

# **MAINVIEW® for DBCTL IPSM Reference Manual**

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- operating system and environment information
  - machine type
  - operating system type, version, and service pack or other maintenance level such as PUT or PTF
  - system hardware configuration
  - serial numbers
  - related software (database, application, and communication) including type, version, and service pack or maintenance level
- sequence of events leading to the problem
- commands and options that you used
- messages received (and the time and date that you received them)
  - product error messages
  - messages from the operating system, such as `file system full`
  - messages from related software

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## How to Use This Book

This book documents the features and functions of the IMSplex System Manager (IPSM), a MAINVIEW® for DBCTL component.

IPSM works in the MAINVIEW window environment to provide SSI (single system image) views about the performance of multiple IMS regions and systems. Authorized users can use a single terminal to watch not only multiple IMSs but also CICS, DB2, and OS/390 from a single point of control.

This book is intended for use by the IMS master terminal operator (MTO), system programmer, database administrator, or performance analyst who monitors the status, activity, and performance of IMS and its resources.

For information about new features in the current release of MAINVIEW for DBCTL, see the product Release Notes, which are available on the BMC Software Support Web pages.

You can view this book online with Adobe Acrobat Reader; contact your system administrator for assistance.

---

## MAINVIEW for DBCTL Product Library

The MAINVIEW for DBCTL product library contains the following documents:

- *MAINVIEW for DBCTL Customization Guide*
- *MAINVIEW for DBCTL Analyzers, Monitors, and Traces Reference Manual*
- *MAINVIEW for IMSplex System Manager User Guide* (this book)
- *MAINVIEW for DBCTL Release Notes*

**Note:** Although MAINVIEW for DBCTL is often referred to as “MVDBC” in this book, the abbreviation is used for brevity only and does not represent a legal product name of BMC Software.

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## How This Book Is Organized

This book contains the following parts:

- Part 1 describes IMSplex System Manager (IPSM).
- Part 2 describes how to use IPSM to optimize IMS performance. It describes
  - IMS workflow views
  - UOW elapsed time and transaction delay analysis views
  - transaction trace views
  - monitor views
- Part 3 describes how to use the IPSM component to solve realtime problems. It describes
  - region activity views
  - IRLM lock views
- Part 4 describes how to use the IPSM component to manage IMS operations. It describes the use of
  - Fast Path DEDB area views
  - database views
  - program views
  - cross-reference views
  - IMS database activity views
  - data set views
- Part 5 describes system administration and operations views used to define an IMS workload and set and control the sampling of a target system.

---

## Related MAINVIEW Products

The related MAINVIEW-based products include

- MAINVIEW<sup>®</sup> AutoOPERATOR<sup>™</sup>
- MAINVIEW<sup>®</sup> for CICS
- MAINVIEW<sup>®</sup> for DB2<sup>®</sup>
- MAINVIEW<sup>®</sup> for DBCTL
- MAINVIEW<sup>®</sup> FOCAL POINT
- MAINVIEW<sup>®</sup> for IMS
- MAINVIEW<sup>®</sup> for MQSeries
- MAINVIEW<sup>®</sup> for OS/390
- MAINVIEW<sup>®</sup> VistaPoint<sup>™</sup>

Customization and administration instructions for the MAINVIEW-based functions are provided in the *MAINVIEW Common Customization Guide*. The following manuals document product-specific customization instructions:

- *MAINVIEW AutoOPERATOR Customization Guide*
- *MAINVIEW for CICS Customization Guide*
- *MAINVIEW for DB2 Customization Guide*
- *MAINVIEW for DBCTL Customization Guide*
- *MAINVIEW for IMS Online – Customization Guide*
- *MAINVIEW for IMS Offline – Customization and Utilities Guide*
- *MAINVIEW for OS/390 Customization Guide*

The following books document the use of general services common to MAINVIEW for DBCTL and related products:

- *MAINVIEW AutoOPERATOR Basic Automation Guide*
- *MAINVIEW AutoOPERATOR Advanced Automation Guide for CLIST EXECs*
- *MAINVIEW AutoOPERATOR Advanced Automation Guide for REXX EXECs*
- *MAINVIEW for CICS PERFORMANCE REPORTER User Guide*
- *MAINVIEW for DB2 User Guide, Volumes 1, 2, and 3*
- *MAINVIEW for IMS Online – Analyzers Reference Manual*
- *MAINVIEW for IMS Online – Monitors and Traces Reference Manual*

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## Related IBM Publications

*OS/390 Initialization and Tuning Guide*

*IMS Operator Reference*

*System Administration Guide*

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## Conventions Used in This Manual

The following symbols are used to define command syntax, are *not* part of the command, and should never be typed as part of the command:

- Brackets [ ] enclose optional parameters or keywords.
- Braces { } enclose a list of parameters; one must be chosen.
- A line | separates alternative options; one can be chosen.
- An underlined parameter is the default.

The following command syntax conventions also apply:

- An ITEM IN CAPITAL LETTERS must be typed exactly as shown.
- Items in *italicized, lowercase* letters are values that you supply.
- When a command is shown in uppercase and lowercase letters, such as **HSplit**, the uppercase letters show the command abbreviation that you can use (**HS**, for example). The lowercase letters complete the entire command name. Typing the entire command name is an optional, alternative way of entering the command.
- Commands without an abbreviation (**END**, for example) appear in all uppercase letters.

---

# Part 1. Introducing IMSplex System Manager (IPSM)

This part introduces IPSM and describes the benefits that it provides.

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## Chapter 1. How IPSM Can Work for You

IMSplex System Manager (IPSM) provides Single System Image views of resources and bottlenecks across single or multiple IMS regions and systems. IPSM exploits IBM Parallel Sysplex technology and simplifies the management of IMS applications on traditional mainframes.

IPSM helps you

- Optimize system performance

IPSM helps you discover performance and workload problems wherever they occur—across multiple OS/390 and IMS systems. With IPSM, you can

- Manage the progress, throughput, and unit of work elapsed times for IMS workloads and transactions
- Examine workload throughput and capacity, as well as region/thread occupancy for IMS and IMSplex systems
- Identify workload bottlenecks and delays caused by resource and capacity constraints

- Solve realtime problems

IPSM helps you solve realtime problems quickly. IPSM makes it easy to

- Monitor region/thread activity
- Recognize and resolve N-way data sharing contention

- Manage IMS operations

IPSM is a powerful tool for managing IMS operations. You can use it to

- Control and manage Fast Path DEDB areas
- Control and manage full-function databases
- Control and manage application programs
- Cross-reference IMS resources—databases and programs
- Recognize and solve problems with IMS database activity
- Analyze IMS log data sets

IPSM puts you in the MAINVIEW window environment as it monitors and reports the information you need to see.

---

## Benefits of Using IMSplex System Manager (IPSM)

From a single user session, you can monitor and analyze the performance of one or more IMS systems across a sysplex. You can transfer quickly to other MAINVIEW products and you can manage CICS, DB2, and OS/390 from a single point of control.

IPSM collects and organizes the information you want into online views.

**Workflow views** allow system programmers to determine how much IMS transaction processing capacity is available and how much is being used at any given time. The views show any capacity shortages.

**Transaction delay analysis views** categorize transaction or workload delays and help you analyze individual resources that are causing delays. System programmers can use these views to ascertain which lock or DASD volume is causing delays and whether the delay affects a single IMS, a data-sharing group, OS/390, or an entire sysplex.

**Unit of work elapsed time views** show a picture of the life cycle of transactions running in IMS. System programmers can use these views to determine whether a transaction is being held up in scheduling, application processing, database access, or sync point processing.

**Realtime problem-solving views** help operators and system programmers solve realtime problems involving resources across single or multiple IMS systems. The views allow easy monitoring of region activity and quick analysis of lock problems stemming from N-way data sharing resource contention.

**Views for managing IMS operations** allow database administrators, system programmers, and application programmers to manage Fast Path DEDB areas, full-function databases, and application programs. The views, which allow easy cross-referencing of IMS resources, also assist in the management of IMS database activity.

Figure 1 on page 5 gives you an overview of IPSM and the views it provides.

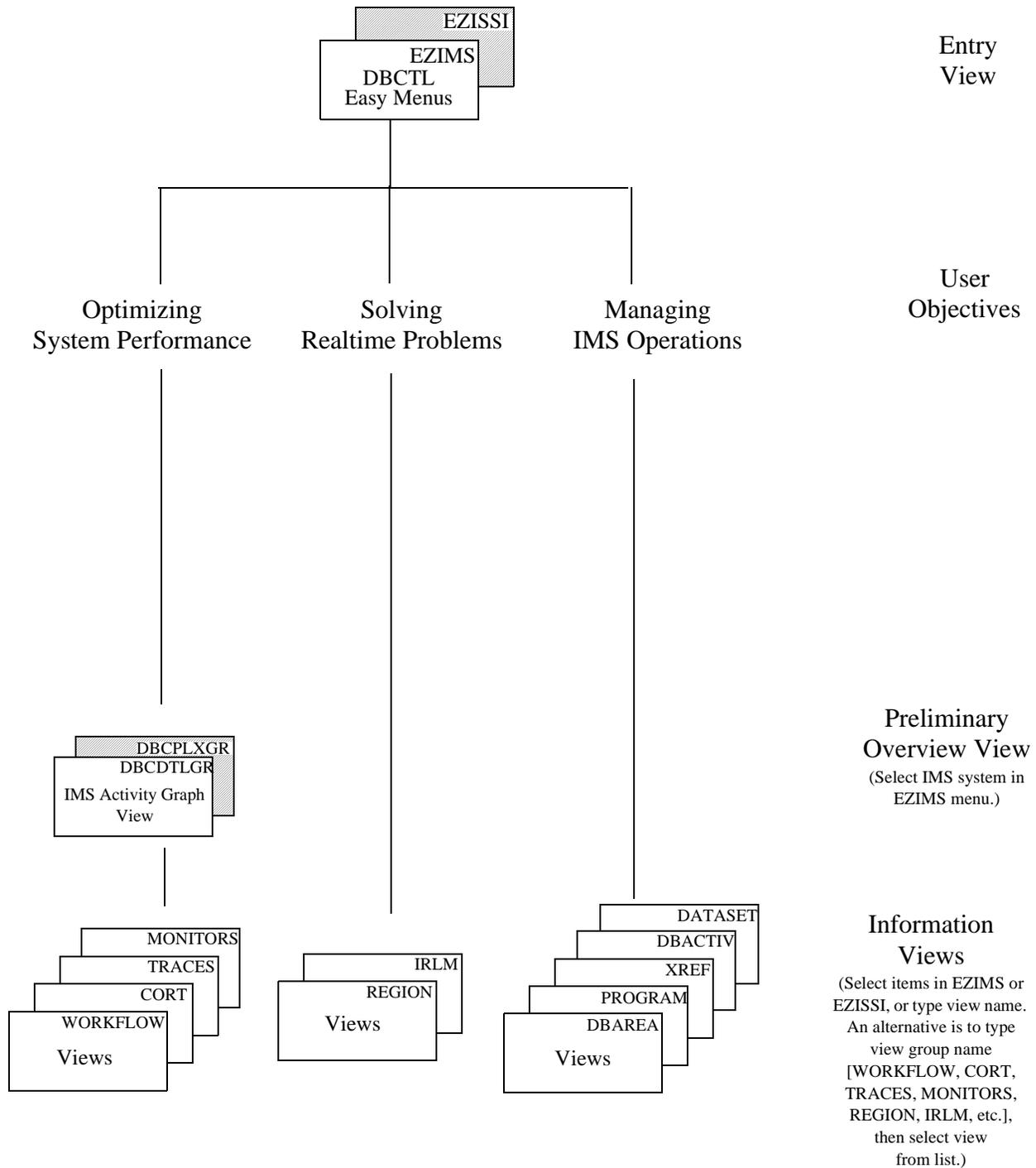


Figure 1. Overview of IPSM

Shaded boxes denote sysplex version of a view.

Figure 2 on page 7 gives you an overview of how to use IPSM to optimize system performance.

See Part 2 of this book (“Optimizing System Performance”) for a description of how you can use IPSM views to

- Manage your IMS workflow
- Analyze unit of work elapsed time
- Determine the causes of transaction delays

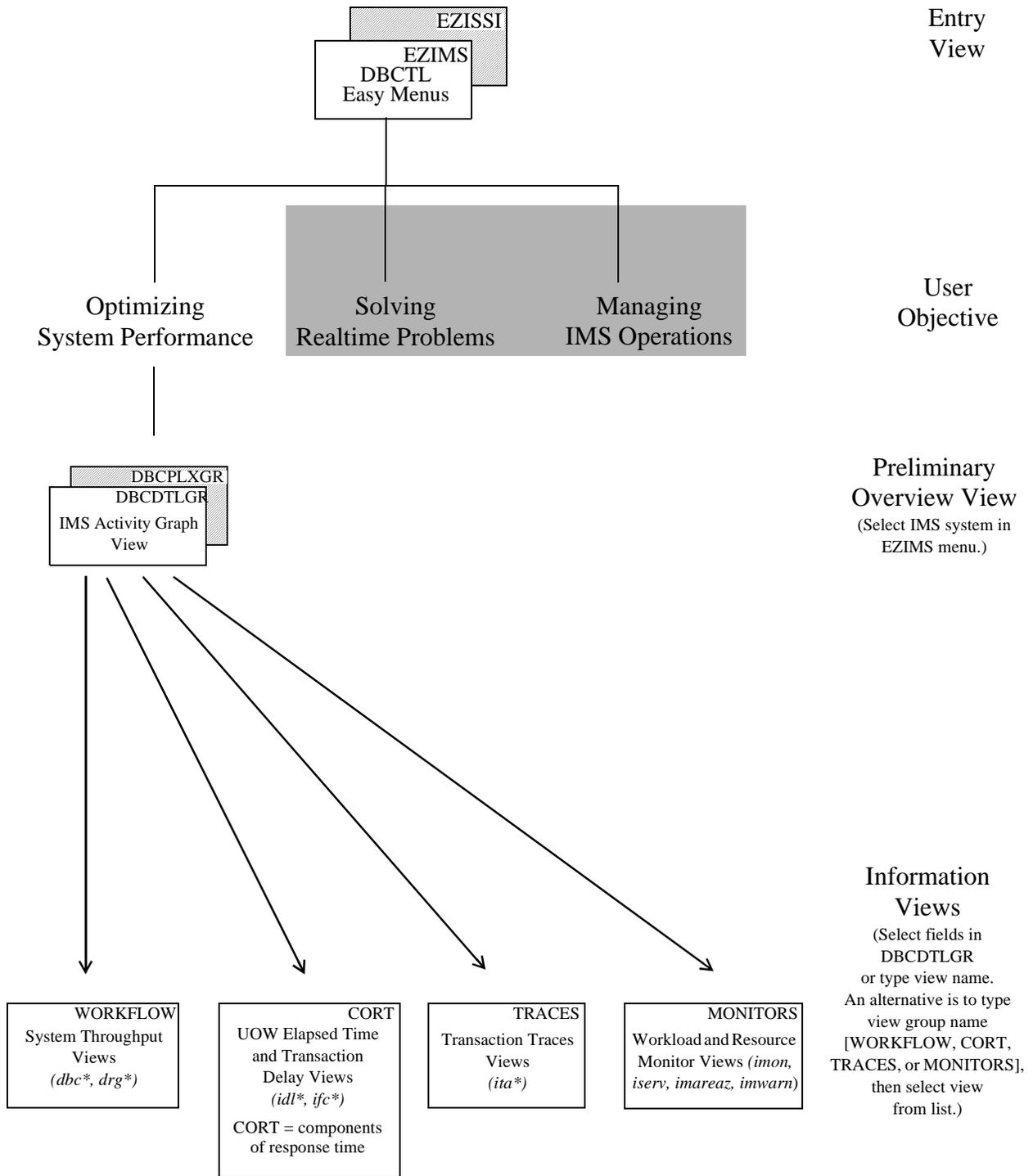


Figure 2. Using IPSM to Optimize System Performance

\* To see a list of these views, type `VIEWS nnn*` (where *nnn* represents the first three characters of the view name). You can then select a view from the list displayed.

Figure 3 on page 9 gives you an overview of how to use IPSM to solve realtime problems.

See Part 3 of this book (“Solving Realtime Problems”) for a description of how you can use IPSM views to analyze and solve realtime problems in the areas of

- Region/thread activity
- IRLM locking

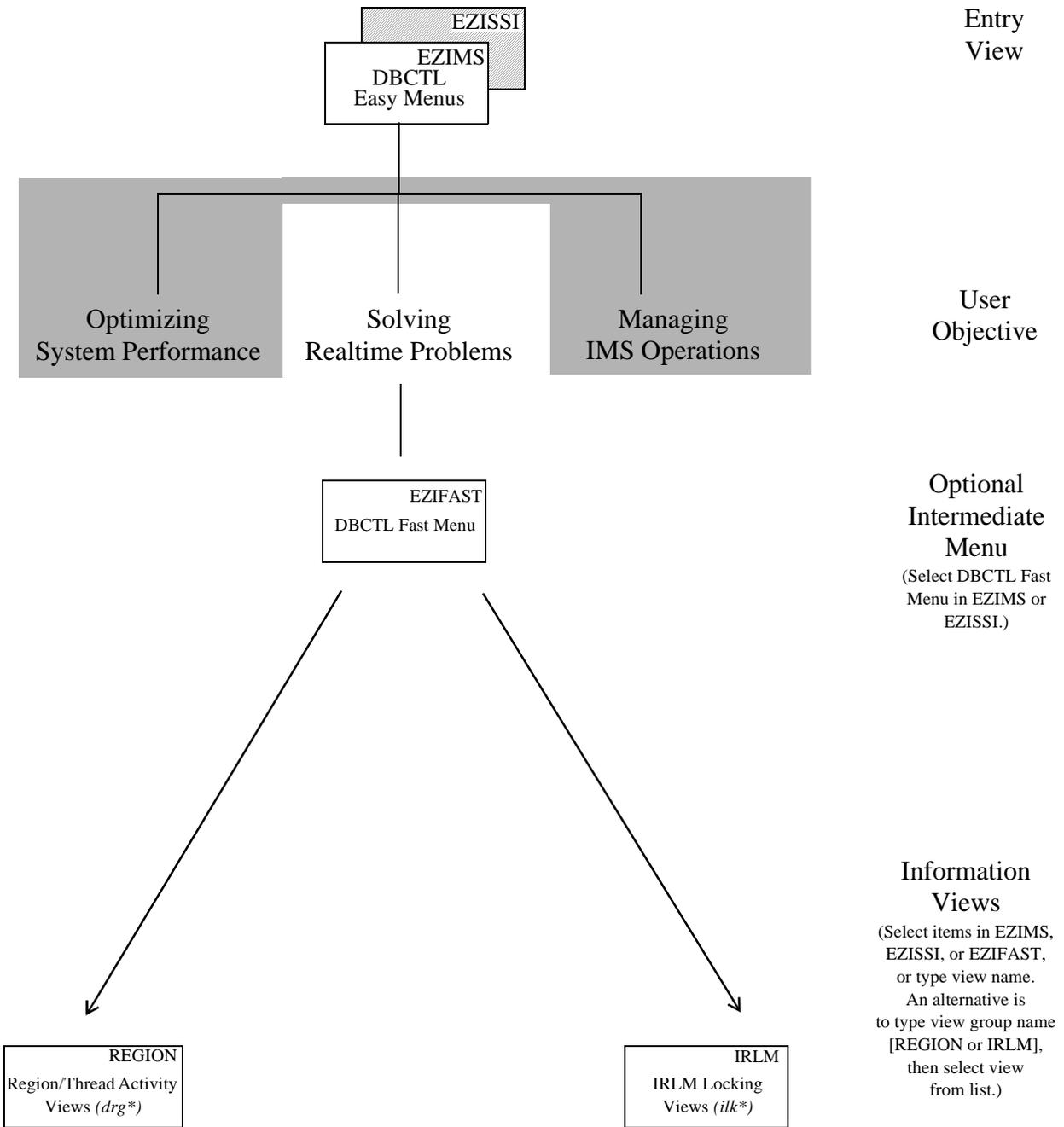


Figure 3. Using IPISM to Solve Realtime Problems

\* To see a list of these views, type `VIEWS nn-nnn*` (where *nn-*nnn** represents the first several characters of the view name). You can then select a view from the list displayed.

Figure 4 on page 11 gives you an overview of how to use IPSM to manage IMS operations.

See Part 4 of this book (“Managing IMS Operations”) for a description of how you can use IPSM views to manage IMS operations, including

- Fast Path DEDB areas
- IMS databases
- Application programs
- Cross-referencing databases and programs
- Database activity
- IMS data sets

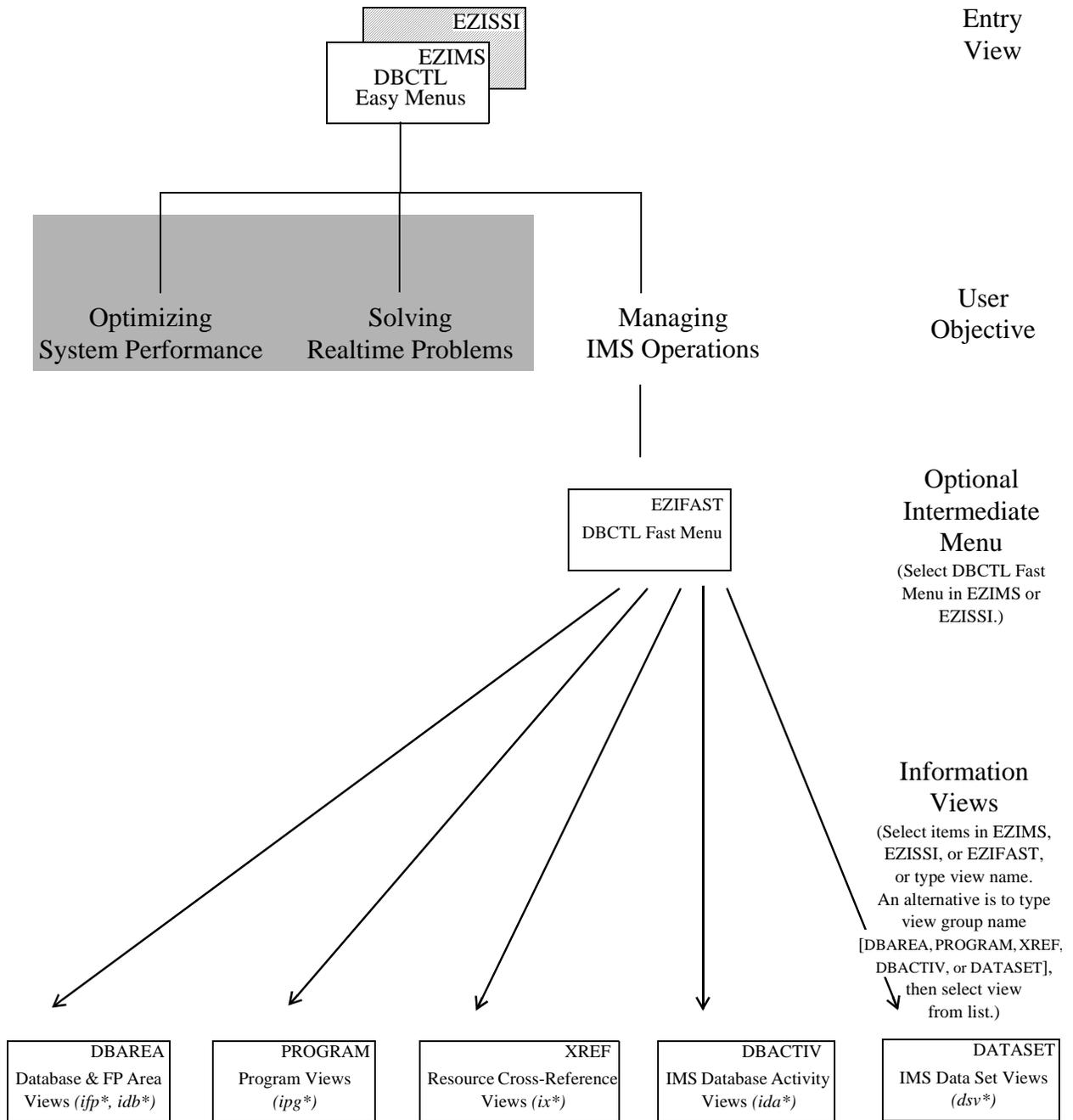


Figure 4. Using IPSM to Manage IMS Operations

\* To see a list of these views, type `VIEWS nn-nnn*` (where *nn-*nnn** represents the first several characters of the view name). You can then select a view from the list displayed.

