Reports the number of read page request failures because the backing expanded store was stolen (castout=yes) or some other error occurred during the sampling period (QBSTHRF + QBSTARF). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DHPVPA	HPVPA	Reports the number of successful asynchronous page moves from the hiperpool to the virtual buffer pool during the sampling interval (QBSTHRA + QBSTARA). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools

Table 16. Buffer Pool Monitors (Continued)

View Name	Monitor	Description
DHPVPS	HPVPS	Reports the number of successful synchronous reads to move a page from a hiperpool to a virtual buffer pool during the sampling period (QBSTHRE). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DHPWRF	HPWRF	Reports the number of write page request failures because the backing expanded store was stolen (castout=yes) or some other error occurred during the sampling period (QBSTHWF + QBSTAWF). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DLSTPF	LSTPF	Reports the number of buffer pool list prefetch requests during the sampling period (QBSTLPF). If the monitor is started without a buffer pool ID, the sum of prefetch requests for all active buffer pools are reported.
DMAXPF	MAXPF	Reports the maximum number of concurrent prefetch I/O streams allocated for parallel processing queries during the sampling interval (QBSTXIS). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DMIAPF	MIAPF	Reports the number of RID list processing failures that occurred during the sampling period. List processing failures are attributed to SQL routines that EXPLAIN indicates will use multi-index access paths, but fail to do so at run-time because storage limits or RID thresholds are exceeded.
DMIGDS	MIGDS	Reports the number of data sets that migrated from a buffer pool during the sampling period. DMIGDS shows the number of migrated data sets for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools

Table 16. Buffer Pool Monitors (Continued)

View Name	Monitor	Description
DPFDIO	PFDIO	Reports the number of asynchronous read I/Os because of a dynamic prefetch during the sampling period (QBSTDIO). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DPFDPG	PFDPG	Reports the number of asynchronous page reads because of a dynamic prefetch during the sampling period (QBSTDPP). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DPFDRQ	PFDRQ	Reports the number of dynamic prefetch requests during the sampling interval (QBSTDPF). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DPFIOF	PFIOF	Reports the number of prefetch I/O stream request failures because of buffer storage shortages during the sampling period (QBSTJIS). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools

Table 16. Buffer Pool Monitors (Continued)

View Name	Monitor	Description
DPFLIO	PFLIO	Reports the number of asynchronous read I/Os caused by list prefetch to a buffer pool during the sampling period (QBSTLIO). The count of asynchronous read I/Os caused by a list prefetch is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DPFLPG	PFLPG	Reports the number of asynchronous page reads resulting from a list prefetch during the sampling period (QBSTLPP). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DPFLRQ	PFLRQ	Reports the number of list prefetch requests during the sampling period (QBSTLPF). The number of list prefetch requests is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools
DPFSIO	PFSIO	Reports the number of asynchronous read I/Os caused by sequential prefetch during the sampling period (QBSTPIO). The number of asynchronous read I/Os is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools
DPFSPG	PFSPG	Reports the number of asynchronous page reads caused by sequential prefetch during the sampling period (QBSTSPP). This count is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools

Table 16. Buffer Pool Monitors (Continued)

View Name	Monitor	Description
DPFSRQ	PFSRQ	Reports the number of sequential prefetch requests for a buffer pool during the sampling period (QBSTSEQ). The number of sequential prefetch requests is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools
DPFTIO	PFTIO	Reports the number of asynchronous read I/Os caused by prefetch during the sampling period. The count is calculated as the sum (QBSTPIO + QBSTLIO + QBSTDIO). The count of asynchronous read I/Os caused by prefetch is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DPFTPG	PFTPG	Reports the number of total asynchronous page reads caused by prefetch during the sampling period. The count is calculated as the sum (QBSTSPP + QBSTLPP + QBSTDPP). The count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DPFTRQ	PFTRQ	Reports the number of total prefetch requests from an active buffer pool during the sampling period. The count is calculated as the sum (QBSTSEQ + QBSLTLPF + QBSTDPF). The count of total prefetch requests is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools

Table 16. Buffer Pool Monitors (Continued)

View Name	Monitor	Description
DPIO	PIO	Reports the number of prefetch read I/Os that occurred during the sampling period. The number of prefetch read I/Os are shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools
DPRL12	PRL12	Reports the number of times that a prefetch quantity is reduced from normal to one-half during the sampling period (QBSTPL1). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DPRL14	PRL14	Reports the number of times that a prefetch quantity is reduced from one-half of normal to one-quarter during the sampling period (QBSTPL2). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DPRLGF	PRLGF	Reports the number of times that a conditional GETPAGE request cannot be satisfied from a buffer pool during the sampling period (QBSTNGT). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DPRLQ	PRLQ	Reports the number of parallel processing requests in the buffer pool during the sampling period (QBSTPQO). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools

Table 16. Buffer Pool Monitors (Continued)

View Name	Monitor	Description
DPRLQF	PRLQF	Reports the number of times that DB2 cannot allocate the requested number of buffer pages to allow a parallel group to run to the planned degree during the sampling period (QBSTPQF). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DPWS	PWS	Reports the number of database system pages that were written during the sampling period. The number of written database system pages is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools
DPWSWI	PWSWI	Reports the average number of system pages written per write I/O during the sampling period. The average number of written system pages for each write I/O is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools
DRIDUT	RIDUT	Reports the percentage of RID control blocks in use during the sampling period. The percentage is calculated as the number of used RID blocks divided by the total number of available RID blocks.
DRIO	RIO	Reports the number of media manager read I/O requests during the sampling period. The counts are either a GETPAGE request or a multiple page request for a prefetch function. The number of media manager read I/O requests is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools

Table 16. Buffer Pool Monitors (Continued)

View Name	Monitor	Description
DRTO	RTO	Shows the number of HSM recall timeouts that occurred during the sampling period. The number of HSM recall timeouts are shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools
DRWP	RWP	Reports the number of reads with paging during the sampling period. The reported value is the number of times a buffer did not have real storage frame backing when being PAGEFIXed to perform a read I/O. The count is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools
DSEQIO	SEQIO	Reports the number of synchronous read I/Os issued by sequential access requesters in the sampling period (QBSTSIO). A synchronous read I/O occurs as a result of a disabled prefetch or when the requested pages are not consecutive. This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DSEQPG	SEQPG	Reports the number of GETPAGE requests issued by sequential access requesters during the sampling period (QBSTSGT). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DSWS	SWS	Reports the number of system updates (SWS) during the sampling period. The count increments by one each time a row in a database system page is updated. The number of system updates is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools

Table 16. Buffer Pool Monitors (Continued)

View Name	Monitor	Description
DSWSPW	SWSPW	Reports the average number of updates for each system page written during the sampling period. The average number of updates for each system page is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools
DWIO	WIO	Reports the number of media manager write I/O requests during the sampling period. Requests can batch-write I/O to allow multiple pages to be written per a single call to the media manager. The number of media manager write I/O requests is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools
DWKMAX	WKMAX	Reports the maximum number of work files in use during merge processing in the sampling period (QBSTWFM). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DWKNBF	WKNBF	Reports the number of work files that cannot be created because of insufficient buffer resources during the sampling period (QBSTMAX). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools

Table 16. Buffer Pool Monitors (Continued)

View Name	Monitor	Description
DWKPFZ	WKPFZ	Reports the number of work file sequential prefetches that did not occur because the dynamic prefetch quantity is zero during the sampling period (QBSTWKPD). This count is shown for the following buffer pools: • BP0 through BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K through BP32K9 • All active buffer pools
DWWP	WWP	Reports the number of writes with paging during the sampling period. The reported value is the number of times a buffer did not have real storage frame backing when being PAGEFIXed to perform a write I/O. The count is shown for one of the following buffer pools: • BP0-BP49 • BP8K-BP8K9 • BP16K-BP16K9 • BP32K-BP32K9 • All active pools

Log Monitors (Area = LOG)

The monitors listed in Table 17 measure logging activity.