---

## How IPSM Works within MAINVIEW for DBCTL

IPSM views provide you with direct hyperlinks to other MAINVIEW for DBCTL (MVDBC) services. You can use IPSM views to spot potential problem areas quickly, and then access other views for additional problem determination if necessary.

IPSM views direct you to the information you need:

- Detailed analyzer information about the interaction of IMS transactions under varying processing conditions
- Precise analyzer workload performance details, so you can determine causes of overloads or contention
- Traces of transaction processing and resource usage, so you can isolate application performance problems
- Details about resource activity and status, so you can look for bottlenecks as they occur
- Database conflicts and status of buffer pools, so you can see resource usage changes as they occur
- Realtime warnings when monitored workload volumes exceed safe thresholds
- Realtime warnings when monitored unit of work elapsed time does not meet service-level objectives
- Realtime warnings when monitored resources exceed user-defined performance thresholds

For more information about these services, see the *MAINVIEW for DBCTL Analyzers, Monitors, and Traces Reference Manual*.

---

## Chapter 2. IPSM Interface

This chapter discusses the IMSplex System Manager (IPSM) user interface. If you are already familiar with the IPSM interface, you might want to skip this chapter.

The IPSM interface takes advantage of the BMC Software MAINVIEW windows mode technology, which provides

- unique capabilities
- another way of navigating

The MAINVIEW windows mode environment is discussed in the “Working in Windows Mode” section of the *Using MAINVIEW* manual. A brief synopsis of the information is provided in *MAINVIEW Quick Reference*. Users familiar with ISPF will recognize many of the key functions.

---

### Capabilities

With the IPSM user interface, you have additional capabilities for viewing information and performing actions. IPSM displays information in views. With these views, you can

- Set targets for the system or subsystem you want to monitor
- Monitor multiple targets together in a Single System Image (SSI) context
- View historical data
- Issue primary commands in any view and line commands in many views
- Hyperlink between views
- Open multiple windows to see different views simultaneously, and then save the configuration
- Sort information by any field
- Filter to see only the information you want to see
- Customize views to
  - Include/exclude any field
  - Rearrange fields or change their width or headings
  - Create your own hyperlinks between views
  - Summarize and display data from many resources in a single row
  - Set thresholds, assigning a color or character display
- Access and customize online help

You can exercise any of these capabilities by following the procedures described in the *Using MAINVIEW* manual.

---

## Navigation

IPSM groups its views into categories (workflow views, database views, and so on). You can get an overview of the different categories by glancing through the contents of this book.

Navigation between views is designed to be *point and shoot*—that is, you can position the cursor on any highlighted field within a view, press Enter, and be taken (by hyperlink) to a new view containing related information.

You can start by displaying one of the IPSM Easy Menus, EZIMS for a single system or EZISSI for multiple systems. Position the cursor on any menu item of interest and press Enter. That takes you to a view displaying the information you want.

Within the new view that is displayed, you can hyperlink from any row in the far left information column to an Object Easy Menu, which will provide detailed, in-context information about the object (resource, job, or workload) you selected. (You can refer to Chapter 3, “Getting Started with Menus” on page 17, for a complete description of IPSM Easy Menus and Object Easy Menus.)

A second way to navigate is to type the view name on the command line of any view once you are within the IPSM component.

You can also type VIEWS on any command line to access an alphabetical list of all IPSM views. You can type MAIN on any command line to access a functional list of view categories. From the categories, you can hyperlink to the names of the individual views. In both the MAIN and VIEWS lists, you can hyperlink from the listed view name to the actual view.

## Advantage of Hyperlinking

Hyperlinking from one view to another, or from an Object Easy Menu to a related view, has the advantage of keeping a “filter” on the data you are looking at.

For example, if you hyperlink to the Program Overview view (IPGSUMR) from the Count field in the Program Count by Type view (IPGTYPR), the IPGSUMR view is filtered to show all application programs of the type you selected.

By contrast, if you navigate to the IPGSUMR view by typing its name on the command line, you see the unfiltered view—showing all application program types, not just the programs of the type you are interested in.

## Advantages of Typing the View Name

Navigating by typing the view name on the command line is faster and more direct, and you do not have to remember the navigation path to the data.

As you gain experience, you may want to remember and enter the names of views you use often, and then hyperlink from those views to related views.

If you split your screen into multiple windows (as described in the *Using MAINVIEW* manual), you can see more than one view at the same time. For example, in one window you can see a tabular view and in another window you can see the data displayed as a result of hyperlinking from a specific row within that view.

---

## Key Functions

In the IPSM environment, many key functions are the same as in ISPF. For example, the END, DOWN, UP, LEFT, and RIGHT keys are defined and function in the same way.

The Enter key performs multiple functions. You can use it to refresh data in a view if you have not cursor-selected any field and if you do not have any commands entered. If you have multiple windows open, the data is refreshed in all of them.

You can use the Enter key to execute commands once you have typed them in the primary command field or line command column. If you have multiple windows open, a command is executed only in the window where the cursor was last active.

If you press Enter after cursor-selecting a field with a highlighted header, a hyperlink is executed, taking you to a view containing related information.

If you press Enter after cursor-selecting a field containing summarized data (in a summary view), you are taken to an *expanded* view displaying all the data that was summarized in the first view. Most summary views provide a hyperlink to *expand*, displaying the data that was summarized. Typically, the *expand* is from the count field.

---

## Online Help

The PF1 key allows you to access online help. For information about the view you are in, position the cursor on the view name in the window information line and press PF1. For a description of a particular field within a view, position the cursor on the field, then press PF1.

To see line commands available within a certain view, position the cursor in the line command column (located to the far left in views that support line commands), and then press PF1.

---

## View Naming Conventions

IPSM views follow a simple naming convention. The first character is either the letter *I* (for IPSM, the component name) or the letter *D* (for some DBCTL-specific views). The next several characters are based on the category to which the view belongs (for example, *RGN* for Region views or *DL* for Delay views).

If the letters *DTL* follow the category characters, the view is a detail view. If the letters *SUM* follow the category characters, the view is a summarized view, a tabular view, or both. If the view name ends with the letter *R*, it is usually a realtime view. If it does not, it is usually an interval view.

Easy and Fast Menu views (EZIMS, EZISSI, and EZIFAST), although part of the IPSM component, begin with the letters *EZ*. Easy Menus are a MAINVIEW standard to provide entry points.

---

## Selecting a Starting Point

You can select any of the following starting points for viewing information in IPSM:

- Look at the figures in Chapter 1 to get a visual overview.
- Look at the Contents in this book and pick an area of interest.
- Look at the view categories in the MAIN view, and then hyperlink from a category that interests you to see subcategories and specific views.
- Begin by looking at one of the Easy Menus and selecting options from there (see Chapter 3, “Getting Started with Menus” on page 17).

If IPSM is new to you, try using one of the Easy Menus (EZIMS for single-system information or EZISSI for sysplexes) as a point of departure.

If you have previous experience with IMS or know what information you want to see, you might try using the Fast Menu (EZIFAST).

If you are very experienced and already know the views you want to see, you can go directly to the information by typing the view name on the command line.

---

## Chapter 3. Getting Started with Menus

This chapter describes the basic menus that help you access different views and information within IMSplex System Manager (IPSM).

IPSM runs in the MAINVIEW windows environment. For a full description of how to navigate with menus and views in the MAINVIEW environment, see the *Using MAINVIEW* manual.

To enter MAINVIEW for DBCTL, begin at the MAINVIEW Selection Menu (shown in the *Using MAINVIEW* manual). Select either of the following options and press Enter:

- PLEX Management

A list of MAINVIEW products and their associated targets is displayed. Here you can select any active target and press Enter. The DBCTL Easy Menu (EZIMS), shown in Figure 5 on page 18, is displayed.

- IMS

The IMS Solutions menu is displayed. Select the MVIMS option.

The IMS Primary Option Menu for MVIMS services is displayed. Select the PLEX MONITORS option (Option V). The IMS Sysplex Easy Menu (EZISSI), shown in Figure 6 on page 19, is displayed.

**Note:** When you want to view data for an SSI (single system image) context, use the EZISSI Easy Menu.

---

### DBCTL Easy and Fast Menus

This section describes the DBCTL Easy and Fast menus. These menus offer easy access to important information. You can select the menu that provides the quickest access to the information you need.

From the Easy and Fast menus, you can select views and other menus, and some menus have pop-up windows with options related to your selection.

- The . character indicates a hyperlink to another view or service.
- The > character indicates a hyperlink to a pop-up window or another menu.
- The \* character indicates a hyperlink that is not available. A hyperlink field could have an asterisk because a product is not installed, because the hyperlink doesn't work in a multiple system context, or because the hyperlink is not available when a pop-up window is open.

Once you become more familiar with IPSM, you can access system performance information using any of the following methods:

- Enter the view name on any command line within IPSM.
- Select a group of views by function from the menu displayed after you select the component from the MAINVIEW Selection Menu or from a PlexManager view.
- Hyperlink from related views.

Each method is described in the *Using MAINVIEW* manual.

## DBCTL Easy Menu (EZIMS)

The DBCTL Easy Menu (EZIMS or EZIMSR), shown in Figure 5, is a good place to start when you want to view system performance information. It provides access to all key IPSM views and menus. Simply select one of the descriptions listed in the different task categories and press Enter. That takes you to the information you want, gathered and displayed in a specific view.

```

22MAR2002 14:14:41 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                               SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =EZIMS=====IMSxxx====*=====22MAR2002=14:14:41====MVIMS====D====1

          DBCTL EASY MENU
          Timeframe - Interval

          (Change) Target---> IMSxxx          Status: INACTIVE
          Activity                +-----+          Resources
          . System                | Place cursor on |          . Programs
          . Threads               | menu item and |          . Databases
          . Threads Not Idle      | press ENTER  |          . Areas
          . Thread Occupancy     +-----+
          . Batch Regions
          . Database Activity      Transaction Analysis          Cross Reference
          . IMSplex Connection    . Delay Factors          . Programs/Databases
                                   . Components of Response . Databases/Programs
                                   . Traces
          Exceptions
          . Current Delays
          . Database Lock Waits    Monitors
          . Waiting Threads        . In Warning
          . Stopped Programs       . Active
          . Stopped Databases      . Workload Objective
          . Stopped Areas          . Area Summary
          . Alarms in Exception

                                   Tools and Menu
                                   > Utilities
                                   > IMS Fast Menu
                                   > IMS SSI Menu
                                   > MVIMS Main Menu
                                   > IMS Easy Ops Menu
                                   > IMS Easy DBA Menu
                                   . Installed Products
                                   . What's New?
                                   . Return

```

Figure 5. DBCTL Easy Menu (EZIMS)

The EZIMS menu provides access to system performance information gathered during a time interval. For system performance information in realtime, see the EZIMSR menu. You can use either menu to:

- View system performance information (simply select a category of interest)
- Access other MAINVIEW for DBCTL services
- Select the DBCTL Fast Menu EZIFAST (shown in Figure 7 on page 20)

To display the DBCTL Easy Menu:

- Enter the view name (EZIMS or EZIMSR) on any command line within IPSM.
- Enter VIEWS in any command line within IPSM, and then select the view name from the resulting list.

# IMS Sysplex Easy Menu (EZISSI)

The IMS Sysplex Easy Menu (EZISSI or EZISSIR), shown in Figure 6, provides options for obtaining performance measurement information about all the IMS systems across your sysplex.

```

22MAR2002 14:11:33 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =EZISSI=====IMSxxx====*=====22MAR2002=14:10:47====MVIMS====D====1
                                IMS EASY MENU
                                Timeframe - Interval

    Performance                +-----+                Resources
    . IMS Systems in Context    | Place cursor on | . Transactions
    . IMS Msg Sharing Groups    | menu item and  | . Programs
    . IMS Data Sharing Group    | press ENTER   | . Databases
    . Processing by Class       +-----+                . Areas
    . Processing by BALG                                     . IMSplex

    Activity                    . Current Delays                Cross Reference
    . Region Occupancy          . Database Lock Waits          . Transactions/Programs
    . Region Activity            . Waiting Regions              . Programs/Databases
    . Database Activity          . Alarms in Exception          . Databases/Transactions
    > Stopped Resources          . Databases/Programs

    Communications              Transaction Analysis        Tools and Menu
    . Input Messages Queued     . Delay Factors                > Utilities
    . Output Messages Queued    . Components of Response       > IMS Easy Menu
    . Input/Output Status       . Traces                       > IMS Easy Ops Menu
    . Active Users              Monitors                   > IMS Easy DBA Menu
    . OTMA                      . In Warning                   > IMS Fast Menu
    . APPC                      . Active                       > MVIMS Main Menu
                                . Workload Objective           . Installed Products
                                . Area Summary                   . What's New?
                                . Return...
  
```

Figure 6. IMS Sysplex Easy Menu (EZISSI)

The EZISSI menu provides access to information gathered during a time interval. For information gathered in realtime, see the EZISSR menu.

Although the options in this menu are specific to the IMS sysplex environment, the menu works just like the other Easy Menus described in this chapter.

To display the EZISSI menu:

- Select Option V (multiple system performance monitoring) from the MAINVIEW Primary Option Menu and press Enter. To view data for a specific target, choose the Select Target/Menu item in the Tools and Menus section of the menu.
- Enter the view name (EZISSI) on any command line within IPSM.
- Enter VIEWS on any command line within IPSM, and then select the view name (EZISSI) from the resulting list.

## DBCTL Fast Menu (EZIFAST)

The DBCTL Fast Menu (EZIFAST or EZIFASTR), shown in Figure 7, offers menu item categories that link to more detailed information.

```

02/05/2001 14:15:13 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =EZIFAST=====IMSxxx====*=====02/05/2001=14:15:13====MVIMS====D====1

          DBCTL FAST MENU
          Timeframe - Interval
          (Change) Target--> IMSxxx          Status: ACTIVE
          System              +-----+      Database Activity
          . DBCTL             | Place cursor on | . Overview
          . Status            | menu item and  | . Databases
          . Log Status         | press ENTER  | . Volumes
          . PI Statistics      +-----+      . VSAM Buffer Pools
          > System Menu       . OSAM Buffer Pools
                               . Fast Path Buffer Stats
          Scheduling          Delays          Resources
          . Statistics        . Transaction Summary . Programs by Status
          . DMB Utilization   . Database         . Databases by Status
          . PSB Utilization   . Volume          . Areas by Status
                               . Database Lock     > Resources Menu
                               . Latch
          Threads             Components of Response Cross Reference
          . Occupancy         . Transaction Summary . Programs/Databases
          . All Threads       . Applications    . Databases/Programs
          . Processing        . DLI
          . Waiting           . Scheduling
                               . DB2
          Monitors            Traces          Tools and Menus
          . In Warning        . View Traces     > Utilities
          . Workload Objective . Manage Traces   > IMS Easy Menu
          . Wait Analysis     > IMS Easy Ops Menu
          . Manage            . Installed Products
                               . What's New?
                               . Return...

```

Figure 7. DBCTL Fast Menu (EZIFAST)

The EZIFAST menu provides access to information gathered during a time interval. For information gathered in realtime, see the EZIFASTR menu.

To display the DBCTL Fast Menu:

- Enter the view name (EZIFAST or EZIFASTR) on any command line within IPSM.
- Enter VIEWS on any command line within IPSM, and then select the view name from the resulting list.

## DBCTL Operations Menu

The realtime DBCTL Operations Menu (EZDOPSR), shown in Figure 8, is provided specifically for operations personnel. The menu provides realtime information for DBCTL resources, DBCTL resource exceptions, DBCTL processing exceptions, and current DBCTL activity. It also provides command capability for DBCTL resources so that you can issue a command for a single resource across multiple DBCTL systems. (Command capability requires implementation of MAINVIEW AutoOPERATOR for IMS.)

You can select Current Target to change from one target to another or to change from multiple targets to a single target.

When the context is multiple IMS targets, an asterisk is displayed beside hyperlinks that are available only for a single IMS target. To change the SSI context, you can select Context Members or use the CONtext command.

```

02/05/2001 14:15:13 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                               SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =EZDOPSR=====IMSxxx====*=====02/05/2001=14:15:13====MVIMS====D====1
                                DBCTL OPERATIONS MENU
                                Timeframe - Realtime

(Change) Current Target  IMS71Y          Status: ACTIVE
          Context Members          1

  Commands
. Programs          | Place cursor on | . DBC Systems in Context
. Databases         | menu item and  | . Thread Occupancy
                   | press ENTER   | . Thread Activity
                   +-----+ . Database Activity
                   |                                     | . Logging Statistics
                   |                                     | . Active Users

  Resource Exceptions      Processing Exceptions      Tools and Menus
. Program Exceptions  . Monitors In Warning  . View PAS Journal
. Database Exceptions . Current Delays       > AutoOPERATOR for IMS
                   . Threads in Lock Wait  . Installed Products
                   . Waiting Threads    > IMS Easy Menu
                   . Alarms in Exception > IMS Fast Menu
                                           > MVIMS Main Menu

```

Figure 8. DBCTL Operations Menu

To display the DBCTL Operations Menu:

- Enter the view name (EZDOPSR) on any command line within IPSM.
- Enter VIEWS on any command line within IPSM, and then select the view name from the resulting list.

## DBCTL DBA Easy Menu

The DBCTL DBA Easy Menu (EZDDBA or EZDDBAR), shown in Figure 9, is provided specifically for database administrators. The menu provides hyperlinks to key database-related performance and processing information gathered during a time interval or in realtime.

You can select Current Target to change from one target to another or to change from multiple targets to a single target.

When the context is multiple IMS targets, an asterisk is displayed beside hyperlinks that are available only for a single IMS target. To change the SSI context, you can select Context Members or use the CONtext command.

```

02/05/2001 14:15:13 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =EZDDBA=====IMSxxx====*=====02/05/2001=14:15:13====MVIMS====D====1
                                DBCTL DBA Easy MENU
                                Timeframe - Interval

(Change) Current Target  IMS71Y          Status: ACTIVE
          Context Members      1

  Database      +-----+      Delay Analysis
. All Databases | Place cursor on | . Database Delays
. Databases in Exception | menu item and | . DB Delays by DB, Prog
. Databases by Status | press ENTER | . Lock Delays by DB
. Database I/O Activity +-----+ . I/O Delays by Vol
. Database Call Activity . I/O Delays by Vol, DB
. Database Contentions . I/O Delays by DB, Vol
. OSAM Buffer Pools      Thread Analysis
. VSAM Buffer Pools      . View Detail Trace
. Fast Path Buffer Pools . Start Detail Trace
. DMB Pool Utilization

  Cross Reference      Processing      Tools and Menu
. DB -> Program        . DBC Systems in Context . Set to Realtime
. Prog-> Database      . Active Threads        > IMS Easy Menu
. Prog-> DBs in Exception . Threads in DL/I      > IMS Fast Menu
                        . Threads in Lock Wait  > IMS SSI Menu
                        . Threads in I/O Wait  > MVIMS Main Menu
                        . Active Thread Delays . Installed Products
                        . Logging Statistics . What's New?
  
```

Figure 9. DBCTL Easy DBA Menu

The EZDDBA menu provides access to information gathered during a time interval. For information gathered in realtime, see the EZDDBAR menu.

To display the DBCTL Easy DBA Menu:

- Enter the view name (EZDDBA or DZDDBAR) on any command line within IPSM.
- Enter VIEWS on any command line within IPSM, and then select the view name from the resulting list.

---

## DBCTL Object Easy Menus

A DBCTL Object Easy Menu is a menu that is related to a specific object (such as a transaction, database, or program) shown in a view. It provides more detailed information about the object.

To display a DBCTL Object Easy Menu, place the cursor on an object (transaction, database, or program) and press Enter.

For more information about Object Easy Menus and how to access and customize them, see the *Using MAINVIEW* manual.



---

## Part 2. Optimizing System Performance

This part describes how you can use the IPSM views to manage your IMS workflow, analyze transaction response, and determine the causes of transaction delays. For general information about views, see the *Using MAINVIEW* manual.

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---

## Chapter 4. Managing IMS Workflow Performance

This chapter explains how to use IMSplex System Manager (IPSM) to manage your workflow performance. It begins with a description of the workflow views. These views help you answer the following questions:

- Is IMS resource usage too high?
- Can IMS support additional regions/threads?
- Is OS/390 affecting IMS performance?

The second half of this chapter is a reference section (“Views for Workflow Management – Reference Section” on page 37) with a complete listing of IPSM views available to help you manage IMS workflow and transaction processing throughput. Views are grouped by the type of information they provide:

- IMS activity
- IMS sysplex activity
- Region/thread occupancy
- Transaction processing

Each view group contains both summary and detail views. Most views are available in either realtime or interval versions. A sample realtime view from each group is shown and described. (Realtime views show you information from the present time. Interval views show you information gathered over a time period. The time period can be either from current or past time.)

**Note:** Some views are available in either graphical or textual form. The graphical form displays data in bar graphs to give you a quick visual picture. The textual form provides you with additional numerical information.

## Using Workflow Views to Analyze Performance

A good starting point for analyzing your IMS workflow performance is either the IMS Activity view (DBCCTLGR) for a single IMS, or the IMS Sysplex Activity view (DBCPLXGR) for multiple IMS systems.

Both views are available in either bar graph or textual form. (Certain monitor configurations do not support extended attributes required for viewing the bar graph form.) Figure 10 shows the bar graph form of the (single) IMS Activity view (DBCCTLGR).

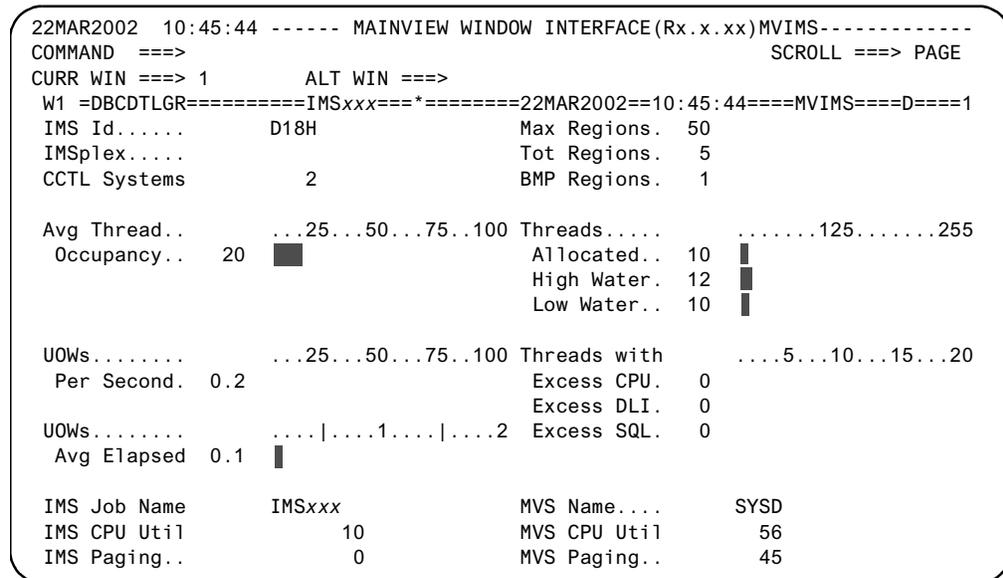


Figure 10. IMS Activity View (DBCCTLGR) - Bar Graph Form

If your monitor does not support the graphical view, DBCCTLGR will display as shown in Figure 11.

```

22MAR2002 10:45:44 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>                               SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =DBCDTLGR=====IMSxxx====*=====22MAR2002==10:45:44====MVIMS====D====1
IMS Id.....          D18H                      Max Regions. 50
IMSpIex.....          Tot Regions. 5
CCTL Systems          2                      BMP Regions. 1

Avg Thread..        ..25...50...75..100 Threads.....          .....125.....255
Occupancy.. 20 ***          Allocated.. 10 *
          High Water.. 12 *
          Low Water.. 10 *

UOWs.....          ..25...50...75..100 Threads with          ...5...10...15...20
Per Second. 0.2          Excess CPU. 0
          Excess DLI. 0
UOWs.....          ....|....1....|....2 Excess SQL. 0
Avg Elapsed 0.1 *

IMS Job Name        IMSxxx          MVS Name....          SYSD
IMS CPU Util        10          MVS CPU Util        56
IMS Paging..        0          MVS Paging..        45

```

Figure 11. IMS Activity View (DBCDTLGR) - Text Form

To display the DBCDTLGR view, type DBCDTLGR on the command line, or type VIEWS and then select DBCDTLGR from the list of views displayed. For more information about the view or any of its fields, select the view name (DBCDTLGR) on the window information line or select any field name and then press your help key.