Table 17. Log Monitors

View Name	Monitor	Description
DARCDL	ARCDL	Reports the number of read accesses delayed because of unavailable resources during the sampling period.
DARCRA	ARCRA	Reports the number of read archive logs allocated during a sampling interval. Read archive logs are allocated when backout or recovery data requests cannot be satisfied from the log buffers or from the active log.
DARCTC	ARCTC	Reports the number of read accesses delayed because of tape mount contention during the sampling period.
DARCTM	ARCTM	Reports the number of look-ahead tape mount requests that occurred during the sampling period.
DARCWA	ARCWA	Reports the number of archive logs allocated as a result of an active log data set being archived during the sampling period.
DARCWR	ARCWR	Reports the number of control intervals (CIs) that are archived during the sampling period.
DBSDSA	BSDSA	Reports the number of accesses to the Bootstrap Data Set (BSDS) during the sampling period.
DCHKPT	CHKPT	Reports the number of DB2 checkpoints taken during the sampling interval.
DCKPFR	CHKPT	Reports the number of DB2 checkpoints taken during the sampling interval. The purpose of this monitor is to report that fewer than the specified number of checkpoints have occurred in the specified time interval. Suggested values to start this monitor are: • An interval of 20 minutes • A value of less than 1 For example: `INTERVAL=20:00 WVAL=<1` In this example, the message will be issued if no checkpoints occur in a twenty minute interval.
DLOGRD	LOGRD	Reports the number of log reads for backout or recovery during the sampling period. The number is the sum of log reads satisfied from active log buffers, log data sets, archive logs, or from other sources.
DLOGUT	LOGUT	Reports the percentage of log CIs in use during the sampling interval.
DLOGWR	LOGWR	Reports the number of log write requests during the sampling interval. The reported number of log write requests can be selected as either FORCE, NOWAIT, or the total of all requests.
DLOGWT	LOGWT	Reports the number of log request waits because log buffers were unavailable during the sampling period.

MVS Services (Area = DMVS)

The monitors listed in Table 18 measure MVS activities that may affect DB2 performance.

Table 18. MVS Services

View Name	Monitor	Description
DCSAPG	CSAPG	Reports the total number of page requests to the common storage area (CSA) during the sampling period.

DCSAP	CSAP	Reports the percent usage of CSA during the sampling period. CSA percent usage is calculated with the following formula:
		
		`100 * ((Total CSA) - (Space described by FBQEs in CSA))`
		`----------------------------------------------------`
		`(Total CSA)`

DDB2DP	DB2DP	Reports the number of page-in requests for the MVS image or by the specified address spaces listed below: • IMS Resource Lock Manager address space • DB2 System Service address space • DB2 Database Service address space • DDF address space plus the three address spaces listed above • DDF address space only • Total page-in requests for the MVS image

DECSAP	ECSAP	Reports the extended CSA percent usage during the sampling interval. Extended CSA percent usage is calculated with the following formula:
		
		`100 * ((Total ECSA) - (Space described by FBQEs in ECSA))`
		`----------------------------------------------------`
		`(Total ECSA)`

DDF Monitors (Area = DDF)

The monitors listed in Table 19 measure activity in the DB2 Distributed Data Facility address space.

Table 19. DDF Monitors

View Name	Monitor	Description
DCNVLM	CNVLM	Reports the number of conversations that are deallocated because the ZPARM limit was reached for maximum concurrent threads during a sampling interval (QDSTQCRT).
DDBATQ	DBATQ	Reports the number of DBATs queued because the MAXDBAT limit was reached during the sampling period (QDSTQDBT, QDSTQIN2). The reported value can be for the following type: NEW — Number of times that a new Database Access Thread (DBAT) was queued because it reached the ZPARM maximum for active remote threads (QDSTQDBT) If the DBATQ monitor is started without parameters (blank), the reported value is the number of times that a new or reactivated type 2 DBAT was queued because it reached the ZPARM maximum for active remote threads during the sampling period. For DB2 Release 5.1, this value is the same as for the NEW parameter (QDSTQDBT). For DB2 Release 6.1 and above, this value indicates the number of queued receive requests for a type 2 inactive thread, plus the number of queued requests for new connections. These requests were received after the maximum number of remote active threads was reached (ZPARM MAXDBAT) (QDSTQIN2). (DB2 Release 5.1 and above)
DDDFBS	DDFBS	Reports the total bytes sent from the monitor target to all remote locations or to specified locations during the sampling period.
DDDFBR	DDFBR	Reports the total bytes received at the monitor target location from all remote locations or from specified locations during the sampling period.
DDDFCQ	DDFCQ	Reports the number of queued conversations because the session limit has been reached for all LUs or for specified LUs during a sampling interval.
DDDFT1	DDFT1	Reports the number of connections that were terminated instead of made type 1 inactive because the maximum number of type 1 inactive threads was reached during the sampling period (QDSTNITC). (DB2 Release 6.1 and above)
DNACTC	NACTC	Reports the number of inactive database access threads during a sampling period (QDSTQCIT).

Table 19. DDF Monitors (Continued)

View Name	Monitor	Description
DP2CON	P2CON	Reports the number of connections with two-phase commit operations (QDSTQCIT + QDSTWSTR), cold started connections (QDSTCSTR), and warm started connections (QDSTWSTR) during a sampling interval.
DP2RSY	P2RSY	Reports the number of resynchronization connections attempted with all remote locations for two-phase commit operations (QDSTRSAT), successful attempts (QDSTRSSU), and unsuccessful attempts (QDSTRSAT - QDSTRSSU) during a sampling period.
DP2RMT	P2RMT	Reports the number of operations that have the remote location as the coordinator or for all remote locations during the specified time interval (QLSTINDT + QLSTCPTR + QLSTRBTR).
DP2RMI	P2RMI	Reports the number of threads that became INDOUBT that have the remote location as the coordinator or for all remote locations during the specified time interval (QLSTINDT).
DP2RMC	P2RMC	Reports the number of COMMIT operations that have the specified location as the coordinator or for all remote locations during the specified time interval (QLSTCPTR).
DP2RMR	P2RMR	Reports the number of ROLLBACK operations that have the specified locations as the coordinator or for all remote locations during the specified time interval (QLSTRBTR).

DB2 Workload Monitors

This section describes the views and monitors that provide performance plot displays about DB2 workloads.

SQL Monitors (Area = WKLD)

The monitors listed in Table 20 measure the number and type of SQL calls made.

Table 20. SQL Monitors

View Name	Monitor	Description
D#SQLD	#SQLD	Reports the number of Data Definition Language statements (CREATE, ALTER, DROP) during the sampling period (QXCRTAB + QXCRINX + QXCTABS + QXCRSYN + QXCRDAB + QXCRSTG + QXDEFVU + QXDRPIX + QXDRPTA + QXDRPTS + QXDRPDB + QXDRPSY + QXDRPST + QXDRPVU + QXALTST + QXFETCH + QXALTTS + QXALTTA + QXALTIX + QXDRPAL + QXCRALS + QXALDAB + QXDRPPKG).
D#SQLM	#SQLM	Reports the number of data manipulative SQL statements issued by a transaction (SELECT, INSERT, UPDATE, DELETE, PREPARE, OPEN, CLOSE, FETCH) during the sampling period (QXSELECT + QXFETCH + QXINSRT + QXDELET + QXUPDTE + QXOPEN + QXCLOSE + QXPREP).
D#SQLA	#SQLA	Reports the number of SQL administrative statements issued by a transaction during the sampling period. This includes • LOCK TABLE • COMMENT • LABEL • GRANT • REVOKE • SET CURRENT SQL ID • SET CONNECTION • SET CURRENT DEGREE • CONNECT • RELEASE • SET CURRENT RULES (DB2 Release 4.1 and above) (QXCMTON + QXLOCK + QXGRANT + QXREVOK + QXLABON + QXSETSQL + QXCON1 + QXCON2 + QXREL + QXSETCON + QXSETCDG + QXSETCRL).
D#SQLC	#SQLC	Reports the number of SQL statements per commit point (SELECT, FETCH, INSERT, DELETE, UPDATE) during the sampling period (QXSELECT + QXFETCH + QXINSRT + QXDELET + QXUPDTE).
D#DYN	#DYN	Reports the number of dynamic SQL statements (PREPARE) during the sampling period (QXPREP).
D#CALL	#CALL	Reports the number of stored procedure calls during the sampling period (QXCALL).