Useful fields in the DBCDTLGR view for workflow analysis are

- Avg Thread Occupancy
- UOWs Per Second
- UOWs Avg Elapsed
- IMS CPU Util
- IMS Paging
- BMP Regions
- Threads Allocated, High Water, Low Water
- Threads with Excess CPU, DLI, or SQL
- Max Threads/Regions

You can hyperlink from any of these fields to other views that contain related information. By means of this dynamic view interaction, you can isolate and identify potential problems. The following pages show you how to use these views to answer typical workflow management questions.

## Is IMS Resource Usage Too High?

To analyze whether your IMS resource usage is too high, begin by looking at relevant fields in the DBCDTLGR view and then check the DRGOCCR view, as illustrated in Figure 12.

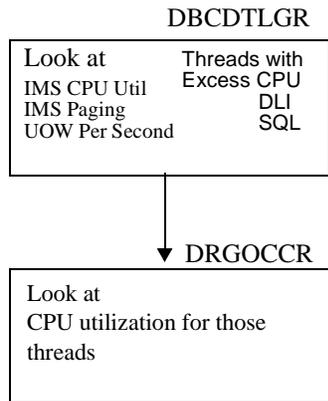


Figure 12. Views for Checking IMS Resource Usage

The relevant fields in the DBCDTLGR view are the IMS CPU Util, IMS Paging, and Threads with Excess CPU, DLI, and SQL fields.

```

22MAR2002 10:45:44 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
W1 =DBCDTLGR=====IMSxxx==*=====22MAR2002==10:45:44====MVIMS====D====1
IMS Id..... D18H Max Regions. 50
IMSp1ex..... Tot Regions. 5
CCTL Systems 2 BMP Regions. 1

Avg Thread.. ...25...50...75..100 Threads..... .....125.....255
Occupancy.. 20 █ Allocated.. 10 █
High Water. 12 █
Low Water.. 10 █

UOWs..... ...25...50...75..100 Threads with .....5...10...15...20
Per Second. 0.2 Excess CPU. 0
Excess DLI. 0
UOWs..... ....|...1....|....2 Excess SQL. 0
Avg Elapsed 0.1 █

IMS Job Name IMSxxx MVS Name... SYSD
IMS CPU Util 10 MVS CPU Util 56
IMS Paging.. 0 MVS Paging.. 45
  
```

Figure 13. Fields for Checking IMS Resource Usage (DBCDTLGR View)

If a value in one of these fields is unusual or above normal, determine if the abnormality is due to any of the following reasons:

- A heavier workflow  
(Check the UOWs Per Second field in the DBCDTLGR view.)
- Mix of BMPs to DBTs  
(See the DRGOCCR view.)
- Changes in the applications themselves

To see more detailed information about the work being performed and the resources being used by an IMS, display the IMS Activity Detail view (DBCDTLR), shown in Figure 14. To display the view, type DBCDTLR on the command line, or type VIEWS and then select DBCDTLR from the resulting list of views.

```

22MAR2002 08:53:26 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =DBCDTLR=====IMSxxx==*=====22MAR2002==08:53:26====MVIMS====D====1
IMS Id.....      D18H CPU Utilization          AVG UOW Duration 0.500
IMSpIex.....      MVS System....      87    UOWs per second.    5
IMS Job Name..    IMSxxx  IMS System....      50
MVS Name.....    SYSD    Control Rgn.    20
Batch Regions.    1      DLI SAS Rgn.    20
DBCTL Threads.    3      BMP Rgns....    5
  High Number.    9      DBRC Rgn.....    0
  Low number..    3      IRLM Rgn.....    5
Avg Thread Occ    33

```

Figure 14. IMS Activity Detail View (DBCDTLR)

The DBCDTLR view shows how your critical resources are being used by IMS. For a complete description of what any field shows, position the cursor on that field, and then press your help key.

## Can IMS Support Additional Regions/Threads?

To see if IMS can support additional regions/threads, check the Max Regions and Threads Allocated fields in the DBCDTLGR view, shown in Figure 15.

```

22MAR2002 10:45:44 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1      ALT WIN ==>
W1 =DBCDTLGR=====IMSxxx====*=====22MAR2002==10:45:44====MVIMS====D====1
IMS Id.....      D18H                      Max Regions.  50
IMSplex.....                      Tot Regions.   5
CCTL Systems      2                      BMP Regions.   1

Avg Thread..    ...25...50...75..100 Threads.....  .....125.....255
Occupancy..    20 ██████████                Allocated..   10 ██████
                                                High Water..  12 ██████
                                                Low Water..  10 ██████

UOWs.....      ...25...50...75..100 Threads with  .....5...10...15...20
Per Second.    0.2                        Excess CPU..   0
                                                Excess DLI..  0
UOWs.....      ....|....1....|....2 Excess SQL..  0
Avg Elapsed    0.1 ██████

IMS Job Name     IMSxxx                      MVS Name....  SYSD
IMS CPU Util     10                        MVS CPU Util  56
IMS Paging..     0                        MVS Paging..  45
    
```

Figure 15. Fields for Checking IMS Ability to Support Additional Regions/Threads

If the value shown in the Max Regions field is greater than the value shown in the Threads Allocated field, IMS can support additional regions/threads for processing.

## Is OS/390 Affecting IMS Performance?

If you have MAINVIEW for IMS installed, you can hyperlink from DBCDTLGR to OS/390 views that show you how OS/390 is affecting IMS performance. See Figure 16 for a visual overview.

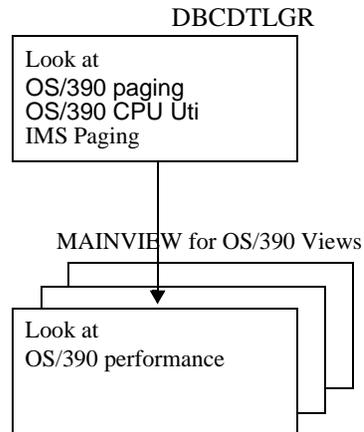


Figure 16. Views for Checking Effect of OS/390 Performance

The following fields in the DBCDTLGR view are your starting points for checking to see if OS/390 is affecting performance.

- MVS Paging  
Shows the number of page-ins and page-outs for the OS/390 where IMS is running.
- MVS CPU Util  
Shows the percentage of CPU used by OS/390.
- IMS Paging  
Shows the number of page-ins and page-outs for that IMS.

These three fields are shown in Figure 17 on page 36.

```

22MAR2002 10:45:44 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =DBCDTLGR=====IMSxxx==*=====22MAR2002==10:45:44====MVIMS====D====1
IMS Id.....          D18H                      Max Regions.. 50
IMSpIex.....          Tot Regions..           5
CCTL Systems          2                        BMP Regions.. 1

Avg Thread..         ...25...50...75..100 Threads.....          .....125.....255
Occupancy.. 20      █                          Allocated.. 10      █
                                           High Water.. 12     █
                                           Low Water.. 10     █

UOWs.....           ...25...50...75..100 Threads with          ....5...10...15...20
Per Second. 0.2      Excess CPU..           0
                                           Excess DLI..        0
UOWs.....           ....|....1....|....2 Excess SQL..        0
Avg Elapsed 0.1     █

IMS Job Name          IMSxxx                      MVS Name....     SYSD
IMS CPU Util          10                          MVS CPU Util     56
IMS Paging..          0                          MVS Paging..     45

```

Figure 17. Fields for Checking OS/390 Processing

For more information about how to use OS/390 views, see the *MAINVIEW for OS/390 User Guide and Reference*.

---

## Views for Workflow Management – Reference Section

This section lists all the IPSM views available to help you manage your IMS workflow. The views are grouped into categories, which are listed in alphabetical order:

- IMS Activity
- IMS sysplex activity
- Region/thread occupancy

Each view category contains several different views. Their basic function is the same, with variations reflecting whether the data displayed is realtime or interval.

You can change the presentation of each view by context, scope, or filters. To see which of these apply to a particular view, refer to the online help. (For online help, position the cursor on the view name in the window information line, and then press your help key.) In some views you can take actions to make dynamic system changes. These actions are described in the online view help.

To meet your site's needs, you may want to customize views and create screens made up of several views. See the *Using MAINVIEW* manual for a description of how to do this.

In the following pages, each section contains a table showing all views available for that view category. A sample realtime view follows the table, along with a brief description of what the view does. For more detailed information about the views or any of their fields, refer to the online help.

## IMS Activity Views

This section describes the IMS activity views available to help you manage your IMS workflow. These views provide IMS system information, showing you resource usage and workflow performance for a single IMS.

Table 1 lists all available IMS activity views. The views are similar except for the time period that samples are taken. (Views with names ending in R display realtime data; the other views display data collected during a specific time interval.)

Table 1. IMS Activity Views

<b>View description</b>	<b>Name</b>	<b>Type</b>
IMS processing and resource usage (graph view)	DBCCTLGR	Realtime detailed statistics about IMS performance
	DBCCTLG	Interval statistics
IMS processing and resource usage (text view)	DBCCTLR	Realtime detailed statistics about IMS performance
	DBCCTL	Interval statistics

All views are described in the online view help. To see online view help, do one of the following:

- Position the cursor on the view name on the window information line and press your help key.
- Enter HELP and the name of the view on the command line.

## DBCCTLGR View – IMS Processing and Resource Usage

The view shown in Figure 18 is an example of a realtime IMS Activity view. This view and the others in this group can help you determine if IMS is meeting its performance objectives. It shows you how critical resources, including application region processing, are being used by IMS.

The UOWs Per Second and UOWs Avg Elapsed fields are indicators of whether IMS is meeting general throughput and response time objectives.

If IMS is not meeting its objectives, you can check the OS/390 fields for indications of system resource competition.

```

22MAR2002 10:45:44 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>> SCROLL ==>> PAGE
CURR WIN ==>> 1 ALT WIN ==>>
W1 =DBCCTLGR=====IMSxxx==*=====22MAR2002==10:45:44====MVIMS====D====1
IMS Id..... D18H Max Regions. 50
IMSp1ex..... Tot Regions. 5
CCTL Systems 2 BMP Regions. 1

Avg Thread.. ...25...50...75..100 Threads..... .....125.....255
Occupancy.. 20 █ Allocated.. 10 █
High Water.. 12 █
Low Water.. 10 █

UOWs..... ...25...50...75..100 Threads with .....5...10...15...20
Per Second. 0.2 Excess CPU. 0
Excess DLI. 0
UOWs..... ....|...1....|....2 Excess SQL. 0
Avg Elapsed 0.1 █

IMS Job Name IMSxxx MVS Name... SYSD
IMS CPU Util 10 MVS CPU Util 56
IMS Paging.. 0 MVS Paging.. 45
  
```

Figure 18. DBCCTLGR – Sample IMS Activity View

To display this view, type DBCCTLGR on any IPSP command line or type VIEWS on any command line and then select the view name from the resulting list of views.

If a field name or value is highlighted within the view, you can hyperlink from that field to another view containing more information.

## IMS Sysplex Activity Views

This section describes the IMS sysplex activity views available to help you manage your IMS workflow. These views show how well each IMS in the sysplex is processing its workflow and how much of your resources are being used by each IMS across a sysplex.

Table 2 lists all available IMS sysplex activity views. The views are similar except for the time period that samples are taken. (Views with names ending in R display realtime data; the other views display data collected during a specific time interval.)

Table 2. IMS Sysplex Activity Views

View description	Name	Type
Sysplex performance by IMS	DBCPLXR	Realtime performance statistics for each IMS in the sysplex
	DBCPLX	Interval statistics
	DBCPLXGR	Realtime graph
	DBCPLXG	Interval graph
Sysplex performance by data sharing group	DBCPLSR	Realtime performance statistics for IMS data sharing groups
	DBCPLS	Interval statistics
	DBCPLSGR	Realtime graph
	DBCPLSG	Interval graph
Sysplex performance by OS/390	DBCPLMR	Realtime performance statistics for IMS system group by OS/390 system
	DBCPLM	Interval statistics
	DBCPLMGR	Realtime graph
	DBCPLMG	Interval graph

All views are described in the online view help. To see online view help, do one of the following:

- Position the cursor on the view name on the window information line and press your help key.
- Type HELP and the name of the view on the command line and press Enter.

## DBCPLXR View – IMS Sysplex Performance

The view shown in Figures 19 and 20 is an example of a realtime IMS Sysplex Activity view. This view and the others in this group can help you analyze IMS performance across a sysplex. Resource statistics, such as CPU utilization, are aggregated for each IMS. Throughput statistics are for the entire workflow serviced by an IMS. These statistics represent IMS sysplex performance and service levels.

```

22MAR2002 11:46:06 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
>W1 =DBCPLXR=====IMSxxx====*=====22MAR2002==11:46:05====MVIMS====D====1
IMS Intvl IMS      MVS      IMS  MVS  IMS  MVS  Num  Thrd UOW  UOW  Num
ID  Time- Job Name Name      CPU% CPU% Page Page Thrds Occ  AVG   Rate  BMPs
D19H 11:46 IMSxxx  SYSC      0  78  0  0  3  33  0.00  0.0  0
D15H 11:46 IMSxxx  SYSC      0  56  0  1  3  33  0.00  0.0  0
X18H 11:46 IMSxxx  SYSD      0  31  0  0  0  0  0.00  0.0  0
  
```

Figure 19. DBCPLXR – Sample IMS Sysplex Activity View

```

22MAR2002 11:46:06 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
<W1 =DBCPLXR=====IMSxxx====*=====22MAR2002==11:46:05====MVIMS====D====1
IMS Num IMSplex
ID  BMPs Name
D19H  0
D15H  0
X18H  0
  
```

Figure 20. DBCPLXR – Sample IMS Sysplex Activity View, Scrolled Right

To display this view, type DBCPLXR on any IPISM command line, or type VIEWS on any command line, and then select the view name from the list of views displayed.

If a field name or value is highlighted within the view, you can hyperlink from that field to another view containing more information.

## Region/Thread Occupancy Views

This section describes the Region/Thread Occupancy views available to help you manage your IMS workflow. These views show BMP and JBP region processing, CICS and ODBA thread processing, and resource usage. They show how busy a region/thread is, as well as transaction processing rate. Regions/threads can be viewed for a single IMS, OS/390, a data sharing group, or across any grouping you choose.

Table 3 lists all available Region/Thread Occupancy views. The views are similar except for the time period that samples are taken. (Views with names ending in R display realtime data; the other views display data collected during a specific time interval.)

Table 3. Region/Thread Occupancy Views

View description	Name	Type
Region/thread occupancy	DRGOCCR	Realtime statistics for region/thread occupancy
	DRGOCC	Interval statistics
	DRGOCCGR	Realtime graph
	DRGOCCG	Interval graph
Region/thread processing summary	DRGOVWR	Realtime summary of region processing statistics
	DRGOVW	Interval summary
CCTL connections	DRGCCTL	Interval statistics for CCTL connections to IMS systems

All views are described in the online view help. To see online view help, do one of the following:

- Position the cursor on the view name on the window information line, and then press your help key.
- Type HELP and the name of the view on the command line, and then press Enter.

## DRGOCCR View – Region/Thread Occupancy

The view shown in Figure 21 is an example of a realtime Region/Thread Occupancy view. This view and the others in this group show BMP and JBP region processing and CICS and ODBA thread processing, as well as resource usage.

```

22MAR2002 11:46:49 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> PAGE
CURR WIN ==> 1           ALT WIN ==>
W1 =DRGOCCR=====IMSxxx====*=====22MAR2002==11:46:49====MVIMS====D====3
CM Reg Region  Rgn Rgn MVS  Proc Rgn IMS  MVS   DBShare
-- ID  Name     Typ CPU CPU  Rate Occ ID  Name   Group
   1  CICS3302 DBT  0  18   0.0 100 D19H SYSC  IMSNWAY
   2  CICS3302 DBT  0  18   0.0  0 D19H SYSC  IMSNWAY
   3  CICS3302 DBT  0  18   0.0  0 D19H SYSC  IMSNWAY

```

Figure 21. DRGOCCR — Sample Region/Thread Occupancy View

To display this view, type DRGOCCR on any IPSM command line, or type VIEWS on any command line, and then select the view name from the list of views displayed.

If a field name or value is highlighted within the view, you can hyperlink from that field to another view containing more information.



---

## Chapter 5. Controlling UOW Elapsed Time and Transaction Delays

This chapter shows you how to use the components of response time (CORT) views to analyze and control unit of work (UOW) elapsed time and transaction delays. Then it describes how to use UOW Elapsed Time and Transaction Delay Analysis views to answer the following questions:

- Where are delays occurring?
- Which events are contributing to elapsed time?

IPSM provides elapsed time analysis views about units of work from IMS transactions that have completed or are in progress. These views help you quickly identify why elapsed time is not meeting your expectations—so you can improve it.

You can use these views to see

- Processing delays incurred by a unit of work when it tries to obtain a resource
- The resource associated with the delay
- IMS processing events occurring as units of work flow through the system (so you can see events that contribute to unit of work elapsed time)

IPSM also helps you analyze why a MAINVIEW VistaPoint workload is not meeting its objective. It allows you to view unit of work processing delays and events within a workload.

The information in IPSM views is hierarchical. Lower-level views give further, more detailed information related to the information shown at a higher level.

---

## Interpreting Data in UOW Elapsed Time and Transaction Delay Analysis Views

The following points should be kept in mind when interpreting values reported in MAINVIEW for DBCTL UOW elapsed time and transaction delay analysis views.

- MAINVIEW for DBCTL (MVDBC) reports on the IMS activity incurred during the processing of CICS transactions requiring DL/I resources. It does not report on CICS activity overall. Therefore, for DBCTL threads, fields whose headers refer to response time are actually reporting elapsed time of the DL/I thread activity for a unit of work—not response time for the CICS transaction.

In interpreting values shown in the Elapsed Time fields, keep in mind that the CICS transaction may be made up of multiple DL/I units of work. In most cases, a CICS transaction is a single unit of work. However, it is possible for a CICS transaction to commit resources (completing the current UOW and beginning the next logical UOW) as part of the processing of a single CICS transaction. This is analogous to a BMP issuing checkpoint calls.

- MVDBC reports only activity that is a part of the IMS DBCTL. An application may have performed DB2 work, but not as part of its DBCTL thread activity. Therefore, this activity is not reported by MVDBC.

For information related to the total transaction execution, refer to data collected in views in the MAINVIEW for CICS product.

**Note:** MVDBC UOW Elapsed Time and Transaction Delay Analysis views display the most complete and meaningful information in target mode rather than SSI mode.

## Analyzing UOW Elapsed Time Problems

You can use the DBCDTLGR view to investigate unit of work (UOW) elapsed time problems. From the DBCDTLGR view, you can hyperlink to other views that show transaction delays, processing events, or a trace of transaction occurrences.

To investigate lengthy elapsed time, you might start with the following views:

- IDLTR view - IMS delays by transaction

This view shows the major causes of delays for all IMS transactions or by workload. It identifies a delay when a transaction is waiting for a resource, and it provides a hyperlink to related views showing more detailed information.

- IFCTR view - IMS processing events by transaction

This view shows the major transaction flow components that affect elapsed time for all IMS transactions or a workload. From here you can hyperlink to other views to get more information about where transactions are spending their time.

## Where Are Delays Occurring?

If the value in the UOWs Avg Elapsed field is high in the DBCDTLGR view, as shown in Figure 22, it could be because a transaction is waiting for a resource.

```

22MAR2002 10:45:44 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> PAGE
CURR WIN ==> 1           ALT WIN ==>
W1 =DBCDTLGR=====IMSxxx====*=====22MAR2002==10:45:44====MVIMS====D====1
IMS Id.....          D18H                      Max Regions. 50
IMSp1ex.....                    Tot Regions. 5
CCTL Systems          2                      BMP Regions. 1

Avg Thread..      ...25...50...75..100 Threads.....      .....125.....255
Occupancy..      20 ██████████                Allocated.. 10 ██████
                                           High Water. 12 ██████
                                           Low Water.. 10 ██████

UOWs.....          ...25...50...75..100 Threads with      .....5...10...15...20
Per Second.      0.2                          Excess CPU. 0
                                           Excess DLI. 0
UOWs.....          ....|....1....|....2 Excess SQL. 0
Avg Elapsed      0.1 ██████

IMS Job Name      IMSxxx                      MVS Name...      SYSD
IMS CPU Util      10                          MVS CPU Util     56
IMS Paging..      0                          MVS Paging..     45

```

Figure 22. Field for Looking for Transaction Delays

If the value in UOWs Avg Elapsed is high, select this field and hyperlink from it to the IDLTR view. The IDLTR shows you the delays contributing to unit of work elapsed time. (This path of investigation is shown in Figure 23 on page 48.)

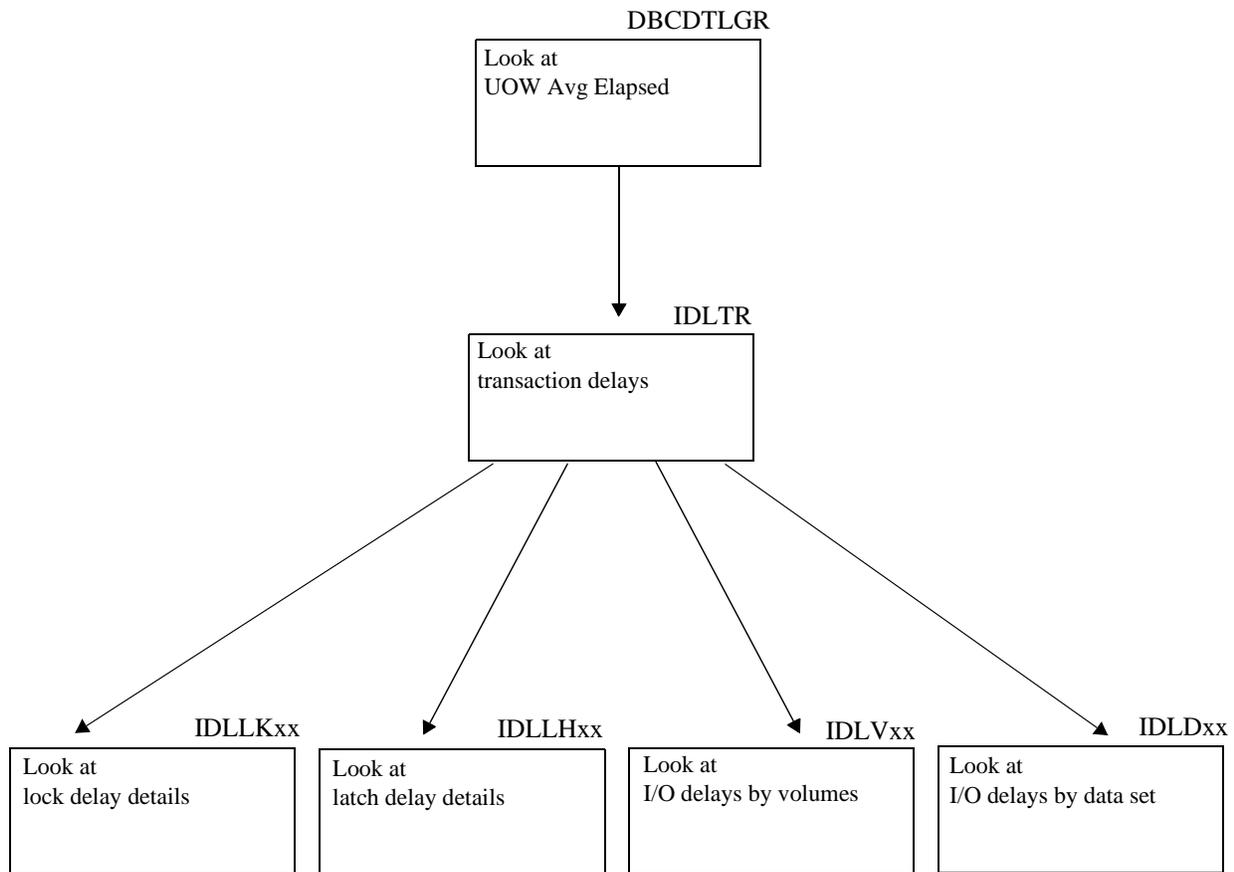


Figure 23. Views for Determining Where Delays Are Occurring

## Viewing Transaction Delays

You can use the IDLTR view, shown in Figure 24 on page 49, to

- Quickly classify whether delays are caused by thread availability waits or processing delays
- Identify whether eliminating any of the delay factors would decrease unit of work elapsed time to the level you want
- Hyperlink to see delay details about
  - Locks
  - Latches
  - I/O
  - Pools
  - Other kinds of delays

to look for possible causes.

```

22MAR2002 10:47:59 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLTR=====IMSxxx====*=====22MAR2002==10:16:56====MVIMS====D====1
CMD Trancode Intvl IMS      Avg Resp  %Inp %CPU %CPU %I/O %Lck %Lth %Pol %Ot
---  ----- Time- ID      0...+...3  Que  Act  Dly  Dly  Dly  Dly  Dly  D1
    DLZZ      10:16 D19H  3.91  *****+  n/a  18   9   5   0   1   2
    THISMINQ  10:16 D19H  1.47  *****  n/a   9   6  25  26   1   0   2
    THDAMINQ  10:16 D19H  0.21  **       n/a   9  39  13   0   0   2
    THIDMINQ  10:16 D19H  0.10  *        n/a  28  17   3   9   1   2

```

Figure 24. IDLTR View

The IDLTR view shows all transactions processed. For each transaction processed, you can see how much elapsed execution time contributed to a transaction’s response. If a delay field is highlighted, you can hyperlink from it to a more detailed view about that delay. For a detailed description of this view, see “IDLTR – Transaction Delays” on page 55.

## Which Events Are Contributing to UOW Elapsed Time?

In addition to looking for delays when DBCDTLGR shows a high UOW average elapsed time, you can also look for transaction processing events that are contributing the most to elapsed time. Proceed from the DBCDTLGR view to the IFCTR view, as shown in Figure 25.

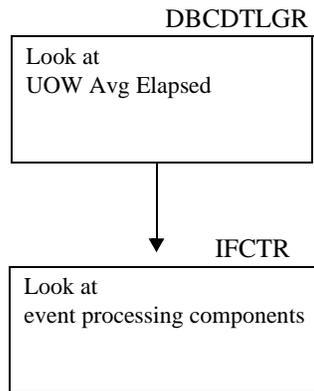


Figure 25. Views for Evaluating Transaction Processing Events

## Viewing Transaction Processing Events

To display a view of processing events for all transactions, enter IFCTR on the command line, or type VIEWS on the command line and then select IFCTR from the resulting list of views. A third alternative is to display the IFCTR view by selecting the Tran Performance option from the DBCTL Easy or Fast Menu.

```

22MAR2002 10:44:43 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IFCTR=====IMSxxx====*=====22MAR2002==10:16:56====MVIMS====D====1
CMD Trancode Intvl IMS Avg      Avg %InputQ      Avg %Elapse      Avg % Avg %
--- --- Time- ID  Resp      0....50...100      0....50...100 App1  DLI
DLZZ 10:16 D19H 3.91 n/a          100 *****          24 17
DLZZ2 10:16 D19H 3.43 n/a          100 *****          47 13
DLZZ3 10:16 D19H 3.24 n/a          100 *****          32 11
DLZZ 10:16 D19H 3.91 n/a          100 *****          24 17

```

Figure 26. IFCTR View

You can use this view to

- Identify IMS processing events contributing to unit of work elapsed time
- Hyperlink from highlighted fields to details about the events that occurred to determine the major contributors to elapsed time

For example, if Avg DLI is high, you can hyperlink from this field to view DL/I execution events to determine the cause of the long execution.

For more information about these kinds of views, see “Views for Transaction Delay Analysis” on page 53.

## Viewing a List of Completed Transaction Traces

You can view a list of completed transaction traces for

- A transaction displayed in the IFCTR view
- Any abnormal indicator displayed in the DBCDTLGR view, shown in Figure 27.

```

22MAR2002 10:45:44 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =DBCDTLGR=====IMSxxx====*=====22MAR2002==10:45:44====MVIMS====D====1
IMS Id..... D18H          Max Regions.. 50
IMSpIex.....          Tot Regions.. 5
CCTL Systems      2          BMP Regions.. 1

Avg Thread..   ...25...50...75..100 Threads.....   .....125.....255
Occupancy.. 20  █          Allocated.. 10  █
                          High Water.. 12  █
                          Low Water.. 10  █

UOWs.....   ...25...50...75..100 Threads with   ...5...10...15...20
Per Second. 0.2          Excess CPU.. 0
                          Excess DLI.. 0
UOWs.....   ....|....1....|....2 Excess SQL.. 0
Avg Elapsed 0.1  █

IMS Job Name      IMSxxx          MVS Name....  SYSD
IMS CPU Util      10          MVS CPU Util  56
IMS Paging..      0          MVS Paging..  45

```

Figure 27. Checking Fields to Look for Abnormal Indicator

You can also view a list of completed transaction traces recorded in historical trace log data sets. You can do this by accessing the ITALIST view from either the IFCTR view or the DBCDTLGR view. These two alternative paths for arriving at the ITALIST view are shown in Figure 28.

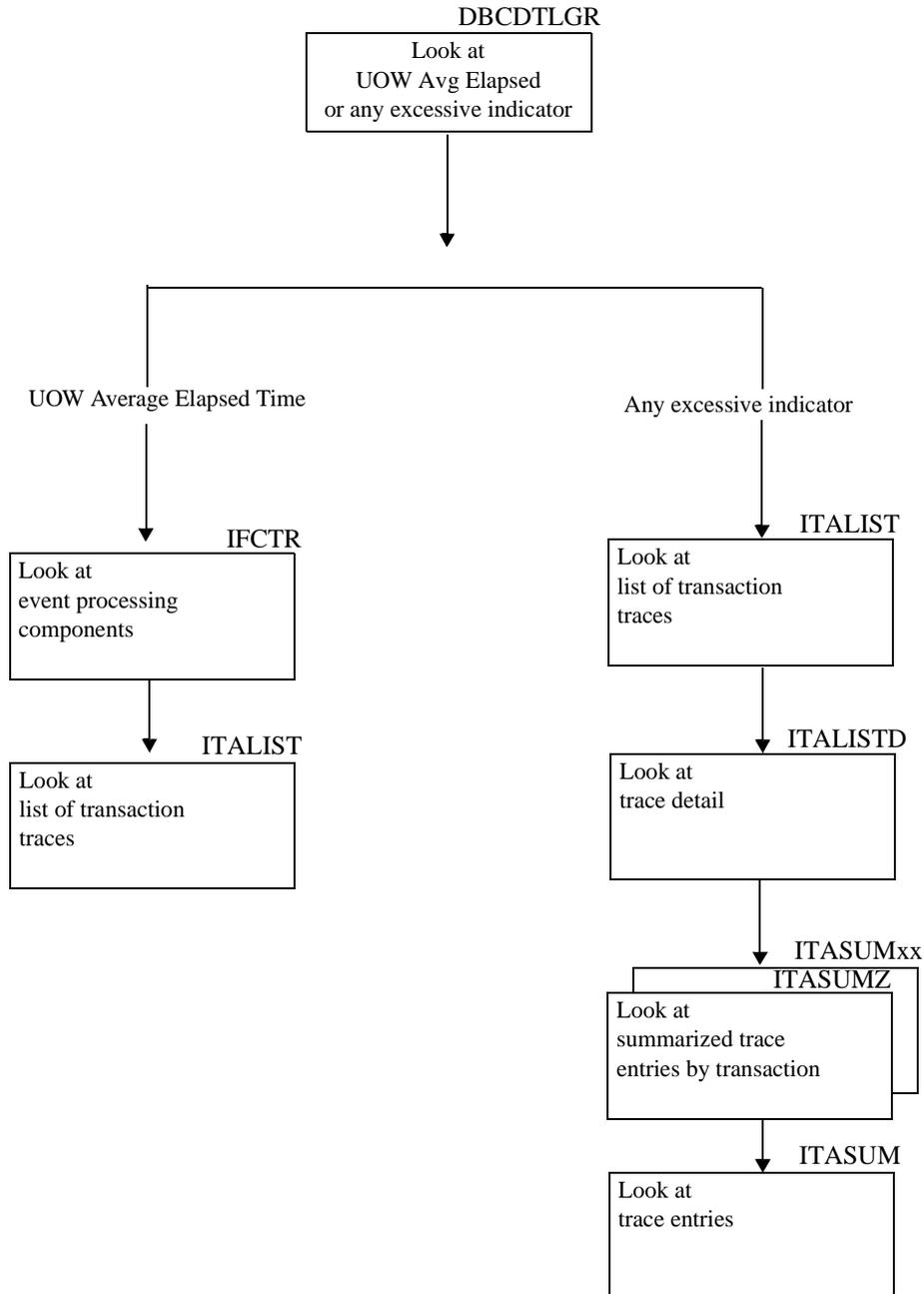


Figure 28. Views for Checking Completed Transaction Traces

ITALIST, shown in Figure 29, is also available as a menu option in the IMS Easy Menu (EZIMS).

```

22MAR2002 07:39:52 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ITALIST=====IMSxxx====*=====22MAR2002==07:39:52====MVIMS====D====4
Trace      Data
Id         Type Type Trace Title      Start   Start End       End       Target
          Type Type Trace Title      Date    Time Date    Time     Jobname
DETAIL    Det  Curr DETAIL TRACE    22MAR2002 05:03 -Active-      I8A332CT
TRANHIST  Sum  Curr TRANSHIST TRACE 22MAR2002 05:03 -Active-      I8A332CT
TRANHIST  Sum  Hist TRANSHIST TRACE 22MAR2002 05:10 -Active-      I8A332CT
ABR3     Abr  Hist ABBREV TRACE    16MAR2002 11:49 16MAR2002 11:51 IMSxxx
ABR3     Abr  Hist ABBREV TRACE    16MAR2002 12:07 16MAR2002 12:09 IMSMAINT
TEST     Sum  Hist WORKLOAD TRACE 14MAR2002 07:16 14MAR2002 07:20 IMSxxx
DETHST   Det  Hist DETAIL TRACE    14MAR2002 06:28 14MAR2002 06:30 I8A332CT

```

Figure 29. ITALIST View

You can use the ITALIST view to analyze transaction performance. You can use it to obtain more information for further analysis by hyperlinking from it to

- An expanded view for more details about the transactions recorded in the trace
- The ITALMR Trace Menu with hyperlinks for examining trace data set details, viewing a summary of all occurrences of a selected transaction, accessing services where you can manage active and history traces, and executing trace query requests.

For more information about tracing transactions, see Chapter 6, “Examining a User Application” on page 87.

---

## Views for Transaction Delay Analysis

This section lists all the views available to help you manage transaction elapsed time. The views are grouped into the following categories:

- Transaction Delays
- Database I/O Delays
- Data set I/O Delays
- Volume I/O Delays
- Lock Delays
- Latch Delays

Measured data is displayed by these views in textual and/or graphical form. Scrolling right displays more data for that view. You can restrict view presentation by context, scope, or filters. (To see which restriction categories apply for a view, select the view name on the window information line inside the view, and then press your help key.)

To analyze transaction delays, start your analysis with the IDLTR view. This view shows all transactions and allows you to see the delays that contributed to each transaction's elapsed time. If a transaction shows an unusual elapsed time, select the transaction and hyperlink from it to an Easy Menu. The Easy Menu provides you with the following view options:

- Transaction delays (see Table 4 on page 54)
- Database I/O delays by transaction, PSB, IMS, volume, or data set (see Table 5 on page 61)
- Data set I/O delays by transaction, PSB, IMS, or volume (see Table 6 on page 65)
- Volume I/O delays by transaction, PSB, or IMS (see Table 7 on page 68)
- Pool delays (see page 60)
- Lock delays by transaction, PSB, IMS, or data set (see Table 8 on page 72)
- Latch delays by transaction, PSB, or IMS (see Table 9 on page 75)
- Other kinds of delays (see page 59)

As described in the *Using MAINVIEW* manual, you can customize views and create screens that include several views to meet your site's needs.

The information displayed in these views correlates event and sample data. The accuracy of the statistical analysis depends upon the number of observations made. In all these views, a Confidence Level column is included to reflect the accuracy of the analysis. If information shows a confidence level of None, do not spend time analyzing that information.

## Transaction Delays

Table 4 lists all the views available for transaction delays. Descriptions of each view follow on the referenced pages.

Table 4. Transaction Delay Views

<b>View</b>	<b>Name</b>
Major transaction delays	IDLTR (see page 55)
I/O delays	IDLTRIO (see page 56)
Latch delays	IDLTRLH (see page 57)
Lock delays	IDLTRLK (see page 58)
Other kinds of delays	IDLTROT (see page 59)
Pool delays	IDLTRPL (see page 60)

## IDLTR – Transaction Delays

```

22MAR2002 10:47:59 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLTR=====IMSxxx====*=====22MAR2002==10:16:56====MVIMS====D====1
CMD Trancode Intvl IMS      Avg Resp  %Inp %CPU %CPU %I/O %Lck %Lth %Pol %Ot
--- ----- Time- ID          0...+...3 Que  Act  Dly  Dly  Dly  Dly  Dly  Dly
DLZZ      10:16 D19H  3.91  *****+  n/a  18   9   5   0   1   2
THISMINQ  10:16 D19H  1.47  *****  n/a   9   6  25  26   1   0   2
THDAMINQ  10:16 D19H  0.21  **        n/a   9  39  13   0   0   2
THIDMINQ  10:16 D19H  0.10  *         n/a  28  17   3   9   1   2

```

Figure 30. IDLTR View

You can access the IDLTR view by

- Hyperlinking from the UOWs Avg Elapsed field in the DBCDTLGR view
- Typing IDLTR on the command line
- Selecting the name from a list of views with the VIEWS command

A highlighted field column header indicates you can select the field to hyperlink to a more detailed view.

The Avg Resp field shows the average amount of time that units of work associated with each trancode spent in execution. This allows you to quickly determine whether there is a problem occurring in a processing event. The other columns break down the delays that occurred. A high percentage shown by any of these indicates where a potential problem could exist. For example, if the I/O delay percentage is high, the transaction may be waiting for a device. Hyperlinking from %I/O Dly provides a more detailed view of I/O delays to help you determine potential causes.

Hyperlinking from a field in the first column of the IDLTR view displays a menu. This menu serves as a platform to obtain more detailed information about the delays contributing to elapsed time for the scheduled transaction.

For online help, position the cursor on the name of the view or any field, and then press your help key.

## IDLTRIO – I/O Delays by Transaction

```

22MAR2002 09:49:47 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
CwMMAND ==>
CORR WIN ==> 1          ALT WIN ==>
>U1 =IDLTRIO=====IMSxxx====*=====22MAR2002==09:49:47====MVIMS====D====1
CWD Trancode IMS ID Avg   Avg       % I/O Dly   %DB %PSB %DMB %Int %F/L %LWA
--- ----- Resp- Elap-      0...25...50 Dly- Dly- Dly- Dly- Dly-
      THDAMINQ Y18H   0.21  78  13  **          13

```

Figure 31. IDLTRIO View

You can access the IDLTRIO view to see I/O event contributors to transaction elapsed time by hyperlinking from a

- % I/O Dly field in the IDLTR view of transaction delays
- Transaction code in the Trancode column of the IDLTR view of transaction delays, and then selecting the I/O delays option from a menu

This view shows, for each transaction processed, what percentage of elapsed time an I/O event contributed to a transaction’s response. It identifies any I/O activity delays that occurred for

- Database reads and writes
- PSB reads for programs
- DMB reads for a database
- Intent list reads for a program
- Program fetch
- Log Write Ahead calls

Hyperlinking from %DB Dly provides more details about database delays. Hyperlinking from a field in the first column of the IDLTRIO view displays a menu. This menu serves as a platform to obtain more detailed information about the delays contributing to elapsed time.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLTRLH – Latch Delays by Latch

```

22MAR2002 11:35:13 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLTRLH=====IMSxxx====*=====22MAR2002==11:35:12====MVIMS====D====1
CMD Trancode IMS      Latch ID      Avg % Dly      Min Max Confidence PSBName
--- ----- ID      -----      0.....5.....10 %Dly %Dly Level -----
      THIDMINQ X18H    <Misc..>  1 *                          1  1 None      PHIDMINQ

```

Figure 32. IDLTRLH View

You can access the IDLTRLH view by hyperlinking from the

- %Lth Dly field in the IDLTR view of transaction delays
- Trancode field in the IDLLHTR view of latch delays by transaction to see what latch delays contributed to elapsed time.

This view shows the transactions being delayed by latch waits and the effect each latch has on elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about latch delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLTRLK – Lock Delays by Transaction

```
22MAR2002 14:53:48 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>> SCROLL ==>> HALF
CURR WIN ==>> 1 ALT WIN ==>>
>W1 =IDLTRLK=====IMSxxx====*=====22MAR2002==14:53:46====MVIMS====D====1
CMD Trancode IMSID Database DCB RBA/Type Avg % Dly Min Max Confidence
--- ----- Name----- --- ----- 0.....10....20 %Dly %Dly Level
      THIDMINQ Y18H CUSTINDX 1 1 9 ***** 9 9 None
```

Figure 33. IDLTRLK View

You can access the IDLTRLK view by hyperlinking from the % Lck Dly field in the IDLTR view of transaction delays to see which lock delays contributed to elapsed time.

This view shows the transactions being delayed by lock waits and the effect each resource has on elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about lock delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLTR0T – Other Delays by Transaction

```
22MAR2002 10:43:28 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLTR0T=====IMSxxx====*=====22MAR2002==10:43:27====MVIMS====D====1
CMD Trancode IMS ID Avg %          % Other Dly DBIn Misc DynA IRLM DBRC DB2
--- ----- Resp- Elap      0...25...50 Dly- Dly Dly- Dly- Dly- Dly
      THIDMINQ X18H    0.10  54  21 ****                14
```

Figure 34. IDLTR0T View

You can access the IDLTR0T view by hyperlinking from the % Oth Dly field in the IDLTR view of transaction delays to see the effect on elapsed time caused by delays other than those due to I/O activity, pool, latch, or lock waits.

The IDLTR0T view identifies any delays that occurred for

- Database intent, allocation, open, and recovery control
- IRLM
- Command execution
- AO requests
- Fast Path
- Log buffer

Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about transaction delays and response.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLTRPL – Pool Delays by Transaction

```
22MAR2002 09:51:24 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>> SCROLL ==>> HALF
CURR WIN ==>> 1 ALT WIN ==>>
>W1 =IDLTRPL=====IMSxxx====*=====22MAR2002==09:51:24====MVIMS====D====1
CMD Trancode IMS ID Avg % % Pool Dly %DBW %DMB %PSB %PSB %FPC C1s
--- ----- Resp- Elap- 0....25...50 Dly- Dly- Dly- EDly Dly- ---
THIDMINQ Y18H 0.10 54
```

Figure 35. IDLTRPL View

You can access the IDLTRPL view by hyperlinking from the %Pool Dly field in the IDLTR view of transaction delays to see which pool delays contributed to elapsed time.

This view shows, for each transaction processed, what percentage of elapsed time a storage wait for a pool contributed to a transaction's response. It identifies any delays that occurred for the following pool storage:

- DBWP
- DMBP
- PSB
- Extended private area of a PSB pool
- FPCB

Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about pool delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

## Database I/O Delays

Table 5 lists all the views available for database I/O delays. Descriptions of each view follow on the referenced pages.

Table 5. Database I/O Delay Views

View	Name
I/O delays by database	IDLDB (see page 61)
Database I/O delays by data set	IDLDBD (see page 62)
Database I/O delays by IMS	IDLDBI (see page 62)
Database I/O delays by PSB	IDLDBP (see page 63)
Database I/O delays by transaction	IDLDBTR (see page 63)
Database I/O delays by volume	IDLDBV (see page 64)

### IDLDB – I/O Delays by Database

```

22MAR2002 09:20:18 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> HALF
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLDB=====IMSxxx====*=====22MAR2002==09:20:18====MVIMS====D====2
CMD DB Name      %I/O Dly      Min Max VolSer Workload Confidence
-----
    0...15...30 %Dly %Dly ----- Level
    CUSTHDAM    5 **          3  7 BAB326 ALL_IMS  None
    <Misc. .>   1           0  2 <Misc. ALL_IMS  None
  
```

Figure 36. IDLDB View

The IDLDB view shows the databases causing I/O delays and their impact on elapsed time. If the I/O delay percentage is high for a database, you can hyperlink from it to a menu. This menu allows you to choose more detailed delay views to help you determine the cause and impact of database I/O delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLDBD – Database I/O Delays by Data Set

```

22MAR2002 09:38:38 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>> SCROLL ==>> HALF
CURR WIN ==>> 1 ALT WIN ==>>
>W1 =IDLDBD=====IMSxxx====*=====22MAR2002==09:38:37====MVIMS====D====2
CMD DB Name DD Name %I/O Dly Min % Max % VolSer Confidence
-----
0....15...30 Dly-- Dly-- ----- Level
<Misc..> <Misc..> 1 0 2 <Misc. None
CUSTHDAM CUSTHDAM 5 ** 3 7 BAB326 None

```

Figure 37. IDLDBD View

The IDLDBD view breaks down the database I/O delays by the data sets used. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about database I/O delays.

**Note:** For Fast Path, the DD Name field shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLDBI – Database I/O Delays by IMS

```

22MAR2002 09:32:19 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>> SCROLL ==>> HALF
CURR WIN ==>> 1 ALT WIN ==>>
>W1 =IDLDBI=====IMSxxx====*=====22MAR2002==09:32:18====MVIMS====D====2
CMD DB Name IMS ID %I/O Dly Min Max VolSer Confidence
-----
0....15...30 %Dly %Dly ----- Level
<Misc..> X18H 1 0 2 <Misc. None
CUSTHDAM X18H 5 ** 3 7 BAB326 None

```

Figure 38. IDLDBI View

The IDLDBI view shows the databases causing I/O delays and the impact on the IMS using that database. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about database I/O delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLDBP – Database I/O Delays by PSB

```

22MAR2002 09:22:04 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                     SCROLL ==>> HALF
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLDBP=====IMSxxx====*=====22MAR2002==09:22:04====MVIMS====D====5
CMD DB Name  PSBName      %I/O Dly      Min Max  VolSer Confidence
---  -
          0....15...30 %Dly %Dly ----- Level
<Misc.> PHIDMUPD      1              1  1 <Misc. None
<Misc.> PHISMINQ      2 *            2  2 <Misc. None
<Misc.> PHISMUPD      0              0  0 <Misc. None
CUSTHDAM PHDAMINQ    7 ***          7  7 BAB326 None
CUSTHDAM PHDAMUPD    3 *            3  3 BAB326 None

```

Figure 39. IDLDBP View

The IDLDBP view shows the databases causing I/O delays and the impact on the PSBs using them. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about database I/O delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLDBTR – Database I/O Delays by Transaction

```

22MAR2002 09:53:03 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                     SCROLL ==>> HALF
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLDBTR=====IMSxxx====*=====22MAR2002==09:53:02====MVIMS====D====5
CMD DB Name  Trancode     %I/O Dly      Min Max  PSBName Cls VolSer Confidence
---  -
          0....15...30 %Dly %Dly ----- --- ----- Level
<Misc.> THIDMUPD      1              1  1 PHIDMUPD <Misc. None
<Misc.> THISMINQ      2 *            2  2 PHISMINQ <Misc. None
<Misc.> THISMUPD      0              0  0 PHISMUPD <Misc. None
CUSTHDAM THDAMINQ    7 ***          7  7 PHDAMINQ BAB326 None
CUSTHDAM THDAMUPD    3 *            3  3 PHDAMUPD BAB326 None

```

Figure 40. IDLDBTR View

The IDLDBTR view shows the databases causing I/O delays and the impact on each transaction using them. Hyperlinking from a field in the first column of the IDLDBTR view displays a menu. You can use this menu to obtain more detailed information about database I/O delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLDBV – Database I/O Delays by Volume

```
22MAR2002 09:37:39 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> HALF
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLDBV=====IMSxxx====*=====22MAR2002==09:37:39====MVIMS====D====1
CMD DB Name VolSer      %I/O Dly      Min Max Confidence
--- -----
    CUSTHDAM BAB326  5 **                3   7 None
```

Figure 41. IDLDBV View

You can access the IDLDBV view by hyperlinking from a VolSer field in the IDLDB view of I/O delays by database. This view breaks down the database I/O delays by the volumes used. You can use it to see if a volume is the cause of a database I/O delay. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to obtain more detailed information about database I/O delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

## Data Set I/O Delays

Table 6 lists all the views available for data set I/O delays. Descriptions of each view follow on the referenced pages.