Table 20. SQL Monitors (Continued)

View Name	Monitor	Description
D#SPRC	#SPRC	Reports the number of stored procedures executed during the sampling period (QXCALL, QXCALLAB, QXCALLTO, QXCALLRJ).
D#REOP	#REOP	Reports the number of times that reoptimization for host variables occurred during the sampling period (QXSTREOP). (DB2 Release 5.1 and above)

CPU Usage Monitors (Area = WKLD)

The monitors listed in Table 21 measure the use of CPU time by a transaction.

Table 21. CPU Usage Monitors

View Name	Monitor	Description
D@CPU	@CPU	Reports the average CPU time used by a transaction during the sampling period (QWACSPCP + QWACEJST - QWACBJST).
D@CPUD	@CPUD	Reports the average CPU time in DB2 used by a transaction during the sampling period (QWACAJST + QWACSPPT).

Transaction Usage Monitor (Area = WKLD)

The monitor listed in Table 22 measures the amount of DB2 transactions processed.

Table 22. Transaction Workload Monitor

View Name	Monitor	Description
D#PROC	#PROC	Reports the number of processed DB2 transactions during the sampling period. A transaction is equivalent to a DB2 accounting record.

Buffer Usage Monitors (Area = WKLD)

The monitors listed in Table 23 measure the amount of buffer usage activity.

Table 23. Buffer Usage Monitors

View Name	Monitor	Description
D#GETP	#GETP	Reports the number of GETPAGE requests in the buffer pools during the sampling period (QBACGET).
D#UPDP	#UPDP	Reports the number of update page requests in the buffer pool during the sampling period (QBACSWS + QBACSWU).
D#RDIO	#RDIO	Reports the number of synchronous read I/O requests processed during the sampling period (QBACRIO).
D#PFRD	#PFRD	Reports the number of prefetch read requests processed during the sampling period.
D#WRIT	#WRIT	Reports the number of Write Immediate I/O requests processed during the sampling period (QBACIMW).
D#PFRQ	#PFRQ	Reports the number of prefetch requests processed (sequential, list, dynamic) during the sampling period (QBACSEQ + QBACLPF + QBACDPF).
D#PFIO	#PFIO	Reports the number of prefetch I/O requests processed during the sampling period (QBACRIO).
D#PFPG	#PFPG	Reports the number of prefetch I/O pages read during the sampling period (QBACSIO).
D#GETF	#GETF	Reports the number of conditional GETPAGE failures in the buffer pools during the sampling period (QBACNGT).
D#HPVS	#HPVS	Reports the number of successful synchronous reads to move a page from a hiperpool to a virtual buffer pool during the sampling period (QBACHRE).
D#HPPG	#HPPG	Reports the number of pages found in a hiperpool and moved to a virtual buffer pool because of a prefetch under control of the agent during the sampling period (QBACHPG).
D#GSRD	#GSRD	Reports the number of coupling facility read requests because of the buffer being marked invalid or the requested page not found in the buffer pool during the sampling period (QBGAXD, QBGAXR, QBGAXN, QBGAMD, QBGAMR, QBGAMN).
D#GSWR	#GSWR	Reports the number of changed pages written to the group buffer pool during the sampling period (QBGASW).
D#GSWC	#GSWC	Reports the number of clean pages written to the group buffer pool during the sampling period (QBGAWC).

Lock Usage Monitors (Area = WKLD)

The monitors listed in Table 24 measure lock activity and contention.

Table 24. Lock Usage Monitors

View Name	Monitor	Description
D#DDLK	#DDLK	Reports the number of deadlock conditions detected during the sampling period (QTXADEA).
D#TMO	#TMO	Reports the number of times the transaction timed out waiting for a lock or latch during the sampling period (QTXATIM).
D#SUSP	#SUSP	Reports the number of times the transaction was suspended for a lock or latch during the sampling period (QTXASLOC).
D#ESCL	#ESCL	Reports the number of lock escalations that occurred during the sampling period (QTXALES + QTXALEX).
D#MAXL	#MAXL	Reports the maximum number of locks held by a transaction during the sampling period (QTXANPL).
D#CLMF	#CLMF	Reports the number of claim request failures detected during the sampling period (QTXACLUN).
D#DRNF	#DRNF	Reports the number of drain request failures detected during the sampling period (QTXADRUN).
D#GSUS	#GSUS	Reports the number of suspensions because of global resource contention during the sampling period (QTGAIGLO, QTGASGLO, QTGAFLSE).
D#GFAL	#GFAL	Reports the number of suspensions caused by false contentions during the sampling period (QTGAFLSE).
D#GRTA	#GRTA	Reports the number of global lock or change requests denied because of an incompatible retained lock during the sampling period (QTGADRTA).
D#GLRQ	#GLRQ	Reports the number of lock requests for p-locks during the sampling period (QTGALPLK).
D#GLKX	#GLKX	Reports the number of both l-lock and p-lock requests propagated to MVS XES synchronously during the sampling period (QTGALSLM).
D#GNTS	#GNTS	Reports the number of notify messages sent during the sampling period (QTGANTFY).

Elapsed Time Monitors (Area = WKLD)

The monitors listed in Table 25 measure elapsed time for a transaction, DB2 processing, I/O operations, or lock or latch waits.

Table 25. Elapsed Time Monitors

View Name	Monitor	Description
D@ELAP	@ELAP	Reports the average elapsed time for a transaction during the sampling period (QWACESC - QWACBSC).
D@ELTM	@ELTM	Reports the elapsed time for transactions that occur within DB2 targets defined as part of a MAINVIEW for DB2 workload during the sampling period. **Note:** This monitor is automatically invoked when a DB2 workload is started.
D@ELPD	@ELPD	Reports the average elapsed time in DB2 processing during the sampling period (QWACASC).
D@ELTD	@ELTD	Reports the elapsed time for DB2 transactions that occur within targets defined as part of a MAINVIEW for DB2 workload during the sampling period. **Note:** This monitor is automatically invoked when a DB2 workload is started.
D@ELP3	@ELP3	Reports the average elapsed time spent waiting for all accounting class 3 reasons during the sampling period (QWACCAST, QWACAWTG, QWACAWTJ, QWACAWTI, QWACAWTL, QWACAWDR, QWACAWCL, QWACAWTP) (QWACAWTR).
D@ELIO	@ELIO	Reports the average elapsed time doing I/O operations during the sampling period (QWACAWTI).
D@ELLK	@ELLK	Reports the average elapsed time the transaction spent waiting for locks or latches in DB2 during the sampling period (QWACAWTL + QWACAWDR + QWACAWCL + QWACAWTP).
D@ELPR	@ELPR	Reports the average elapsed time spent processing prefetch reads during the sampling period (QWACAWTR).
D@ELDR	@ELDR	Reports the average elapsed time the transaction spent waiting for drain during the sampling period (QWACAWDR).
D@ELCL	@ELCL	Reports the average elapsed time the transaction spent waiting for claim during the sampling period (QWACAWCL).
D@ELPL	@ELPL	Reports the average elapsed time the transaction spent waiting for page latch during the sampling period (QWACAWTP).
D@ELSP	@ELSP	Reports the average elapsed time spent waiting for an available TCB before the stored procedure could be scheduled during the sampling period (QWACCAST).