Table 6. Data Set I/O Delay Views

View	Name
I/O delays by data set	IDLDD
Data set I/O delays by IMS	IDLDDI (see page 66)
Data set I/O delays by PSB	IDLDDP (see page 66)
Data set I/O delays by transaction	IDLDDTR (see page 67)
Data set I/O delays by volume	IDLDDV (see page 67)

### IDLDD – I/O Delays by Data Set

```

22MAR2002 09:42:23 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLDD=====IMSxxx====*=====22MAR2002==09:42:23====MVIMS====D====2
CMD DD Name      %I/O Dly   Min  Max  Vo1Ser Confidence
---
CUSTHDAM      5  **          3   7  BAB326  None
<Misc..>      1              0   2  <Misc.  None
  
```

Figure 42. IDLDD View

The IDLDD view shows the data sets causing I/O delays and their impact on elapsed time. Hyperlinking from a field in the first column of this view displays a menu. This menu allows you to choose more detailed delay views to help you determine what is causing a long data set I/O delay.

**Note:** For Fast Path, DD Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLDDI – Data Set I/O Delays by IMS

```

22MAR2002 09:57:24 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLDDI=====IMSxxx====*=====22MAR2002==09:57:10====MVIMS====D====2
CMD DD Name  IMS ID    %I/O Dly      Min Max  VolSer Confidence
-----
<Misc.> X18H    1              0...15...30 %Dly %Dly ----- Level
CUSTHDAM X18H    5 **           3      7  BAB326 None

```

Figure 43. IDLDDI View

The IDLDDI view shows the data sets causing I/O delays and the impact on the IMS using that data set. For Fast Path, DD Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLDDP – Data Set I/O Delays by PSB

```

22MAR2002 09:56:08 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLDDP=====IMSxxx====*=====22MAR2002==09:55:40====MVIMS====D====5
CMD DD Name  PSBName    %I/O Dly      Min Max  VolSer Confidence
-----
<Misc.> PHIDMUPD  1              1      1  <Misc. None
<Misc.> PHISMINQ  2 **           2      2  <Misc. None
<Misc.> PHISMUPD  0              0      0  <Misc. None
CUSTHDAM PHDAMINQ  7 ***         7      7  BAB326 None
CUSTHDAM PHDAMUPD  3 **           3      3  BAB326 None

```

Figure 44. IDLDDP View

The IDLDDP view shows the data sets causing I/O delays and the impact on the PSBs using them. For Fast Path, DD Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLDDTR – Data Set I/O Delays by Transaction

```

22MAR2002 09:54:01 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                     SCROLL ==>> HALF
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLDDTR=====IMSxxx====*=====22MAR2002==09:54:00====MVIMS====D====5
CMD DD Name  Trancode   %I/O Dly      Min Max  VolSer Confidence
---  - - - - - - - - - - 0...15...30 %Dly %Dly  - - - - - Level
  <Misc.> THIDMUPD    1              1   1  <Misc. None
  <Misc.> THISMINQ    2 *             2   2  <Misc. None
  <Misc.> THISMUPD    0              0   0  <Misc. None
  CUSTHDAM THDAMINQ  7 ***          7   7  BAB326 None
  CUSTHDAM THDAMUPD  3 *             3   3  BAB326 None

```

Figure 45. IDLDDTR View

The IDLDDTR view shows the data sets causing I/O delays and the impact on each transaction using them. For Fast Path, DD Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLDDV – Data Set I/O Delays by Volume

```

22MAR2002 09:50:23 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                     SCROLL ==>> HALF
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLDDV=====IMSxxx====*=====22MAR2002==09:50:23====MVIMS====D====1
CMD DD Name  VolSer     %I/O Dly      Min Max  Confidence
---  - - - - - - - - - - 0...15...30 %Dly %Dly  Level
  CUSTHDAM BAB326    5 **          3   7  None

```

Figure 46. IDLDDV View

You can access the IDLDDV view by hyperlinking from the VolSer field in the

- IDLDD view of I/O delays by data set
- IDLDDI view of data set I/O delays by IMS
- IDLDDP view of data set I/O delays by PSB
- IDLDDTR view of data set I/O delays by transaction

This view breaks down the data sets causing I/O delays by the volumes used. You can use the IDLDDV view to see if a volume is the cause of a data set I/O delay. For Fast Path, DD Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

## Volume I/O Delays

Table 7 lists all the views available for volume I/O delays. Descriptions of each view follow on the referenced pages.

Table 7. Volume I/O Delay Views

View	Name
Major volume I/O delays	IDLVL (below)
Volume I/O delays by database	IDLVLDB (see page 69)
Volume I/O delays by data set	IDLVLDD (see page 69)
Volume I/O delays by IMS	IDLVLI (see page 70)
Volume I/O delays by PSB	IDLVLP (see page 70)
Volume I/O delays by transaction	IDLVLTR (see page 71)

### IDLVL – I/O Delays by Volume

```

22MAR2002 09:51:58 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLVL=====IMSxxx====*=====22MAR2002==09:51:58====MVIMS====D====2
CMD Vo1Ser    %I/O D1y    Min Max Confidence
--- ---
    BAB326    5  **          3   7 None
    <Misc.    1           0   2 None
  
```

Figure 47. IDLVL View

The IDLVL view shows the volumes causing I/O delays and their impact on elapsed time. Hyperlinking from a field in the first column of this view displays a menu. This menu allows you to choose more detailed delay views to help you determine what is causing a volume I/O delay.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLVLDB – Volume I/O Delays by Database

```
22MAR2002 13:35:38 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> HALF
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLVLDB=====IMSxxx=====22MAR2002==11:30:01====MVIMS====D====1
CMD Vo1Ser DB Name      %I/O Dly      Min Max Confidence
-----
      0...15...30 %Dly %Dly Level
      BAB326 CUSTHDAM    7 ***                7 7 Medium
```

Figure 48. IDLVLDB View

The IDLVLDB view shows the volumes causing I/O delays and the impact on the databases using them.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLVLDD – Volume I/O Delays by Data Set

```
22MAR2002 18:20:31 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> HALF
CURR WIN ==> 1          ALT WIN ==>
W1 =IDLVLDD=====SYSB=====22MAR2002==18:20:31====MVIMS====D====5
CMD Vo1Ser DD Name      %I/O Dly      Min Max Confidence
-----
      0...15...30 %Dly %Dly Level
      BAB321 CUSTDD01    8 ***                3 10 High
      BAB321 CUSTDD03    7 ***                7 7 Medium
      BAB322 CUSTDD02    5 **                 2 8 High
      BAB322 CUSTDD11    8 ***                8 8 Medium
      BAB323 CUSTDD01    0                    0 0 High
```

Figure 49. IDLVLDD View

The IDLVLDD view shows the volumes causing I/O delays and the impact on the data sets they use. You can use it to see if a particular data set is causing the database delay. For Fast Path, DD Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLVLI – Volume I/O Delays by IMS

```

22MAR2002 10:02:13 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLVLI=====IMSxxx====*=====22MAR2002==10:02:11====MVIMS====D====2
CMD VolSer IMS ID      %I/O Dly      Min Max Confidence
-----
<Misc. X18H      1          0      2 None
BAB326 X18H      5 **          3      7 None

```

Figure 50. IDLVLI View

The IDLVLI view shows the volumes causing I/O delays and the impact on the IMS using a volume.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLVL P – Volume I/O Delays by PSB

```

22MAR2002 10:00:50 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLVL P=====IMSxxx====*=====22MAR2002==10:00:48====MVIMS====D====5
CMD VolSer PSBName     %I/O Dly      Min Max Confidence
-----
<Misc. PHIDMUPD    1          1      1 None
<Misc. PHISMING    2 *          2      2 None
<Misc. PHISMUPD    0          0      0 None
BAB326 PHDAMING    7 ***        7      7 None
BAB326 PHDAMUPD    3 *          3      3 None

```

Figure 51. IDLVLP View

The IDLVLP view shows the volumes causing I/O delays and the impact on the PSBs using them.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLVLTR – Volume I/O Delays by Transaction

```

22MAR2002 10:00:50 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                     SCROLL ==>> HALF
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLVLP=====IMSxxx====*=====22MAR2002==10:00:48====MVIMS====D====5
CMD VolSer PSBName      %I/O Dly      Min Max Confidence
---  -----  -----  0....15...30 %Dly %Dly Level
<Misc. PHIDMUPD      1          1  1 None
<Misc. PHISMINQ      2 *          2  2 None
<Misc. PHISMUPD      0          0  0 None
BAB326 PHDAMINQ      7 ***        7  7 None
BAB326 PHDAMUPD      3 *          3  3 None

```

Figure 52. IDLVLTR View

The IDLVLTR view shows the volumes causing I/O delays and the impact on each transaction using them.

For more information, you can position the cursor on any field in this view, and then press your help key.

## Lock Delays

Table 8 lists all the views available for lock delays. Descriptions of each view follow on the referenced pages.

Table 8. Lock Delay Views

View	Name
Lock delays	IDLLK (below)
Lock delays by IMS	IDLLKI (see page 73)
Lock delays by PSB	IDLLKP (see page 73)
Lock delays by transaction	IDLLKTR (see page 74)

## IDLLK – Lock Delays

```

22MAR2002 10:00:50 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                     SCROLL ==>> HALF
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLVLPE=====IMSxxx====*=====22MAR2002==10:00:48====MVIMS====D====5
CMD VolSer PSBName      %I/O Dly      Min Max Confidence
-----
0...15...30 %Dly %Dly Level
<Misc. PHIDMUPD 1          1 1 None
<Misc. PHISMINQ 2 *        2 2 None
<Misc. PHISMUPD 0          0 0 None
BAB326 PHDAMINQ 7 ***      7 7 None
BAB326 PHDAMUPD 3 *        3 3 None

```

Figure 53. IDLLK View

The IDLLK view shows the locks causing transaction delays and their impact on elapsed time. You can hyperlink from a field in the first column to a menu. This menu allows you to choose more detailed delay views to help you determine what is causing a lock delay.

**Note:** For Fast Path, Database Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLLKI – Lock Delays by IMS

```

22MAR2002 10:00:29 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> HALF
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLLKI=====IMSxxx====*=====22MAR2002==10:00:29====MVIMS====D====4
CMD Database DCB RBA/Type IMSID      Avg % Dly      Min Max Confidence
--- Name-----
<Misc..>          X18H      1 *
CUSTHISM      1      E X18H      15 *****
CUSTHISM      1      12 X18H      19 *****
CUSTINDX      1      1 X18H      9 *****

```

Figure 54. IDLLKI View

The IDLLKI view shows the locks causing delays and the impact on an IMS. For Fast Path, Database Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLLKP – Lock Delays by PSB

```

22MAR2002 10:00:29 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> HALF
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDLLKI=====IMSxxx====*=====22MAR2002==10:00:29====MVIMS====D====4
CMD Database DCB RBA/Type IMSID      Avg % Dly      Min Max Confidence
--- Name-----
<Misc..>          X18H      1 *
CUSTHISM      1      E X18H      15 *****
CUSTHISM      1      12 X18H      19 *****
CUSTINDX      1      1 X18H      9 *****

```

Figure 55. IDLLKP View

You can access the IDLLKP view by hyperlinking from a PSBName field in the IDLLKTR view of lock delays by transaction. The IDLLKP view shows the locks causing delays and the impact on a PSB. For Fast Path, Database Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLLKTR – Lock Delays by Transaction

```

22MAR2002 10:00:29 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLLKI=====IMSxxx====*=====22MAR2002==10:00:29====MVIMS====D====4
CMD Database DCB RBA/Type IMSID      Avg % Dly      Min Max Confidence
--- Name-----
<Misc..>          X18H      1 *
CUSTHISM      1      E X18H      15 *****
CUSTHISM      1      12 X18H      19 *****
CUSTINDX      1      1 X18H      9 *****

```

Figure 56. IDLLKTR View

The IDLLKTR view shows the lock causing delays and the impact on each transaction. For Fast Path, Database Name shows the Fast Path area.

For more information, you can position the cursor on any field in this view, and then press your help key.

## Latch Delays

Table 9 lists all the views available for latch delays. Descriptions of each view follow on the referenced pages.

Table 9. Latch Delay Views

View	Name
Latch delays	IDLLH (below)
Latch delays by IMS	IDLLHI (see page 76)
Latch delays by PSB	IDLLHP (see page 76)
Latch delays by transaction	IDLLHTR (see page 77)

### IDLLH – Latch Delays

```

22MAR2002 10:01:15 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> HALF
CURR WIN ==> 1          ALT WIN ==>
W1 =IDLLH=====IMSxxx====*=====22MAR2002==10:01:15====MVIMS====D====1
CMD Latch      Avg % Dly      Min Max Confidence
--- ID-----  0.....5.....10 %Dly %Dly Level
<Misc..> 1 *                0    2 None

```

Figure 57. IDLLH View

The IDLLH view shows the latches causing transaction delays and their impact on elapsed time. You can hyperlink from a field in the first column to a menu. This menu allows you to choose more detailed delay views to help you determine what is causing a latch delay.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLLHI – Latch Delays by IMS

```
22MAR2002 10:04:21 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLLHI=====IMSxxx====*=====22MAR2002==10:04:20====MVIMS====D====1
CMD Latch IMS Avg % Dly Min Max Confidence
--- ID----- ID----- 0.....5.....10 %Dly %Dly Level
<Misc..> Y18H 1 * 0 2 None
```

Figure 58. IDLLHI View

You can access the IDLLHI view by hyperlinking from an IMS ID field in the IDLLHTR view of latch delays by transaction. This view shows the latches causing delays and the impact on an IMS.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLLHP – Latch Delays by PSB

```
22MAR2002 10:03:16 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==> SCROLL ==> HALF
CURR WIN ==> 1 ALT WIN ==>
>W1 =IDLLHP=====IMSxxx====*=====22MAR2002==10:03:16====MVIMS====D====1
CMD Latch PSBName Avg % Dly Min Max Confidence
--- ID----- ID----- 0.....5.....10 %Dly %Dly Level
<Misc..> PHDAMINQ 2 ** 2 2 None
```

Figure 59. IDLLHP View

You can access the IDLLHP view by hyperlinking from a PSBName field in the

- IDLLHTR view of latch delays by transaction
- IDLTRLH view of latch delays by latch

This view shows the latches causing delays and the impact on a PSB.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IDLLHTR – Latch Delays by Transaction

```

22MAR2002 11:32:25 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDLLHTR=====IMSxxx====*=====22MAR2002==11:30:54====MVIMS====D====4
CMD Latch   Trancode   Avg % Dly   Min Max   IMS   PSBName   Cls Confidence
--- ID-----          0.....5.....10 %Dly %Dly ID   ----- --- Level
<Misc.> THDAMINQ   2 **                2   2 Y18H PHDAMINQ   None
<Misc.> THDAMUPD   1 *                  1   1 Y18H PHDAMUPD   None
<Misc.> THIDMINQ   1 *                  1   1 Y18H PHIDMINQ   None
<Misc.> THISMUPD   0                    0   0 Y18H PHISMUPD   None

```

Figure 60. IDLLHTR View

The IDLLHTR view shows the latches causing delays and the impact on each transaction.

For more information, you can position the cursor on any field in this view, and then press your help key.

---

## Views for UOW Elapsed Time Analysis

This section lists all the views available to help you identify the unit of work processing events that are contributing to unit of work elapsed time. The views are classified into the components of transaction flow through IMS.

Measured data is displayed by these views in textual form, graphical form, or both. Scrolling right displays more data for that view. You can restrict view presentation by context, scope, or filters. (To see which restriction categories apply to a view, position the cursor on the view name on the window information line within the view, and then press your help key.)

To analyze transaction response, start with the IFCTR view. This view allows you to

- View processing events for all transactions
- See the IMS processing events that contributed to each transaction's elapsed time
- Determine where transactions spend their time during IMS processing

Within the IFCTR view, select a trancode and then hyperlink from it to an Object Easy Menu. The Object Easy Menu provides you with the following view options:

- Transaction processing events relative to DBCTL
- Workload processing events
- Application
- DL/I
- DL/I calls
- Sync point
- ROLS
- Scheduling

As described in the *Using MAINVIEW* manual, you can customize views and create screens that include several views to meet your site's needs.

## IMS Processing Events

Table 10 lists all the views available for IMS processing events. Descriptions of each view follow on the referenced pages.

Table 10. IMS Processing Event Views

<b>View</b>	<b>Name</b>
Major IMS processing events	IFCTR (see page 80)
Application	IFCTRA (see page 81)
DL/I	IFCTRD (see page 82)
DL/I calls	IFCTRI (see page 83)
Sync point	IFCTRP (see page 84)
ROLS	IFCTRR (see page 85)
Scheduling	IFCTRS (see page 86)

## IFCTR – Processing Events by Transaction

```

22MAR2002 10:44:43 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IFCTR=====IMSxxx====*=====22MAR2002==10:16:56====MVIMS====D====1
CMD Trancode Intvl IMS Avg Avg %InputQ Avg %Elapse Avg % Avg %
--- ----- Time- ID Resp 0.....50...100 0.....50...100 App1 DLI
DLZZ 10:16 D19H 3.91 n/a 100 ***** 24 17
DLZZ2 10:16 D19H 3.43 n/a 100 ***** 47 13
DLZZ3 10:16 D19H 3.24 n/a 100 ***** 32 11
DLZZ 10:16 D19H 3.91 n/a 100 ***** 24 17

```

Figure 61. IFCTR View

You can access the IFCTR view by

- Hyperlinking from the Tran Processing option of the EZIMS or EZIFAST menu
- Typing the view name on the command line
- Typing VIEWS, and then selecting IFCTR from the list of views

A highlighted field column header indicates you can select the field to hyperlink to a more detailed view.

The Avg Resp field shows the average amount of time that units of work associated with each tranocode spent in execution, which allows you to quickly determine whether there is a problem occurring in a processing event (%Elap). The other columns break down the events that occurred as IMS processed the transaction. A high percentage shown by any of these events indicates where a potential problem could be. For example, if Avg Appl is high, you can hyperlink to a view of application processing for that transaction to see what process may be contributing to this event.

Hyperlinking from a field in the first column of the IFCTR view displays a menu. This menu serves as a platform to obtain more detailed information about the IMS processing events contributing to elapsed time.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IFCTRA – Application by Transaction

```
22MAR2002 10:32:01 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> HALF
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IFCTRA=====IMSxxx====*=====22MAR2002==10:32:01====MVIMS====D====1
CMD Trancode IMS Avg      Avg % Appl      %CPU %CPU %I/O %F/L %SVC %0th
--- ----- ID  Resp      0.....25.....50 Act  D1y  D1y  D1y  D1y  D1y
      TDRIVER Y18H 1053. 27 *****          6    2          16    2
```

Figure 62. IFCTRA View

You can access the IFCTRA view by

- Hyperlinking from the Avg % Appl field in the IFCTR view of IMS processing events
- Selecting it as a menu option
- Typing its name on the command line

This view shows the average amount of time a transaction spent in application processing. It shows where time was spent, such as waiting for CPU to be available (%CPU D1y) or program fetch and load delay (%F/L D1y), and its impact on transaction elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IFCTRD – DL/I by Transaction

```
22MAR2002 05:34:07 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==> SCROLL ==> CSR
CURR WIN ==> 1 ALT WIN ==>
>W1=IFCTRD=====IMSxxx==*=====22MAR2002==05:34:07====MVIMS====D====1
CMD Trancode IMS Avg % Avg DLI Avg% Avg% Avg% Confidence
--- ----- ID Resp 0.....25.....50 Ca11 ROLS Sync Level
TDRIVER Y18H 1053. 73 *****+ 20 53 High
```

Figure 63. IFCTRD View

You can access the IFCTRD view by

- Hyperlinking from the Avg % DLI field in the IFCTR view of IMS processing events
- Selecting it as a menu option
- Typing its name on the command line

This view shows the average amount of time a transaction spent in DL/I execution. It shows where time was spent and its impact on transaction elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IFCTRI – DL/I Calls by Transaction

```
22MAR2002 10:46:05 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                     SCROLL ==>> HALF
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IFCTRI=====IMSxxx====*=====22MAR2002==10:46:05====MVIMS====D====1
CMD Trancode IMS Avg      Avg % DLI          %CPU %CPU %I/O %Lck %Lch %0th
--- ----- ID  Resp      0.....25.....50 Act  D1y  D1y  D1y  D1y  D1y
      TDRIVER Y18H 1053.  20 *****                6   9                0   5
```

Figure 64. IFCTRI View

You can access the IFCTRI view by

- Hyperlinking from the Avg % Call field in the IFCTRD view of DL/I execution events
- Selecting it as a menu option
- Typing its name on the command line

This view shows the average amount of time a transaction spent in DL/I call processing. It shows where time was spent and its impact on transaction elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IFCTRP – Sync Point by Transaction

```
22MAR2002 10:50:38 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> HALF
CURR WIN ==> 1          ALT WIN ==>
>W1 =IFCTRP=====IMSxxx====*=====22MAR2002==10:50:38====MVIMS====D====1
CMD Trancode IMS Avg      Avg %Sync          %CPU %CPU %I/O %Lck %Lch %0th
--- ----- ID  Resp    0.....15.....30 Act  D1y  D1y  D1y  D1y  D1y
      TDRIVER  Y18H 1053.  53 *****+          5    0                                48
```

Figure 65. IFCTRP View

You can access the IFCTRP view by

- Hyperlinking from the Avg% Sync field in the IFCTRD view of DL/I processing events
- Selecting it as a menu option
- Typing its name on the command line

This view shows the average amount of time a transaction spent in sync point processing. It shows where time was spent by the IMS sync point manager in acquiring resources and the impact on transaction elapsed time by that event. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IFCTRR – ROLS by Transaction

```
22MAR2002 10:52:34 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> HALF
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IFCTRR=====IMSxxx====*=====22MAR2002==10:52:34====MVIMS====D====1
CMD Trancode IMS Avg      Avg % ROLS      %CPU %CPU %I/O %Lck %Lch %0th
--- ----- ID  Resp      0.....25.....50 Act D1y  D1y  D1y  D1y  D1y
      THISMINQ Y18H 0.87  19 *****                14   1      4
```

Figure 66. IFCTRR View

You can access the IFCTRR view by

- Hyperlinking from the Avg% ROLS field in the IFCTRD view of DL/I processing events
- Selecting it as a menu option
- Typing its name on the command line

This view shows the average amount of time a transaction spent in ROLS processing. It shows where time was spent and its impact on transaction elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IFCTRS – Scheduling by Transaction

```
22MAR2002 10:30:10 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> HALF
CURR WIN ==> 1          ALT WIN ==>
>W1 =IFCTRS=====IMSxxx====*=====22MAR2002==10:30:10====MVIMS====D====1
CMD Trancode IMS Avg      Avg % Sched      %CPU %CPU %I/O %Po1 %Lch %0th
--- ----- ID  Resp    0.....15.....30 Act  D1y  D1y  D1y  D1y  D1y
      THIDMINQ Y18H 0.17  8 ****              1   6              0   2
```

Figure 67. IFCTRS View

You can access the IFCTRS view by

- Hyperlinking from the Trancode field in the IFCTR view of IMS processing events and selecting it as a menu option
- Hyperlinking to it from the IFCTRQ view
- Typing its name on the command line

This view shows the average amount of time a transaction spent in scheduling. It shows where time was spent by the IMS scheduler in acquiring resources and its impact on transaction elapsed time. Hyperlinking from a field in the first column of this view displays a menu. You can use this menu to see other detailed information about transaction processing events and delays.

For more information, you can position the cursor on any field in this view, and then press your help key.

---

## Chapter 6. Examining a User Application

This chapter shows you how to use transaction trace views to examine a user application. These views can show you problem trends with a user application, transaction, or program.

These views help you identify the causes of problem trends and solve performance problems detected by

- MAINVIEW VistaPoint
- Transaction response time and delay analysis views
- Your users

The following transaction trace views and menu are provided:

<b>View name</b>	<b>Description</b>
<b>ITALIST</b>	Trace List
<b>ITALISTD</b>	Trace Detail
<b>ITASUM</b>	Trace Summary
<b>ITASUMI</b>	Trace Summary by IMS
<b>ITASUMIP</b>	Trace Summary by IMS by PSB
<b>ITASUMIT</b>	Trace Summary by IMS by Transaction
<b>ITASUMP</b>	Trace Summary by PSB
<b>ITASUMPI</b>	Trace Summary by PSB by IMS
<b>ITASUMZ</b>	Trace Summary by Transaction
<b>ITASUMTI</b>	Trace Summary by Transaction by IMS
<b>ITASUMU</b>	Trace Summary by User
<b>ITASUMUT</b>	Trace Summary by User by Transaction
<b>ITAQUERY</b>	Trace Query
<b>ITALMR</b>	Trace Menu
<b>ITAMS</b>	Trace Menu
<b>ITAMI</b>	Trace Menu
<b>ITAMP</b>	Trace Menu
<b>ITAMT</b>	Trace Menu

---

## Accessing the Transaction Trace Views

You can hyperlink to the transaction trace views from the following Easy Menus:

- IMS Fast Menus Utility popup (EZIFAST and EZIFASTR)
- IMS Sysplex Easy Menus (EZISSI and EZISSIR)
- IMS DBA Easy Menus (EZIDBA and EZIDBAR)

You can also display the views by

- Entering a transaction trace view name on a command line
- Entering VIEWS on the command line and selecting the view from the list of views
- Entering MAIN on the command line, selecting TRACES, and selecting the ITALIST view

The transaction trace menus are not included on the VIEWS list. The menus are accessed by hyperlinks from the trace views.

## ITALIST – Trace List View

The Trace List view (ITALIST), shown in Figure 68, provides a list of trace directory entries. The view displays a separate row for each currently active trace buffer, each currently active log data set, and each inactive log data set.

All rows associated with the same trace are displayed together. Each row shows the trace ID and type, the data type, trace title, trace start and end date and time for inactive traces, and the target jobname. The Data Type field indicates if the row is for a current buffer (Curr) or for trace records in a history log data set (Hist).

You can scroll right to view additional information, such as the user ID and the trace status.

```

22MAR2002 07:39:52 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ITALIST=====IMSxxx====*=====22MAR2002==07:39:52====MVIMS====D====4
Trace      Data
Id         Type Type Trace Title      Start   Start End       End       Target
Date      Time Date      Time      Jobname
DETAIL    Det  Curr  WORKLOAD TRACE    22MAR2002 08:03 -Active-      I8A333CT
TRANHIST  Sum  Curr  WORKLOAD TRACE    22MAR2002 08:03 -Active-      I8A333CT
ABBREV    Abr  Hist  WORKLOAD TRACE    22MAR2002 11:37 -Incmpl-     IMSMAINT
HISTORY   Det  Hist  WORKLOAD TRACE    16MAR2002 09:08 16MAR2002 09:10 I8A333CT
HISTORY   Det  Hist  WORKLOAD TRACE    16MAR2002 09:06 16MAR2002 09:09 I8A333CT
HISTORY   Det  Hist  WORKLOAD TRACE    14MAR2002 09:04 14MAR2002 09:07 I8A333CT
SUMMARY   Sum  Hist  WORKLOAD TRACE    14MAR2002 11:11 14MAR2002 11:13 I8A333CT
  
```

Figure 68. ITALIST View

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and then press your help key.

The following hyperlinks are provided in the ITALIST view.

Hyperlink from	To see
Trace Id	Trace Menu (ITALMR), which provides hyperlinks for examining trace data set details and for viewing a summary of all occurrences of a selected transaction and where you can access services for managing active and history traces and for executing trace query requests
Start Time	Trace Detail view (ITALISTD), which displays a summarization of the trace records in the selected trace

## ITALISTD – Trace Detail View

The Trace Detail view, shown in Figure 69, summarizes the selected trace in fifteen-minute intervals. It provides statistics showing:

- How many trace records were written during the time period
- Averages for response time, elapsed time, input queue time, database calls, and I/O
- Maximums and minimums for response time, elapsed time, and input queue time and shows trace ID and type

You can scroll right to view additional information, such as minimum and maximum response time and input queue time.

You can access the ITALISTD view by hyperlinking to it from the Start Time field in the ITALIST view or by selecting View by Time Period in the ITALMR Trace Menu.

```

22MAR2002 16:53:41 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> HALF
CURR WIN ==> 1          ALT WIN ==>
>W1 =ITALISTD=====IMSxxx====*=====22MAR2002==16:51:45====MVIMS====D====4
  End      Start End  Nbr of   Avg   Avg   Avg   Avg   Avg   Avg Abend
- Date     Time  Time  Trans  Resp  InpQ  Elap  DL/I   I/O  DB2 Count
  22MAR2002 15:15 15:30   949  0.131 0.028 0.103    4    1    0    0

```

Figure 69. ITALISTD View

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and then press your help key.

The following hyperlinks are provided in the ITALISTD view.

Hyperlink from	To see
Nbr of Trans	Trace Summary by Transaction view (ITASUMZ), which shows transactions summarized by transaction code
Avg fields	Trace Summary view (ITASUM), which shows transactions that are worse than average
Abend Count	Trace Summary view (ITASUM), which shows only the transactions that abended
Min fields	Trace Summary view (ITASUM), which shows transactions that are better than average
Trace Id, Dataset Id	Trace Query Request view (ITAQUERY), where you can create and execute a query against trace data in a trace data set

## ITASUM – Trace Entries

The Trace Entries view (ITASUM), shown in Figure 70, shows specific occurrences of a transaction and includes transaction run details, such as start time, user ID, message switch, and completion code.

You can access the ITASUM view by hyperlinking to it from the Cnt field in the ITASUMZ view.

```

22MAR2002 09:33:19 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ITASUMZ==ITASUM==IMSxxx==*=====22MAR2002==09:29:36====MVIMS====D====5
      Trn  Resps Elapsd DLI  DLI  DB2  Total DLI  DB2  End
-- Trncode Type Time  Time  Calls I/O  Calls CPU  CPU  CPU  Time
   THIDMINQ MPP  2.040  1.960    7      0.0064 0.0031 0.000 10:07:02.84
   THIDMINQ MPP  1.240  1.230    7      0.0064 0.0033 0.000 10:07:05.74
   THIDMINQ MPP  1.270  1.250    6      0.0063 0.0053 0.000 10:07:15.47
   THIDMINQ MPP  1.270  1.200    9      0.0166 0.0041 0.000 10:07:23.27
   THIDMINQ MPP  1.380  1.370    9      0.0116 0.0069 0.000 10:07:55.78
  
```

Figure 70. ITASUM View

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and then press your help key.

The following hyperlinks are provided in the ITASUM view.

Hyperlink from	To see
Trncode	Trace Menu (ITAMS), which provides hyperlinks for changing form filters and changing a query filter or time
Trn Type	Summary Trace Data Display (STRAC), which summarizes DC call activity, DL/I call activity, Fast Path activity, DB2 activity, and CPU times for a selected transaction instance

## ITAQUERY – Trace Query View

You can use the Trace Query view (ITAQUERY), shown in Figure 71, to create and execute a query against the trace data in a trace data set. Trace data is selected by the trace ID and the data set name ID (or token) in the Traceid,DsnId field. The data retrieved is displayed in the ITASUMZ view.

In the Command field, you must enter either R to RUN your query request or Q to modify the QWHERE clause used by the query. QWHERE allows you to create complex expressions and use other trace filter parameters.

From this view you can specify other trace query parameters for trace ID, data set ID, transaction code, PSB name, and thresholds for response and elapsed time

You can access the ITAQUERY view by hyperlinking to it from the ITALMR Trace Menu, by hyperlinking to it from the Trace Id, Dataset Id field in the ITALISTD view, or by entering the view name on the command line.

```
22MAR2002 16:46:33 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> HALF
CURR WIN ==> 1          ALT WIN ==>
W1 =ITAQUERY=====IMSxxx====*=====22MAR2002==16:46:31====MVIMS====D====1
                                Trace Query Request

Command.....(required)                    R- Run, Q- Edit QWHERE
Traceid,DsnId (required) ABR3,32

Time Period..... 21MAY2002 12:09 1I        Update with TIME command
Workload Name..... *
Transaction Code..... *
PSB Name..... *
Response Time      >= 1.0
Elapsed Time       >= 0.5
```

Figure 71. ITAQUERY View

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and then press your help key.

## ITASUMZ – Trace Summary by Transaction View

The Trace Summary by Transaction view (ITASUMZ), shown in Figure 72, displays transactions summarized by transaction code, and it provides transaction execution details.

You can hyperlink from the Trancode field to access the Trace Object Menu (ITAMT). From the menu, you can select other trace summary grouping options for further analysis, refine a query request, or select trace data from a different time period.

You can access the ITASUMZ view by requesting a trace query with the ITAQUERY view, by hyperlinking to it from the ITALMR Trace Menu, or by entering the view name on the command line.

```

22MAR2002 14:01:46 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
>W1 =ITASUMZ=====IMSxxx====*=====22MAR2002==10:45:01====MVIMS====D====3
      Trn  Resps  Input Elapsd  DLI  DLI  DB2  Total  DLI  DB2
-- Trancode Cnt Type Time   Queue Time  Calls I/O  Calls CPU  CPU  CPU
  THIDMINQ 100 MPP  0.099 0.099 0.056   6   0    0.0101 0.0054 0.000
  THIDMUPD 100 MPP  0.079 0.079 0.035   2   0    0.0056 0.0004 0.000
  THISMINQ 100 MPP  0.191 0.191 0.144  10   0    0.0133 0.0077 0.000
  
```

Figure 72. ITASUMZ View

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and then press your help key.

The following hyperlink is provided in the ITASUMZ view.

Hyperlink from	To see
Cnt	Trace Summary view (ITASUM), which shows average transaction occurrences for a given time period

## Transaction Trace Easy Object Menus

Five Easy Object menus are provided to filter transaction trace information for a selected object.

The ITALMR menu, shown in Figure 73, provides hyperlinks for examining trace data set details and for viewing a summary of all occurrences of a selected transaction. The menu also provides access to services for managing active and history traces and for executing trace query requests.

You can access the ITALMR menu by hyperlinking on the Trace Id field in the Trace List view (ITALIST).

```
22MAR2002 14:01:46 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                     SCROLL ==>> CSR
CURR WIN ==>> 1          ALT WIN ==>>
W1 =ITALIST==ITALMR==(ALL=====*)22MAR2002==12:23:18====MVIMS====D====1
                                Trace Menu
                                Timeframe - Realtime

Trace Id ->  BPK0757
Trace Title ->  WORKLOAD TRACE
Trace Type ->  Detail
Data type ->  History
Start Date ->  22MAR2002
Start Time ->  10:31
End Date ->  22MAR2002
End Time ->  10:33
View/Manage Traces +-----+ Tools and Menu
. Query Trace      | Place cursor on | > MVIMS Main Menu
. View By Time Period | menu item and | > IMS Easy Menu
. View By Transaction | press ENTER   | > IMS Fast Menu
. Manage Active Traces +-----+ . Return...
. Manage History Traces
```

Figure 73. ITALMR Menu

---

## Chapter 7. Monitoring IMS Workloads and Resources

From the IMSplex System Manager (IPSM) view environment, you can request the Workload Monitor and Resource Monitor services described in the *MAINVIEW for DBCTL Analyzers, Monitors, and Traces Reference Manual*. These services are timer-driven monitors that measure IMS workload and resources over time as requested by a user. Once a monitor is active, you can use the following set of views.

IMON	Shows how many monitors are active for each target and the number that are in a warning condition
ISERV	Lists all active monitors
IMAREAZ	Shows how many monitors are active by IMS area and the number that are in a warning condition for each target
IMWARN	Lists all monitors in a warning condition

To access these views, you can enter the view name on the command line.

Starting with IMON shows you how many monitors are running. From there, you can hyperlink to

- ISERV to see the monitor values  
You can select a monitor displayed by ISERV and hyperlink to a view of a plot produced by that monitor.
- IMAREAZ to see the monitors summarized by target area  
You can hyperlink from here to ISERV, select a monitor, and view a plot from that monitor.
- IMWARN to see only those monitors in warning  
You can select a monitor displayed by IMWARN and hyperlink to a view of a plot produced by that monitor. Easy Menus also provide hyperlinks to these monitor views.

## IMON – Target Monitor Summary

```
22MAR2002 12:14:22 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IMON===== (ALL=====*)=====)22MAR2002=09:00:01====MVIMS====D====2
CMD Target  Actv   Number in Warn      Avg % Warning  Maximum
----- Mntrs  0.....10.....20   0.....50...100 % Warning
  IMSxxx     3  0                40.5 *****      40.5
  IMSxxx     3  0                11.4 **           11.4
```

Figure 74. IMON View

The IMON view summarizes the number of monitors started for each target, shows how many of those monitors are in a warning condition, and shows the warning value. Hyperlinking from an element in the

- Target column or Actv Mntrs column displays the ISERV view
- Number in Warn column displays the IMWARN view

You can access this view by typing its name on the command line, or by selecting the Monitors in Exception option from the EZIMS menu or the Monitors in Warning option from the EZIFAST menu.

The other IMON views are

- IMONC – Monitors by Target, Cluster
- IMONR – Monitors by Target, Realtime
- IMONS – Monitors by Target, Session

For more information, you can position the cursor on any field in this view, and then press your help key.

## ISERV – Active Monitors

```
22MAR2002 12:20:14 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IMON=====ISERV==(ALL=====*)=====)22MAR2002==09:00:01====MVIMS====D====3
CMD Serv  Parm          % Warning    Curr      Warn      Area Target
-----
@RSTM  QUERIES  40.5  *****      0.40     1.00  IWTR  IMSxxx
@RSTM  UPDATES  40.5  *****      0.40     1.00  IWTR  IMSxxx
@RSTM  ALLWORK  40.5  *****      0.40     1.00  IWTR  IMSxxx
```

Figure 75. ISERV View

The ISERV view lists the individual monitors by name for each target. Selecting a monitor lets you view a plot of data collected by that monitor.

You can access this view by hyperlinking from Target or Actv Mntrs in the IMON view.

The other ISERV views are

- ISERVC – Monitors Overview, Cluster
- ISERVR – Monitors Overview, Realtime
- ISERVS – Monitors Overview, Session

For more information, you can position the cursor on any field in this view, and then press your help key.

## IMAREAZ – Target by Area Monitor Summary

```

22MAR2002 12:14:22 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W2 =IMAREAZ===== (ALL=====*)=====)22MAR2002==12:36:27====MVIMS====D====3
CMD      Number  Number      Average Maximum Number
--- Target Area   Monitors in Warn 0.....10 Warning Warning Active
  IMSxxx IWTRN      3      0
  IMSxxx IWKLD      5      1 *
  IMSxxx QUEUE      4      0
  
```

Figure 76. IMAREAZ View

The IMAREAZ view summarizes the number of monitors by target area and shows their status. You can hyperlink to the ISERV view from an element in the Area or Number Monitors column to see what the monitors are for the selected target and area. Number in Warn hyperlinks to the IMWARN view for the selected target and area.

You can access this view by typing its name on the command line.

For more information, you can position the cursor on any field in this view, and then press your help key.

## IMWARN – Monitors in Warning

```

22MAR2002 12:27:45 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IMWARN=====IMSxxx====*)=====)22MAR2002==09:00:01====MVIMS====D====3
CMD Serv Parm          % Warning  Curr  Warn  Area Target
--- ----- 0....50...100 Value--- Value--- -----
  @RSTM QUERIES 111.4 ***** 1.11 1.00 IWTR IMSxxx
  @RSTM UPDATES 131.4 ***** 1.31 1.00 IWTR IMSxxx
  @RSTM ALLWORK 108.4 ***** 1.08 1.00 IWTR IMSxxx
  
```

Figure 77. IMWARN View

The IMWARN view displays only those monitors in a warning condition. It shows how many monitors are in warning and the defined threshold for each target. Selecting a monitor lets you view a plot of data collected by that monitor.

You can access this view by hyperlinking from a Number in Warn element in the IMON view.

For more information, you can position the cursor on any field in this view, and then press your help key.

## MAINVIEW for DBCTL Monitors

When you select a monitor from ISERV or IMWARN, a view showing a plot of the data collected by that monitor is displayed, as shown in Figure 78.

```

22MAR2002 13:23:44 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                     SCROLL ==>> HALF
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IINQBG=====IMSxxx====*=====22MAR2002==13:22:44====MVIMS====D====1
>>BALGQ  |.....|.....|      Count Parm..... FXV1
12:36:00          0 Warning..      0.00
12:35:00          0 Max/Min..    Maximum
12:34:00          0 Value...      0.00
12:33:00          0 Time...     00:00:00
12:32:00          0 Graph Max   0.00
12:31:00          0 Target...  IMSxxx
12:30:00          0 Descript.  IN-Q LENGTH BY BALG
12:29:00          0
12:28:00          0 Samples..      0
12:27:00          0 Period...   00:10:00
          |.....|.....|      Count Samp Int. 00:01:00
Total          0.00 Start.... 12:36:00
Prev Pd        0.00 Elapsed.. 00:255:0
Curr Pd        0.00
  
```

Figure 78. IINQBG View

Each plot provided by a monitor has a hyperlink to a corresponding MVIMS 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 >>BALGQ. This is a hyperlink to the IMS analyzer BALGQ online service. When you make this hyperlink, you have access to all the online services provided by the IMS analyzer and monitor components of MVDBC.

The following sections list the monitor plot views for the IMS workload and resource monitor services described in the *MAINVIEW for DBCTL Analyzers, Monitors, and Traces Reference Manual*. The descriptions are in tabular form and categorized by IMS area. Each table shows the plot view and its corresponding monitor and describes the performance data provided.

---

## IMS Workload Monitors

This section describes the views and monitors that provide performance plot displays about IMS:

- Fast Path activity
- Global region calls
- Elapsed timing

### Fast Path Activity

Fast Path Activity monitors provide performance data about IMS Fast Path resource usage.

Table 11. IMS Workload Monitors for Fast Path Activity

View	Monitor	Description
I#CIC	#CIC	Reports the number of workload Fast Path database control interval contentions (CIC) during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of CICs for the total workload or a single workload type.
I#OBAW	#OBAW	Reports the number of overflow buffer (OBA) latch waits for selected workloads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of OBA waits by Fast Path transactions or a single workload type.
I@OBA	@OBA	Reports the average overflow buffer usage by Fast Path transactions for selected workloads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the average overflow buffer usage for the total workload or a single workload type.

## Global Region Calls

Global Region Calls monitors provide performance data about all region calls issued during IMS application program processing, including DL/I calls issued by DBCTL regions.

Table 12. IMS Workload Monitors for Global Region Calls

View	Monitor	Description
I\$CBMP	\$CBMP	Reports the number of calls issued by BMP and JBP regions during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of all calls or the number of all calls of a single type.
I\$CDBT	\$CDBT	Reports the number of DL/I calls issued by DBCTL threads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of all calls or the number of all calls of a single type.
I\$CTOT	\$CTOT	Reports the number of calls issued by all region types during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of all calls or the number of all calls of a single type.

## Elapsed Timing

Elapsed Timing monitors provide performance data about transaction elapsed, input, and response time.

Table 13. IMS Workload Monitors for Elapsed Timing

View	Monitor	Description
I@ELAP	@ELAP	Reports the average elapsed time of DBCTL threads. Depending on the parameters specified with the monitor, the reported value is the average transaction elapsed time for all workloads or for all workloads of a single type.

---

## IMS Resource Monitors

This section describes the views and monitors that provide performance plot displays about IMS:

- Regions/threads
- Database activity
- Internals
- Interaction with OS/390
- IRLM

## IMS Regions/Threads

IMS Regions/Threads monitors provide performance data about DB2 access by programs executing in the IMS regions and threads.

Table 14. IMS Resource Monitors for IMS Regions/Threads

View	Monitor	Description
ID2CON	D2CON	Reports the number of IMS regions/threads connected to DB2 during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of IMS regions/threads connected to DB2 subsystems or the number connected to a specific DB2 subsystem.
ID2SON	D2SON	Reports the number of IMS regions/threads that issued at least one SQL call and are signed on to DB2 during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of regions/threads signed on to DB2 or the threads signed on to a specific DB2 subsystem.
ID2THD	D2THD	Reports the number of IMS regions/threads with active threads to DB2 during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of active regions/threads with DB2 threads or the regions/threads with active threads to a specific DB2 subsystem.

# IMS Database

IMS Database monitors provide performance data about DL/I buffer pool activity.

Table 15. IMS Resource Monitors for Database Activity

View	Monitor	Description
IDBIO	DBIO	Reports the number of database I/O by subpool for the OSAM pool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the database I/O for the total OSAM pool or for one subpool.
IDBHIT	DBHIT	Reports the hit ratio for the OSAM buffer pool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the hit ratio for the entire OSAM buffer pool or for one subpool.
IDBSTL	DBSTL	Reports database buffer steal writes for the OSAM pool or by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the database buffer steal writes for the total OSAM pool or for one subpool.
IHPACC	HPACC	Reports Hiperspace access for all VSAM buffer spools or by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of successful Hiperspace reads and writes or by subpool.
IHPHIT	HPHIT	Depending on the parameters specified with the monitor, reports the hit ratio for all VSAM buffer spools or by subpool during the sampling period.
IHPSTL	HPSTL	Reports Hiperspace buffer steals by VSAM subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of unsuccessful reads from all VSAM Hiperspace buffer pools or a single subpool.
ISBUSE	SBUSE	Reports sequential buffering storage by thread during the sampling period. Depending on the parameters specified with the monitor, the reported value is kilobytes of virtual storage used by all threads, a group of threads, or a single thread.
IVDBIO	VDBIO	Reports VSAM database I/O by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of I/Os for the total VSAM pool or one subpool.
IVDBWR	VDBWR	Reports VSAM writes by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of VSAM-initiated writes for the total VSAM pool or one subpool.
IVHIT	VHIT	Reports the VSAM hit ratio by subpool during the sampling period. Depending on the parameters specified with the monitor, the reported value is the hit ratio for the total VSAM pool or one subpool.

## IMS Internals

IMS Internals monitors provide performance data about IMS internal activity for program isolation, pools, logging, latching, and pool allocation.

Table 16. IMS Internals Resource Monitors

View	Monitor	Description
IDBWP	DBWP	Reports the percentage of the database work area pool in use during the sampling period.
IDMBP	DMBP	Reports the percentage of the DMB pool in use during the sampling interval.
IDSAP	DSAP	Reports the percentage of the Dynamic Save Area pool in use during the sampling period.
IEPCB	EPCB	Reports the percentage of the extended PCB (EPCB) pool in use during the sampling period. If Fast Path is not installed in IMS, the IEPCB plot is always zero.
ILAWT	LAWT	Reports the average latch wait time in microseconds within the sampling period or since the last IMS checkpoint if a checkpoint occurs within the interval. Depending on the parameters specified with the monitor, the reported value is the average wait time for all latch types or a specific latch type.
IOBUFW	OBUFW	Reports the number of times that the IMS logical logger had to wait for a buffer to be written to the OLDS during the sampling period.
IOCHKW	OCHKW	Reports the number of check write requests to the IMS logical logger during the sampling period.
IPIENQ	PIENQ	Reports the number of program isolation (PI) enqueues held by threads during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of PI enqueues held by all threads or the number held by one thread or group of threads.
IPIPL	PIPL	Reports the percentage of the program isolation (PI) pool in use during the sampling period. PI pool percentage usage is calculated as the ratio of allocated bytes to the total number of bytes that can be assigned to the pool.
IPOOLA	POOLA	Reports the amount of allocated pool storage in bytes during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of allocated bytes of CSA storage, ECSA storage, or non-CBT pool storage.
IPOOLN	POOLN	Reports the difference in bytes between the total expansion and total compression of blocks allocated to non-CBT fixed storage pools.

Table 16. IMS Internals Resource Monitors (continued)

<b>View</b>	<b>Monitor</b>	<b>Description</b>
IPOOLT	POOLT	Reports the number of times that non-CBT storage pool blocks expanded and compressed during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total block expansions and compressions for all pools or the number for a specific non-CBT fixed storage pool.
IPSBP	PSBP	Reports the percentage of the PSB pool in use during the sampling interval. If the IMS option is ILSO=S, DLISAS PSB pool usage is monitored. If the LSO option is not S, total PSB pool usage is monitored.
IPSBW	PSBW	Reports the percentage of the PSB work area pool in use during the sampling period.
IWADIO	WADIO	Reports the number of EXCPs to a WADS data set during the sampling interval. If dual WADS logging is in effect, the actual number of EXCPs is twice the reported number.
IWKAP	WKAP	Reports the percentage of the general work area pool in use during the sampling period.

## IMS Interaction with OS/390

IMS Interaction with OS/390 monitors provide performance data about OS/390 resources used by IMS interaction with OS/390.

Table 17. IMS Resource Monitors for OS/390

<b>View</b>	<b>Monitor</b>	<b>Description</b>
ICSAUT	CSAUT	Reports the percentage of CSA storage in use during the sampling period.
IDLIO	DLIO	Reports the number of successful EXCPs for DL/I data sets allocated to the DLISAS region during the sampling period by ddname. Depending on the parameters specified with the monitor, the reported value is the total EXCPs for all data sets allocated to the IMS DLISAS region, a group of data sets, or a single data set.
IDPAGE	DPAGE	Reports the number of demand page-ins by IMS region/thread during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total demand page-ins for the system or demand page-ins for one IMS region/thread.
IECSAU	ECSAU	Reports the percentage of extended CSA storage in use during the sampling period.
ISYSIO	SYSIO	Reports the number of successful EXCPs for data sets allocated to the IMS control region by ddname. Depending on the parameters specified with the monitor, the reported value is the total EXCPs for all data sets allocated to the IMS control region or the EXCPs for one data set or group of data sets allocated to IMS.