Table 25. Elapsed Time Monitors (Continued)

View Name	Monitor	Description
D@ELGM	@ELGM	Reports the average elapsed wait time caused by suspension for sending messages to other members in the data sharing group during the sampling period (QWACAWTG).
D@ELGL	@ELGL	Reports the average elapsed wait time caused by suspension of an IRLM lock request due to global lock contention that requires inter-system communication to resolve during the sampling period (QWACAWTJ).

I/O Parallelism Monitors (Area = WKLD)

The monitors listed in Table 26 measure the amount of parallel I/O for a transaction.

Table 26. I/O Parallelism Monitors

View Name	Monitor	Description
D#PRLG	#PRLG	Reports the total number of parallel groups executed during the sampling period (QXTOTGRP).
D#PRLR	#PRLR	Reports the number of parallel groups executed to a degree less than planned due to storage shortage or buffer pool contention during the sampling period (QXREDGRP).
D#PRLF	#PRLF	Reports the number of parallel groups that fell back to sequential operation during the sampling period due to • Ambiguous cursor • Lack of ESA SORT support • Storage shortage or buffer pool contention • Unavailable MVS/ESA enclave services (DB2 Release 4.1 and above) • Query Parallelism disabled by the RLF (DB2 Release 4.1 and above) (QXDEGCUR + QXDEGESA + QXDEGBUF + QXDEGENC + QXRLFDPA).
D#PRLS	#PRLS	Reports the number of sysplex query failures during the sampling period (QXCOORNO + QXISORR + QXCSKIP). (DB2 Release 5.1 and above)

Part 5. Appendixes/Glossary

This part gives information about data found in views.

Appendix A. Lock Type Table

Table 27 defines the possible lock types and resources for the lock-related detail trace events:

- Detail logical lock - IFCID 21
- Lock Suspension - IFCID 44/45
- Deadlock - IFCID 172
- Timeout - IFCID 196
- Detail physical locks (P-Locks) - IFCIDs 251, 259

Table 27. Lock Types

Lock Type (short)	Lock Type (long)	Resource Name	Resource Number (hex)
ALTER BP	ALTER BUFFERPOOL	BP = bpid	
BINDLOCK	AUTOBIND/REMOTE BIND	BINDLOCK	
CATM CAT	CATMAINT CONVERT CATALOG	DB = database OB = pageset	
CATM DIR	CATMAINT CONVERT DIRECTORY	DB = database OB = pageset	
CATM MIG	CATMAINT MIGRATION	DB = database OB = pageset	
CDB PLOK	CDB P-LOCK (DDF)	DB = database	
COLLECTN	COLLECTION	Collection ID	
CS-DRAIN	CURSOR STABILITY DRAIN	DB = database OB = pageset	Part# / 0
DATABASE	DATABASE	DB = database	
DATAPAGE	DATA PAGE	DB = database OB = pageset	Page#
DBALLOC	DBALLOC - START/STOP	DB = database OB = pageset	Part# / 0
DBCMDSER	DB CMD SERIAL	DB = database	
DBD PLOK	DBD P-LOCK	DB = database	
GBP CAST	GROUP BP CASTOUT P-LOCK	BP = bpid	
GP EX UP	GROUP DB EXCEPTION UPDATE	DX = GDBET	
GROUP BP	GROUP BP START/STOP	BP = bpid	
HASH-ANC	HASH ANCHOR	DB = database OB = pageset	Page# Anchor

Table 27. Lock Types (Continued)