# IRLM

IRLM monitors provide performance data about IRLM activity.

Table 18. IMS Resource Monitors for IRLM

View	Monitor	Description
ILDLC	LDLCK	Reports the number of IRLM deadlocks that occurred during the sampling period.
ILHELD	LHELD	Reports the number of IRLM locks held by an IMS region/thread during the sampling period. Depending on the parameters specified with the monitor, the reported value is the total number of IRLM locks held by the target IMS or by a specific thread/thread.
ILKREQ	LKREQ	Reports the number of IRLM lock requests that occurred during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of lock requests for the entire IRLM system or the subset from the target IMS.
ILSUSP	LSUSP	Reports the number of IRLM suspensions that occurred during the sampling period.
ILWNUM	LWNUM	Reports the number of suspended IRLM requests that occurred during the sampling period. Depending on the parameters specified with the monitor, the reported value is all suspended requests from the current target IMS, all suspended requests from all targets, or all requests suspended longer than a specified number of seconds from all targets or the current target.
IPTBLK	PTBLK	Reports the number of IRLM lock requests (IRLM 1.5 only) that resulted in a PTB process during the sampling period. Depending on the parameters specified with the monitor, the reported value is the number of lock requests for the entire IRLM system or the subset from the target IMS.
IVSEND	VSEND	Reports the number of VTAM sends issued by the IRLM system (IRLM 1.5 only).



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## Chapter 8. Creating IMS Workload Definitions

This chapter describes how to create and maintain MAINVIEW for DBCTL (MVDBC) workload definitions, which you can use to define performance objectives for your mission critical applications.

---

### Elements of a Workload Definition

A dialog box is used to create or modify IMS workload definitions. You fill in fields in the dialog box with values that describe each workload. The elements of a workload definition are summarized in the following sections and are described in more detail on page 113.

#### Workload and Composite Names

A workload name and composite name are assigned to each workload. All workloads that share the same composite name are grouped into “applications.” If your site has MAINVIEW VistaPoint installed, you can use a shared composite name to combine the performance of workloads running in IMS, CICS, DB2, and OS/390 into a common application so that you can view the performance of workloads sharing common tasks.

#### Service-Level Objectives

A service-level objective is defined for each workload. The objective specifies the acceptable performance for a workload. The objective is met if a specified percentage of a workload’s transactions completes within a specified elapsed time.

#### Monitoring Time Range

Start and end time fields are used to specify a monitoring time period for each workload.

#### Target ID and System ID

If you want to limit a workload to specific IMS or OS/390 systems, you can include an IMS target ID, an OS/390 system ID, or both.

#### Workload Resource Fields

Workloads can be qualified by transaction ID, class, program name, PSB name, region job name, region ID, LTERM name, IMS user ID, and transaction type.

---

## Planning IMS Workload Definitions

Before you create workload definitions, you should

- establish conventions for the workloads
- define the workload service-level objectives for each workload
- identify a critical monitoring period for each workload

## Establishing Workload Conventions

IMS workload definitions are saved in BBPARM member BBFTWK00. To minimize maintenance time, the BBPARM data set with the BBFTWK00 member should be shared by all MVDBC product address spaces. Otherwise, duplicate workload definitions must be created and maintained.

Establishing logical, consistent conventions for workload and composite names is important, especially if all your workload definitions are not stored in a shared BBPARM data set. If you must use multiple BBPARM data sets for workload definitions, maintaining the definitions is much easier if you can quickly identify similar workloads.

### Workload Names

The information in MVDBC Plex views can be sorted and filtered by workload name. Consistent workload names make it easier to sort and filter views to find the information that you want to display.

Workload names can be up to eight characters long, and the names should clearly represent the work performed by the target IMS. For example, the workload name IMSPAY could be used for IMS payroll transactions.

### Composite Names

Composite names should represent a common function of the workloads that are part of a MAINVIEW VistaPoint application. For example, a workload composite with the name FINANCE indicates that a workload is part of the financial application. Composite names can be up to eight characters long.

## Defining Workload Service-Level Objectives

A service-level objective specifies the acceptable performance of a workload. You set a service-level objective based on your assessment of the minimum percentage of transactions that must complete within an elapsed response time for the tasks that occur in a workload.

Workloads that belong to the same composite can have different service-level objectives. MVDBC and MAINVIEW VistaPoint normalize reported values to maintain consistency.

## Identifying Critical Workload Monitoring Periods

There are periods of time when transaction performance is critical for a particular application, and there are other times, perhaps during the night, when performance is less critical. You can define a single workload to monitor only during an application's critical time period, or you can define multiple workloads for the application, with different monitoring periods and response time goals.

All workloads that belong to the same composite workload should have identical monitoring periods. If they have different monitoring periods, views that show combined workload performance might display misleading information.

---

## Creating a New Workload Definition

After you establish the appropriate naming conventions, service-level objectives, and monitoring period, you can create a workload definition by completing the following steps:

1. Access the IWKLDDEF view and change the view status from browse to edit mode.
2. Open the Add IMS Workload Definition dialog box to add a workload.
3. Assign the workload definition settings in the dialog box.
4. Save and install the workload definition.

## Accessing the IWKLDDEF View

The IWKLDDEF view, shown in Figure 79, is the starting point for defining an IMS workload.

```
22MAR2002 16:17:39 ----- MAINVIEW WINDOW INTERFACE(R4.0.01)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IWKLDDEF=====IM8M31CT=*===== (00 BROWSE          )====MVIMS====D====2
CMD Workload Composite Target System Description Sta Resp %Tr
--- Name---- Name-----
  IMSPAY FINANCE IMSxxx * Accounts payable Act 0.30 90
  IMSREC FINANCE IMSxxx * Accounts receivable Act 0.30 90
  IMSRET FINANCE IMSxxx * Accounts return Act 1.00 95
  IMSTEST TEST0131 IMS* * IMS testing Act 0.30 95
```

Figure 79. IWKLDDEF Workload Definition List view, Browse Mode

To access the IWKLDDEF view, you can

- type IWKLDDEF on any command line
- type ADMIN on any command line and select the IWKLDDEF view
- type VIEWS on any command line and select the IWKLDDEF view

To add a workload definition (or change an existing workload definition), you must switch from browse mode to edit mode by typing **EDIT** on the IWKLDDEF command line and pressing Enter. An edit lock is set on BBPARM member BBFTWK00, and the IWKLDDEF view is displayed with edit mode indicated in the view information line, as shown in Figure 80 on page 112.

```

22MAR2002 16:17:39 ----- MAINVIEW WINDOW INTERFACE(R4.0.01)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IWKLDDEF=====IM8M31CT=*===== (00 EDIT          )=====MVIMS====D====2
CMD Workload Composite Target System Description Sta Resp %Tr
--- Name----- Name-----
IMSPAY FINANCE IMSxxx * Accounts payable Act 0.30 90
IMSREC FINANCE IMSxxx * Accounts receivable Act 0.30 90
IMSRET FINANCE IMSxxx * Accounts return Act 1.00 95
IMSTEST TEST0131 IMS* * IMS testing Act 0.30 95

```

Figure 80. IWKLDDEF Workload Definition List View, Edit Mode

The primary commands and line commands provided in the IWKLDDEF view are listed in Table 19 on page 115.

**Note:** If someone else is editing the BBFTWK00 member when you type the EDIT command, you will get an error message telling you that the member is not available.

## Opening the Add IMS Workload Definition Dialog Box

There are two ways you can open the Add IMS Workload Definition dialog box to add a new workload definition. You can use the default workload definition settings or the settings of an existing workload as a basis for the new workload definition.

- Type the **ADD** primary command on the IWKLDDEF command line to open the dialog box with the default workload definition settings.
- Type the **ADD** line command beside an existing workload to open the dialog box using the selected workload's settings and then specify a new workload name.

The Add IMS Workload Definition dialog box with default settings is shown in Figure 81.

```

----- ADD IMS WORKLOAD DEFINITION -----
COMMAND ==>

Workload ==>
For Target ==> *
Description ==>

Composite ==>
For System ==> *

Tran Id ==>
Class ==>
Program ==>
PSB ==>
Region ==>
RegionID ==>
Terminal ==>
Userid ==>
TranType ==> (DLI, DB2, FP) PgmType ==> (MPP, MDP, TPI, DBT, NOTDBT)

Response time of ==> 1.0 seconds for ==> 100 % of transactions
Between ==> 00:00 (hh:mm) and ==> 24:00 (hh:mm)
Include Queuing ==> Y (Y,N)

```

Figure 81. Add IMS Workload Definition Dialog Box

**Note:** The primary commands available in the workload definition dialog box are listed in Table 20 on page 115.

# Assigning the New Workload Definition Settings

This section describes the fields used to create a workload definition. For more information about the fields, press your help key to access the online help.

## Workload and Composite Names

Enter the selected names for the workload and composite. Workload and composite names can be up to eight characters long, but the first character in each name must be an alpha character.

The composite workload name is used by MAINVIEW VistaPoint to combine workloads into a single application. Related IMS, CICS, DB2, and OS/390 workloads must have the same composite name if you want to monitor their combined transaction performance in a MAINVIEW VistaPoint application.

Workload name and composite name are required fields. If you do not enter a composite name, the workload name is automatically assigned as the composite name when you save the workload definition.

For information about choosing workload and composite names, see page 110.

## Target and System IDs

Enter the complete target ID if you want to restrict the workload to a single IMS system, and enter the system ID if you want to restrict the workload to a single OS/390 system.

You can use wildcards (\*, ?, and +) to expand a definition to include multiple IMS targets and OS/390 systems.

Target and system ID are required fields. If no ID is specified in a field, the field must contain an asterisk.

## Description

Enter a description that defines the purpose of the workload. The description is a required field, and it can be up to 24 characters long.

## Monitored IMS Resources

You can use the resource fields to restrict a workload by transaction ID, class, program name, PSB name, region job name, region ID, LTERM name, IMS user ID, transaction type, and program type. The resource fields are optional.

You can use the wildcards \*, ?, and + to expand a definition for the transaction ID, class, program, PSB, region job name, and region ID fields.

You can use multiple entries, separated by a comma or a space, for the transaction ID, program, PSB, region job name, terminal, and user ID fields.

## Response Time and Percent of Transactions Fields

These two fields define the service-level objective for the workload. In the response time field, enter the response time goal for transactions that occur within the workload target. In the percentage field, enter the minimum percentage of transactions that must complete within the specified response time. The service-level objective is met if the specified minimum percentage of a workload's transactions complete within the specified response time.

These fields are required. If you are creating a workload definition from scratch and enter no values in the fields, the default response time of 1.0 seconds and the default percentage of 100% will be used for the workload definition.

## Include Queuing

The queuing field specifies whether a workload's transaction response time will include the time transactions spend in the input queue waiting to be processed.

## Saving and Installing a New Workload Definition

After you define a new workload in the Add IMS Workload Definition dialog box, you can add the workload to the current workload list by typing the SAVE command in the dialog box command field.

When you return to the IWKLDDEF view, the new workload is included in the workload list with an inactive status and the view mode is changed from EDIT to EDIT MOD, indicating that changes to the workload list are pending. At that point, you can

- type SAVE on the command line to save the definition in inactive status and keep the IWKLDDEF view open
- type END on the command line to save the definition in inactive status and return to the previous view
- type SAVE on the command line and then type INStall in the line command area beside the new workload (or vice versa) to activate the new workload and save it in the workload list
- type INStall in the line command area beside the new workload to activate it without saving it

The INStall line command immediately updates the local BBI-SS PAS, and monitoring begins for a new workload as soon as its status changes from inactive to active.

You can create a new workload for temporary use by installing it without saving it in the workload list. When you no longer need the workload, you can delete it before you save the workload list.

## Commands in the IWKLDDEF View and the IMS Workload Definition Dialog Boxes

Table 19 lists the primary commands and line commands available in the IWKLDDEF view, and Table 20 lists the primary commands available in the dialog boxes for adding and changing workload definitions.

Table 19. Primary and Line Commands in the IWKLDDEF View

Primary Commands	Function
EDIT	Changes the view from browse mode to edit mode, activating the other primary and line commands.
ADD	Opens the Add IMS Workload Definition dialog box with default workload settings.
CANcel	Cancels any changes made to the workload list during an edit session by restoring the workload list to the current version in storage (ends the edit mode and returns the view to browse mode).
SAVE	Saves any changes made to the workload list and maintains the edit mode.
Line Commands	Function
ADD	Opens the Add IMS Workload Definition dialog box with the settings for the selected workload definition. You can specify a new workload name and use the settings of the selected workload as a template for a new workload definition.
CHA	Opens the Change IMS Workload Definition dialog box with the settings for the selected workload definition.
DEL	Removes a workload from the view and changes its status to deleted.
INS	Activates a workload with a modified or inactive status (and changes the workload's status to active).
PARM DELETED(*)	Redisplays deleted workloads in a different color if the workload list was not saved after the deletions were made.
UND	Changes the status of a workload from deleted to the status in effect when the DEL line command was entered against the workload

Table 20. Primary Commands in the Dialog Boxes for Adding and Changing IMS Workload Definitions

Primary Command	Function
END	Saves the workload settings and closes the dialog box.
CANcel	Cancels a new workload or changes made to an existing workload and closes the dialog box.
SAVE	Saves the workload settings.

---

## Maintaining Workload Definitions

This section describes how to update, delete, and recover workload definitions.

### Changing a Workload Definition

To change settings for a workload

- access the IWKLDDEF view
- change browse mode to edit mode (by typing EDIT on the command line)
- type CHA in the line command area beside the workload you want to change

The CHA change line command opens the Change IMS Workload Definition dialog box with the current settings for the workload. You can then change any field in the dialog box except the workload name field.

After you change the definition, you can either enter the CANcel command to discard the changes or enter the END command to keep the changes intact. Both commands close the dialog box.

When you change a workload's settings and use the END command to close the Change IMS Workload Definition dialog box, the updates you made are pending. If the workload was in active status, its status is changed to modified (Mod); if it was in inactive status, its status remains inactive. The window information line shows an EDIT MOD status, which means that there are one or more unsaved workload modifications pending.

In the IWKLDDEF view, you can cancel or save changes you made to a workload definition. If you enter the CANcel primary command, all changes made and not saved are discarded and the view mode changes from EDIT MOD mode to BROWSE mode. If you enter the SAVE primary command, all changes are saved, the IWKLDDEF view remains open, and its mode changes from EDIT MOD to EDIT. If you enter the END command, all changes are saved and the previous view is displayed.

You must install a modified workload definition to activate the changes. When you install the modified workload definition, the original workload is deactivated, and transaction monitoring begins immediately with the updated workload definition, if the current time is within the monitoring time period of the workload. If the current time is not within the workload's monitoring time period, transaction monitoring will begin when the start time is reached.

## Deleting and Recovering Workload Definitions

To delete a workload definition

- access the IWKLDDEF view
- change browse mode to edit mode (by typing EDIT on the command line)
- type DEL in the line command area beside the workload you want to delete

When you enter the DEL line command, the workload definition disappears from the definition list, and its status is changed to deleted. If you enter the SAVE or END command, the workload is permanently deleted and cannot be retrieved.

If you have deleted a workload with the DEL line command and you have not saved the workload list with the SAVE or END command, you can retrieve the deleted workload by entering PARM DELETED(\*) on the command line.

When you enter the PARM DELETED(\*) command, the workload reappears in the workload list and is displayed in a different color. To recover the workload, enter the UND undelete line command in its line command area. The undelete command changes the color of the workload line to normal and changes its status from deleted to the status in effect when the DEL line command was entered against the workload.



---

## Part 3. Solving Realtime Problems

This part describes how you can use the IPSM views to analyze and solve realtime problems. For general information about views, see the *Using MAINVIEW* manual.

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## Chapter 9. Monitoring Region/Thread Activity

This chapter shows you how to use the region views to monitor the activity of DBCTL threads and BMP and JBP regions running under the target system. The views help you answer the following questions:

- What thread activity is occurring?
- What work is IMS performing for currently processing transactions?
- What is the activity of this transaction?

The region views represent a powerful upgrade over previous REGNS services. They allow you to monitor the activity of groups of threads in one or many different DBCTL systems.

Built in the MAINVIEW window environment, these views also give you powerful usability enhancements. You can filter, sort, and customize to produce views that focus on exactly what you need to see and that display information the way you need to see it.

The following region views and Easy Menu are provided:

<b>View name</b>	<b>Description</b>
<b>DRGNSUMR</b>	Region Activity Summary
<b>DRGNDTLR</b>	Region Activity Detail
<b>DRGNDLIR</b>	Region DL/I Activity
<b>DRGNFPLR</b>	Region Fast Path Activity
<b>DRGNPGMR</b>	Region/Program
<b>DRGNPILR</b>	Region Activity Program Isolation (PI)

## Accessing the Region Activity Views

To access the region activity views, you can use the IPSM hyperlinks. These hyperlinks connect directly to the sysplex-enabled region views. You can also display the generic, unfiltered version of each view by simply typing the view name on any IPSM command line.

To display filtered versions of these views, hyperlink from any of the DBCTL Easy Menus (EZIFAST, EZIMS, EZISSI, EZISSR) or the appropriate fields within their pop-up submenus.

The easiest way to access the regions views is by hyperlinking from either the Active Threads option or the Waiting Threads option in the DBCTL Easy Menu (EZIMS), shown in Figure 82.

```

22MAR2002 14:14:41 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =EZIMS=====IMSxxx====*=====22MAR2002=14:14:41====MVIMS====D====1
                                DBCTL EASY MENU
                                Timeframe - Interval

      (Change) Target--> IMSxxx          Status: INACTIVE
      Activity                +-----+          Resources
      . System                | Place cursor on | . Programs
      . Threads               | menu item and | . Databases
      . Threads Not Idle     | press ENTER | . Areas
      . Thread Occupancy     +-----+
      . Batch Regions
      . Database Activity     Transaction Analysis      Cross Reference
      . IMSplex Connection   . Delay Factors          . Programs/Databases
      .                     . Components of Response . Databases/Programs
      .                     . Traces
      .                     .
      Exceptions
      . Current Delays
      . Database Lock Waits  Monitors                Tools and Menus
      . Waiting Threads     . In Warning          > Utilities
      . Stopped Programs    . Active              > IMS Fast Menu
      . Stopped Databases   . Workload Objective > IMS SSI Menu
      . Stopped Areas       . Area Summary        > MVIMS Main Menu
      . Alarms in Exception .                     > IMS Easy Ops Menu
      .                     .                     > IMS Easy DBA Menu
      .                     .                     . Installed Products
      .                     .                     . What's New?
      .                     .                     . Return
  
```

Figure 82. DBCTL Easy Menu (EZIMS)

## Region Activity Summary View

A good starting point for monitoring dependent regions and threads is the Region Activity Summary view (DRGNSUMR), shown in Figures 83 and 84. This view provides information about active regions and threads and the transactions that are currently executing. It shows

- Thread or region status
- UOW (unit of work) elapsed time
- CICS task ID, transaction name, and user name
- Total number of locks held by the thread
- Number of DL/I and SQL calls made

Data is collected from your entire IMSplex environment, enabling you to monitor activity of multiple threads across one or more OS/390 systems.

```

22MAR2002 08:16:12 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =DRGNSUMR=====IMSxxx====*=====22MAR2002==08:06:33====MVIMS====D====3
CMD Rgn IMS  Rgn Region  JOB/STC  CICS  Tran      User      PSB      Tot  Tot
--- ID  ID  Typ Status   Name     TASK   Name      Name     Name     DLI  SQL
    4 D18H DBT ACTV-USR CICS4103 00132 DLZZ      CICS4103 STBCUSR      3
    2 D18H DBT IDLE     CICS4103
    3 D18H DBT IDLE     CICS4103
  
```

Figure 83. Region Activity Summary View (DRGNSUMR)

```

22MAR2002 08:18:48 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
<W1 =DRGNSUMR=====IMSxxx====*=====22MAR2002==08:06:33====MVIMS====D====3
CMD Rgn Tot  Tot  UOW    Rgn    IMS    MVS
--- ID  SQL  Lock Elaps  Idle   Jobname Name
    4      1    0.50      IMSxxx SYSD
    2      0.00  109.4  IMSxxx SYSD
    3      0.00  109.4  IMSxxx SYSD
  
```

Figure 84. Region Activity Summary View, Scrolled Right

To display an unfiltered version of this view, enter DRGNSUMR on any IPSM command line. To display a filtered view, hyperlink from any of the following Easy Menus: EZIFAST, EZIMS, EZISSI, EZISSIR.

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the DRGNSUMR view.

<b>Hyperlink from</b>	<b>To see</b>
Rgn ID	Region Detail view (DRGNDTLR), which provides detailed thread information
Rgn Type	Region Activity Detail view (DRGNDTLR), which provides detailed information about the activity for the selected region/thread
Tot DLI	Region Activity DL/I view (DRGNDLIR), which provides DL/I call information
Tot Lock (for PI)	For a region or thread with a WT-PI status, the Region Lock List view (IPIRGLST), which shows which PI resource the region/thread is waiting for and which regions/threads are holding the resource  For a region or thread in any status other than WT-PI, the Region Activity PI view (DRGNPILR), which provides information about the PI activity of the region/thread
Tot Lock (for IRLM)	For a region or thread with a WT-ILRM status, the Region Lock List view (ILKRGLST), filtered to show only the regions/threads that are waiting for or holding the resource this region/thread is waiting for  For a region or thread with any status other than WT-IRLM, the ILKRGLST view, showing the resources that are held by the region/thread

## Region Activity Detail View

The Region Activity Detail view (DRGN DTLR), shown in Figure 85, displays detailed thread or region information. It shows you what a transaction is doing. You can see

- Which databases a transaction accesses and how often
- How many times a transaction accesses a database and with what type of DL/I call
- Number of locks held by a BMP or JBP between checkpoints
- The transaction's resource usage

To display this view, select a region/thread from the Rgn ID field in the Region Activity Summary view (DRGNSUMR).

```

22MAR2002 08:19:17 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
>W1 =DRGN DTLR=====IMSxxx====*=====22MAR2002==08:06:33====MVIMS====D====1
Region ID..      5 Rgn Status.. ACTV-USR UOW Elap....      3.4K
Job Name... IM8BMPA Tran Name... Idle Time...      0.0
IMS ID..... IM8 PSB..... DDLTPSBB AGN.....
MVS Name... SJSC User..... DDLTPSBB ESS Name...
DB Shr Grp. NONE CICS Task... N/A ESS Status..
Region Type BMP DB2 AUTHID.. N/A ESS Status..
Seq BF Usg. 0 CICS UOW.... N/A
----- DL/I Call--- ACTIVITY -----
Total Calls      3 Current/Last DLI Call Current Lock Contention (PI)
PI Activity.
INIT..... 0 SETO..... 0 APSB..... 0
INQY..... 0 SETS..... 0 DPSB..... 0
AUTH..... 0 SETU..... 0 DB DEQ..... 0
CHKPT..... 0 ROLB..... 0
XRST..... 0 ROLS..... 0
----- FAST PATH--- ACTIVITY -----
NBA..... 0 OBA..... 0 Used..... 0
Lock Detail
----- DB2----- ACTIVITY -----
DB2 Name... Control.... 0 SQL Total... 0
Plan Name.. Dynamic.... 0 Inserts.... 0
SEL/FETCH.. 0 DDL..... 0 Deletes.... 0
Opens..... 0 Other..... 0 Updates.... 0
----- PSB -----
PSB Size... 888 PSB WA..... 2288
----- SYSTEM----- ACTIVITY -----
Exec In... DBT TCB CPU.... 26 Elapsed Days
ASID..... 83 SRB CPU.... 4 and Hours... 01:49:27
Priority... 254 CPU SRV.... 12180 Domain..... 0
Swap..... NON-SWAP IO SRV.... 540 Perf Group.. 0
MSO SRV.... 59280 Perf Period. 0
----- PAGING----- ACTIVITY -----
Work In... 0 Int Pg-ins.. 44 VIO Pg-ins.. 0
Work out... 0 Int Pg-outs. 0 VIO Pg-outs. 0
Frames.... 0 Int Reclams 0 VIO Reclams 0
Slots..... 932 Swap Count.. 1 VIO Slots... 0
Com Pg-ins. 1 Com Reclams 0 Int Stolen.. 2893

```

Figure 85. Region Activity Detail View (DRGN DTLR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the DRGNDTLR view.