Lock Type (short)	Lock Type (long)	Resource Name	Resource Number (hex)
INDEXPAG	INDEX PAGE (# = x‘000002FF’, index root page)	DB = database OB = pageset	Page# Subpage#
IX EOF	INDEX END-OF-FILE	DB = database OB = pageset	Part# / 0
IXTREEPL	INDEX MANAGER TREE P-LOCK	BP = bpid DB = database OB = pageset	
LPL/GREC	LPL/GRECP DB EXCEPTION	DB = database OB = pageset	Part# / 0
MASSDEL	MASS DELETE	DB = database OB = pageset	
OPEN	OPEN PAGESET / DATASET	DB = database OB = pageset	
PAGE PLK	PAGE P-LOCK	BP = bpid DB = database OB = pageset	Part# / 0 Page#
PAGESET	PAGE SET	DB = database OB = pageset	
PART-DS	PARTITIONED DATASET	DB = database OB = pageset	Part#
PARTLOCK	PARTITION LOCKING	DB = database OB = pageset	Part#
P/P CAST	PAGESET/PARTITION CASTOUT PLOK	BP = bpid DB = database OB = pageset	Part# / 0
P/P PLOK	PAGESET/PARTITION P-LOCK	BP = bpid DB = database OB = pageset	Part# / 0
REPR DBD	REPAIR DBD TEST/DIAGNOSE	DB = database OB = pageset	
RLF PLOK	RLF P-LOCK	DB = database OB = pageset	
ROW	ROW	DB = database OB = pageset	Page# RID
RR-DRAIN	REPEATABLE READ DRAIN	DB = database OB = pageset	Part# / 0
SCA ACC	SCA ACCESS - RESTART/REDO	SC = BMC-RSTP	
SERVICE	SERVICEABILITY	(not identified)	

Table 27. Lock Types (Continued)

Lock Type (short)	Lock Type (long)	Resource Name	Resource Number (hex)
SKCT	SKELETON CURSOR TABLE	PL = planname	
SKPT	SKELETON PACKAGE TABLE	PK = Collection, package, token	
SYSLGRNG	SYSLGRNG RECORDING	DB = database OB = pageset	
TABLE	TABLE	DB = database OB = pageset	
UTIL EXC	UTILITY EXCLUSIVE EXECUTION	UTEXEC	
UTILSER	UTILITY SERIALIZATION	UTSERIAL	
UTILUID	UTILITY UID	UI = utility ID	
WR-DRAIN	WRITE DRAIN	DB = database OB = pageset	Part# / 0

- Page# is 0 for unlocks.
- P-Locks do not cause timeouts or deadlocks, so do not appear for these events.

Appendix B. View Conventions

This appendix describes MAINVIEW conventions used to display numeric and graphic data in views. These conventions are adhered to by all BMC Software MAINVIEW products.

Numeric Values

If a number fits within the column width of a field, it is displayed in its entirety. When a number exceeds the column width of a field, MAINVIEW attempts to fit the number by several methods. The following list shows the methods in the order in which they are employed to fit a number within a field's column width:

1. Insignificant low-order decimal values are rounded.
2. Low-order digits are truncated. Decimal numbers are converted to integers if necessary.
3. Numbers are expressed in powers of 1000 using the following notation:

   Ki Kilo (1000)

   Mi Mega (1,000,000)

   G Giga (1,000,000,000)

   T Terra (1,000,000,000,000)

If a number is still too large to display within the field width, asterisks (*) appear in the field to indicate the numeric value is too large to display.

Graph Values

A value within the lower and upper boundaries of a graph is displayed as a horizontal bar. Depending upon the display terminal, the magnitude of the graphed value may be depicted as a high-resolution horizontal bar or simply keyboard characters in the case of low-resolution terminals.

A value exceeding an upper graph boundary has a plus sign (+) to indicate the horizontal bar has been truncated at the upper boundary limit. The example below shows a value exceeding the 100% upper boundary limit of a graph displayed on a low-resolution terminal.

```
 W1 =DSOVER============DB2G=====*========17MAR2001==15:02:38====MVDB2========83
CMD Serv  Parm           Avg % Warning  Avg      Avg      Area Count
--- ----- --------       0.....50...100 Value--  Warning- ---- -----
    ECSAP          108.6 *************+    76.00    70.00 DMVS     1
```

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 BBPARM
- A site-specific parameter library or libraries

  These can be

  – A library created by AutoCustomization, called UBBPARM

  – 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.

Part 6. Index

This part contains the index.

Index

A

B

C

D

E

F

G

H

I

L

M

N

P

Q

R

S

T

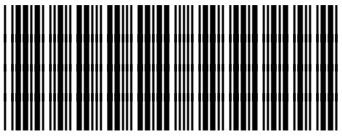
U

V

W

Z

Notes



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