<b>Hyperlink from</b>	<b>To see</b>
Region Type	MAINVIEW for CICS TASKXPND service (if region/thread type is DBCTL)
Total Calls	Region Activity DL/I view (DRGNDLIR)
Current/Last DLI Call	MAINVIEW for DBCTL DLIST service
Current Lock Contention (PI)	PI Region Lock Wait List view (IPIRGWT), which shows either the regions or threads waiting for locks held by this region/thread or the holders of locks required by this region/thread
Current Lock Detail (IRLM)	For a region or thread with a WT-ILRM status, the Region Lock List view (ILKRGLST), filtered to show only the regions/threads that are waiting for or holding the resource that this region/thread is waiting for  For a region or thread with any status other than WT-IRLM, the ILKRGLST view, showing the resources that are held by the region/thread
PI Activity (if not N/A)	Region Activity PI view (DRGNPILR), which shows the region/thread program isolation statistics for the transaction that is currently running
DB2 Name	MAINVIEW for DB2 DUSER service (if appropriate)

## Region Activity DL/I View

The Region Activity DL/I view (DRGNLIR), shown in Figure 86 and Figure 87, shows the amount of DL/I call activity incurred by the transaction currently executing.

This view shows the total number of DL/I database calls issued by a transaction against a database. Separate totals are given for GET UNIQUE, GET NEXT, GET HOLD UNIQUE, GET HOLD NEXT, REPLACE, INSERT, and DELETE calls.

The view also shows the total number of key reads and writes and non-key reads and writes. Sysplex information is provided: OS/390 name, IMS ID, region ID.

```

22MAR2002 08:33:20 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =DRGNLIR=====IMSxxx====*=====22MAR2002==08:06:33====MVIMS====D====3
Database DD      Tran      Total  GU   GN   GHU  GHN  GHNP REPL ISRT DLET
-- Name      Name      Name      DL/I  -----
STDCDBL      ----- DLZZ          3    1    2
      DD STDCBC DLZZ
      DD STDIDBC DLZZ
  
```

Figure 86. Region Activity DL/I View (DRGNLIR)

```

22MAR2002 08:33:51 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
<W1 =DRGNLIR=====IMSxxx====*=====22MAR2002==08:06:33====MVIMS====D====3
Database DLET Total Key   Key   Nonkey Nonkey Rgn IMS  MVS
-- Name      ---- I/O  Reads Writes Reads  Writes ID  ID  Name
STDCDBL
      DD          3                2    1    4 D18H SYSD
      DD          2                1    1    4 D18H SYSD
  
```

Figure 87. Region Activity DL/I View, Scrolled Right

To display an unfiltered version of the view, type DRGNLIR on any IPSM command line and press Enter. To see information for a selected thread only, hyperlink to the view from the DB Calls field in the Region Activity Detail view (DRGNDTLR).

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

## Region Activity Fast Path View

The Region Activity Fast Path view (DRGNFPLR), shown in Figure 88, shows Fast Path call activity for the transaction currently processing in the selected thread.

This view displays the first ten Fast Path database enqueues held by the selected region. Each record shows the Fast Path database area being accessed by the transaction, the enqueue type, and the RBA for the IMS resource being locked.

```

22MAR2002 08:47:46 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =DRGNFPLR=====IMSxxx====*=====22MAR2002==08:47:46====MVIMS====D====1
Region ID..      4 Rgn Status.. ACTV-USR UOW Elap....      0.5
Job Name... CICS4103 Tran Name...   DLZZ Idle Time...      0.0
IMS ID..... D18H PSB..... STBCUSR AGN.....
MVS Name... SYSD User..... CICSTC DB2 AUTHID..      CICSTC
DB Shr Grp.     CICS Task... 00132 DB2 Stat....
Region Type     DBT          Seq BF Usg..      0
      Database          Area Name          RBA
1.....
2.....
3.....
4.....
5.....
6.....
7.....
8.....
9.....
10.....

```

Figure 88. Region Activity Fast Path View (DRGNFPLR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlink is provided in the DRGNFPLR view.

Hyperlink from	To see
Rgn Type	MAINVIEW for CICS TASKXPND views (if region type is DBCTL)

## Region/Program View

You can use the Region/Program view (DRGNPGMR), shown in Figure 89 and Figure 90, to monitor active regions, the transactions that are currently executing, and the associated application program.

Data can be collected from your entire IMSplex environment, so that you can monitor the activity of multiple threads across one or more OS/390 system.

```

22MAR2002 12:50:26 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
>W1 =DRGNPGMR=====IMSxxx====*=====22MAR2002==12:28:47====MVIMS====D====2
CMD Rgn IMS  Rgn Region  Job/STC  CICS      Tran      PSB      Prog Program
--- ID  ID  Typ Status   Name      TASK      Name      Name      Type Status
    2  Y18H BMP ACTV-USR IM81BMPY  N/A      TTEST01   PDRIVER   BMP  Started
    1  Y18H MPP WT-BLKM IM81MPP1  N/A      THIDMINQ  PHIDMINQ  TP   Started
  
```

Figure 89. Region/Program View (DRGNPGMR)

```

22MAR2002 12:47:40 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
<W1 =DRGNPGMR=====IMSxxx====*=====22MAR2002==12:28:47====MVIMS====D====2
CMD Rgn Program  User      Tot  Tot  Tot  Tran  Rgn  IMS  MVS
--- ID  Status    Name      DLI  SQL  Lock Elaps Idle Jobname Name
    2  Started    PDRIVER
    1  Started
          6.2  IMSxxx  SYSC
          1.9  IMSxxx  SYSC
  
```

Figure 90. Region/Program View, Scrolled Right

To display an unfiltered version of this view, type DRGNPGMR on any IPSP command line. To display a filtered view, hyperlink from the EZIFAST, EZIMS, EZISSI, or EZISSIR Easy Menu.

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the DRGNPGMR view.

<b>Hyperlink from</b>	<b>To see</b>
Rgn ID	Region Detail view (DRGNDTLR), which provides detailed thread information
Tot DLI	IPSM Region Activity DL/I view (DRGNDLIR), which provides DL/I call detail information
Tot Lock (for PI)	For a region or thread with a WT-PI status, the Region Lock List view (IPIRGLST), which shows which PI resource the region/thread is waiting for and which regions/threads are holding the resource  For a region or thread in any status other than WT-PI, the Region Activity PI view (IRGNPILR), which provides information about the PI activity of the region/thread
Tot Lock (for IRLM)	For a region or thread with a WT-ILRM status, the Region Lock List view (ILKRGLST), filtered to show only the regions/threads that are waiting for or holding the resource that this region/thread is waiting for  For a region or thread with any status other than WT-IRLM, the ILKRGLST view, showing the resources that are held by the region/thread

## Region Activity Program Isolation View

The Region Activity Program Isolation view (DRGNPILR), shown in Figure 91, is a detail view showing program isolation (PI) statistics for a selected DBCTL unit of work (UOW) or BMP or JBP region. These statistics show you the amount and type of segment-locking activity that an application is performing.

The statistics are reset when the transaction terminates. If the application processes multiple transactions in one scheduling, the statistics include the activity of all the transactions processed during that scheduling.

```

22MAR2002 12:37:40 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==>
CURR WIN ==> 1           ALT WIN ==>
>W1 =DRGNPILR=====IMSxxx====*=====22MAR2002==12:37:40====MVIMS====D====1
Region ID..      5 Rgn Status.. ACTV-USR  UOW Elap....      3.4K
Job Name...  IM8BMPA Tran Name...      Idle Time...      0.0
IMS ID.....   IM8 PSB.....      DDLTPSBB AGN.....
MVS Name...   SJSC User.....      DDLTPSBB ESS Type...
DB Shr Grp.  NONE CICS Task...      N/A ESS Name...
Region Type   BMP DB2 AUTHID..      N/A ESS Status..
Seq BF Usg.   0 CICS UOW....      N/A
-----
                PI LOCK----- ACTIVITY -----
SHR/UPD----  EXCLUSIVE---  Q COMMAND---
ENQ.....    0 ENQ.....      0 ENQ.....      0
DEQ.....    0 DEQ.....      0 DEQ.....      0
CURQ.....   0 CURQ.....     0 CURQ.....     0
WAIT.....   0 WAIT.....     0 WAIT.....     0
TEST-----
ENQ.....    0
DEQ.....    0
CURQ.....   0
WAIT.....   0

```

Figure 91. Region Activity Program Isolation (PI) View (DRGNPILR)

To display an unfiltered version of this view, type DRGNPILR on any IPSC command line. To display a filtered view, hyperlink from the EZIFAST, EZIMS, EZISSI, or EZISSIR Easy Menu.

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlink is provided in the DRGNPILR view.

Hyperlink from	To see
CICS Task	MAINVIEW for CICS TASKXPND views (if region type is DBCTL)



---

## Chapter 10. Analyzing Program Isolation Lock Contention

This chapter describes the program isolation (PI) lock views, which you can use to quickly recognize and resolve PI resource contention problems. The program isolation views make it easy to answer the following questions:

- Is there a contention problem?
- How severe or widespread is the problem?
- Which resources are most contended for?
- How can I resolve the contention problem?

Four of the program isolation views (IPIRGLST, IPIRGWT, IPIRSWT, and IPIRSSUM) can be used for extensive analysis of PI lock contention. The other view (IPISTAT) shows overall PI resource use.

The PI Region Lock List view (IPIRGLST) shows the regions that are contending for PI locks, identifies the resource that each waiting region is waiting for, and provides a list of “ultimate” holders that are causing lock contention.

The ultimate holder is not necessarily the immediate holder of a lock, which may itself be in a PI wait. The ultimate holder is the thread at the end of the wait chain. You can issue a line command in the IPIRGLST view to terminate the ultimate holder region if you decide that doing so is warranted.

**Note:** The line commands available in the PI views are described on page 136. For more information about ultimate holders, see page 135.

You can use the PI Resource Lock Summary view (IPIRSSUM) to quickly determine which database resources are in contention. The view lists all database resources that are in contention and shows the number of regions waiting for the resource and the number of regions holding locks on the resource.

You can filter, sort, and customize the PI views to create views that focus on exactly what you need to see and display information the way you want to see it.

The following PI lock views are provided:

<b>View name</b>	<b>Description</b>
<b>IPIRGLST</b>	PI Region Lock List
<b>IPIRGWT</b>	PI Region Lock Wait List
<b>IPIRSWT</b>	PI Resource Lock Wait List
<b>IPIRSSUM</b>	PI Resource Lock Summary
<b>IPISTAT</b>	PI Detail Statistics
<b>IPIMW</b>	PI Region Waiter Menu
<b>IPIMR</b>	PI Resource Waiter Menu
<b>IPIMU</b>	PI Ultimate Holder Menu
<b>IPIMS</b>	PI Statistics Menu

---

## Accessing the Program Isolation Lock Views

You can hyperlink to program isolation lock views from the following Easy Menus:

- IMS Easy Menu (EZIMS and EZIMSR)
- IMS Fast Menu Utility pop-up menu (EZIFAST and EZIFASTR)
- IMS Sysplex Easy Menu (EZISSI and EZISSIR)
- IMS Operations Menu (EZIOPSR)
- IMS DBA Easy Menu (EZIDBA and EZIDBAR)

You can also display the program isolation lock views by

- entering a PI view name on a command line
- entering VIEWS on the command line and selecting the view from the list of views
- entering MAIN on the command line, selecting PI, and selecting a view from the PI view list

---

## Analyzing Lock Problems

To analyze lock problems, start with the PI Region Lock Wait List view (IPIRGWT). The IPIRGWT view displays a list of all regions that are waiting for a resource lock, and it provides information about the resource and the region causing the lock contention. The view is sorted by descending wait time to highlight waiting regions that are most impacted.

You can determine the cause of a wait by examining the ultimate holder information in the IPIRGWT view. If there is only one ultimate holder, its region ID and jobname are displayed.

**Note:** If a waiting region has requested an exclusive lock for a resource held by several regions with shared locks, there will be multiple ultimate holders in the Cnt Ult field. In that case, you should hyperlink from the Cnt Ult field to access the PI Region Lock List view (IPIRGLST), which lists the ultimate holders of a resource.

The resource in contention is identified in the IPIRGWT Database Name field (to the right in the view). You may need to know how many other regions are waiting for the resource to understand the impact of the resource contention. You can hyperlink on the Database Name field to access a list of all regions waiting for the resource in the PI Resource Lock Wait List view (IPIRSWT).

A resource wait cannot be resolved until the ultimate holder region releases the resource. The resource might not be released until the program issues its next sync point, which may be when the program finishes execution. If you have MAINVIEW AutoOPERATOR for IMS implemented, you can issue the P or PA action from the IPIRGWT view to stop the ultimate holder region, but you should determine the impact of doing so before you proceed.

To determine the impact of stopping an ultimate holder region, check the Ultimate Held field on the IPIRGLST view to find out how many resources are being held by the region. If the number is low, stopping the region will have less impact. If the number is high, you should consider increasing the region's performance level so that it can complete processing sooner, rather than issuing a stop region action.

**Note:** For more information about the P and PA actions, see page 136.

---

## Ultimate Lock Holders

The ultimate holder of a program isolation lock is either

- a region holding the lock required by another region
- or
- a region holding the lock required by a waiting region that is holding a different lock required by another waiting region

Example 1:

Region 1 is running and holds lock **A**

Region 2 is waiting for lock **A**

In example 1, Region 1 is the ultimate holder of the lock required by Region 2.

Example 2:

Region 1 is running and holds lock **A**

Region 2 is waiting for lock **A** and holds lock **B**

Region 3 is waiting for lock **B**

In example 2, Region 1 is the ultimate holder of the lock that must be freed before Region 2 and Region 3 can continue processing.

The ultimate holder of a lock is significant because the ultimate holder must release the lock before other work can proceed. The ultimate holder can release the lock either by

- completing normally
- completing expeditiously (influenced by operations control or by an increase in the region's performance level)
- being stopped with a P or PA region stop action line command (see page 136)

Before you use a stop action on an ultimate region to free a lock, you should consider the amount of time that backout processing will take as a result of the stop action. If the region is an errant BMP, stopping the region may take longer than allowing processing to complete.

In example 2, neither Region 3 nor Region 2 will continue processing until Region 1 releases lock A, and you cannot cause Region 2 to release its lock without terminating the IMS control region. Region 1 is the cause of the problem, and the only way to solve the problem is to influence the processing of Region 1, the ultimate lock holder.

**Note:** There may be more than one ultimate holder of a lock when regions hold shared locks and the requester requires an exclusive lock.

## Line Commands

The program isolation views help you determine the cause of lock contention problems, and you can use the P and PA line commands to deal with contention problems.

Line Command	Function
P	<p>Stop Region(s)</p> <p>P is a line command that issues the IMS /STOP REGION command to stop a region or regions.</p> <p>If you issue the P command on a line in the IPIRGLST view, it stops only the region listed on that line.</p> <p>If you issue the P command on a line in the IPIRSWT or IPIRGWT lock wait list view, it stops all ultimate regions that hold a resource needed by the waiting region.</p>
PA	<p>Stop Region(s) with an Abdump</p> <p>PA is a line command that issues the IMS /STOP REGION ABDUMP command to abnormally terminate a region or regions with a dump.</p> <p>If you issue the command on a line in the IPIRGLST view, it abduumps only the region listed on that line.</p> <p>If you issue the command on a line in the IPIRSWT or IPIRGWT lock wait list view, it abduumps all ultimate regions that hold a resource needed by the waiting region.</p>

**Note:** Line commands require implementation of MAINVIEW AutoOPERATOR for IMS.

## PI Region Lock List View

The PI Region Lock List view (IPIRGLST) provides information about regions waiting for program isolation locks and the cause for the wait. The view sorts waiting regions by wait time and lists the regions with the longest wait times at the top.

The IPIRGLST view has one row for each waiter region. That row shows the resource that the region is waiting for. Each waiter region row is followed by one or more rows that describe the ultimate holder of the lock.

**Note:** You can use the P and PA region stop line commands on this view to stop individual regions if you decide that stopping a region is the best course of action to end a resource contention (see “Line Commands” on page 136).

When you access this view by hyperlinking from the IPIRGWT view, the information is filtered by the selected region. To see an unfiltered version of the view, enter IPIRGLST on any IPSM command line. You can also hyperlink to the IPIRGLST view from the System popup menu on EZIFAST, from all four program isolation menus, and from several of the region activity views.

```

22MAR2002 10:51:53 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IPIRGLST===== (ALL=====*)=====)22MAR2002==10:51:53====MVIMS====D====6
CMD +-+ Waiters  +-+ Wait +-+ Ultimate  +-+ Rgn      Rgn PSB      Tran
--- ID Jobname  Held Time ID Holder   Held Status Typ Name     Name
   3 IM8MP2      1 253.3      6 IM8PIWT2   2 ACTV-USR  BMP PTEST02 GBGTRNB1
   4 IM8PIWT4    2  18.9      6 IM8PIWT2   2 ACTV-USR  BMP PTEST02 GBGTRNB1
   5 IM8PIWT3    2  19.4      6 IM8PIWT2   2 ACTV-USR  BMP PTEST02 GBGTRNB1
   6 IM8PIWT2    2  19.4      6 IM8PIWT2   2 ACTV-USR  BMP PTEST02 GBGTRNB1
  
```

Figure 92. PI Region Lock List View (IPIRGLST)

```

22MAR2002 10:52:31 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IPIRGLST===== (ALL=====*)=====)22MAR2002==10:51:53====MVIMS====D====6
CMD +-+ Tran      Database      Lock
--- ID Name      Name      DCB      RBA      State
   3 THDAMINQ  CUSTHDAM 01      00001A6C UPD
   GBGTRNB1  CUSTHDAM 01      00001A6C UPD
   4 GBGTRNB1  CUSTHDAM 01      000013DA UPD
   GBGTRNB1  CUSTHDAM 01      000013DA UPD
   5 GBGTRNB1  CUSTHDAM 01      00001A6C UPD
   GBGTRNB1  CUSTHDAM 01      00001A6C UPD
  
```

Figure 93. PI Region Lock List View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IPIRGLST view.

<b>Hyperlink from</b>	<b>To see</b>
(Waiters) ID	PI Region Waiter Menu (IPIMW), where you can link to more information about the selected waiter region
Waiters Jobname or (Resources) Held	Region Activity Detail view (IRGNDTLR), where you can find out what processing the selected waiting region has done up to now
(Ultimate Holder) ID	PI Ultimate Holder Menu (IPIMU), where you can link to more information about the selected ultimate holder region
Ultimate Holder or (Resources) Held	Region Activity Detail view (IRGNDTLR), where you can find out what processing the selected ultimate holder region has done up to now
PSB Name	DLIST service, which provides details about the last DL/I call issued by the selected region

## PI Region Lock Wait List View

The PI Region Lock Wait List view (IPIRGWT) provides a list of all regions waiting for database resource locks and shows the ultimate holder of each resource in contention.

This view is a good starting point for analyzing lock problems. The view highlights problems and shows their extent. (For more information about analyzing lock problems, see page 134.)

**Note:** You can use the P and PA region stop line commands on this view to stop **all** ultimate regions that hold a resource needed by a waiting region, if you decide that stopping regions is the best course of action to end a resource contention (see “Line Commands” on page 136).

You can access this view by entering IPIRGWT on any IPSM command line. You can hyperlink to the view from the Regions in PI Wait field in the IPISTAT view and from the Number Waiters field in the IPIRSSUM view. You can also hyperlink to the view from all four program isolation menus and from the EZIMS, EZISSI, EZIFAST (System Menu pop-up menu), EZDOPSR, and EZDDBA easy menus.

```
22MAR2002 10:51:53 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> PAGE
CURR WIN ==> 1           ALT WIN ==>
>W1 =IPIRGWT===== (ALL=====*)=====)22MAR2002==10:51:53====MVIMS====D====3
CMD Rgn Region  Rgn PSB      Tran      Wait Cnt Ult Ultimate Database
--- ID Jobname  Typ Name      Name      Time Ult Rgn Jobname  Name      DCB
   3 IM8MP2     MPP PHDAMINQ THDAMINQ  418.1   1   6 IM8PIWT2  CUSTHDAM 01
   5 IM8PIWT3   BMP PTEST02  GBGTRNB1 184.2   1   6 IM8PIWT2  CUSTHDAM 01
   4 IM8PIWT4   BMP PTEST02  GBGTRNB1 183.7   1   6 IM8PIWT2  CUSTHDAM 01
```

Figure 94. PI Region Lock Wait List View (IPIRGWT)

```
22MAR2002 10:52:31 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> PAGE
CURR WIN ==> 1           ALT WIN ==>
<W1 =IPIRGWT===== (ALL=====*)=====)22MAR2002==10:51:53====MVIMS====D====6
CMD Rgn
--- ID DCB      RBA
   3 01      00001A6C
   5 01      00001A6C
   4 01      000013DA
```

Figure 95. PI Region Lock Wait List View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IPIRGWT view.

<b>Hyperlink from</b>	<b>To see</b>
Rgn ID	PI Region Waiter Menu (IPIMW), where you can link to more information about the selected waiter region
Region Jobname	Region Activity Detail view (IRGNDTLR), where you can find out what processing the selected waiting region has done up to now
PSB Name	DLIST service, which provides details about the last DL/I call issued by the selected region
Cnt Ult	PI Region Lock List view (IPIRGLST), which lists all ultimate holders of the selected waiting region
Database Name	PI Resource Lock Wait List view (IPIRSWT), which shows each resource that the selected region is waiting to get a lock for

## PI Resource Lock Wait List View

The PI Resource Lock Wait List view (IPIRSWT) provides a list of all resources that regions are waiting to get locks for.

**Note:** You can use the P and PA region stop line commands on this view to stop **all** ultimate regions that hold a resource needed by a waiting region, if you decide that stopping regions is the best course of action to end a resource contention (see “Line Commands” on page 136).

You can display all resources that have regions waiting for them by entering IPIRSWT on any IPSM command line. You can hyperlink to the IPIRSWT view from the Database Name field in the IPIRGWT and IPIRSSUM views. You can also hyperlink to it from all four program isolation menus and from the EZIFAST System Menu pop-up menu.

```

22MAR2002 10:51:53 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IPIRSWT===== (ALL=====*)=====)22MAR2002==10:51:53====MVIMS====D====3
CMD Database          Wait +- Waiter  +-+ PSB      Tran
--- Name   DCB      RBA      Time  ID Jobname  Type Name      Name
  CUSTHDAM 01      00001A6C 184.9  5 IM8PIWT3 BMP  PTEST02  GBGTRNB1
  CUSTHDAM 01      000013DA 184.4  4 IM8PIWT4 BMP  PTEST02  GBGTRNB1
  CUSTHDAM 01      00001A6C 418.8  3 IM8MP2   MPP  PHDAMINQ THDAMINQ
  
```

Figure 96. PI Resource Lock Wait List View (IPIRSWT)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IPIRSWT view.

Hyperlink from	To see
Database Name	PI Resource Waiter Menu (IPIMR), where you can link to more information about holding regions and resource or database contention
Waiter (Region) Jobname	Region Activity Detail view (IRGNDTLR), where you can find out what processing the selected waiting region has done up to now
PSB Name	DLIST service, which provides details about the last DL/I call issued by the selected region

## PI Resource Lock Summary View

The PI Resource Lock Summary view (IPIRSSUM) lists all database resources that are in contention. Degree of contention is measured by the number of regions waiting (shown in the Number Waiters field).

You can access this view by entering IPIRSSUM on any IPSM command line. You can hyperlink to the view from all four program isolation menus, from the EZDDDBA DBA Easy Menu, and from the EZIFAST System Menu pop-up menu.

```

22MAR2002 10:51:53 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =IPIRSSUM===== (ALL=====*)=====)22MAR2002==10:51:53====MVIMS====D====3
Database Number Number
Name      Waiters Holders
CUSTHDAM      3      3
  
```

Figure 97. PI Resource Lock Summary View (IPIRSSUM)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IPIRSSUM view.

Hyperlink from	To see
Database Name	PI Resource Lock Wait List view (IPIRSWT), which shows the resources that regions are waiting to get locks for
Number Waiters	PI Region Lock Wait List view (IPIRGWT), which shows the regions that are waiting for a resource

## PI Detail Statistics View

The PI Detail Statistics view (IPISTAT) is a realtime or past interval detail view that shows dynamic and internal IMS program isolation pool and QCB statistics.

You can access the IPISTAT view by entering the view name on any IPSM command line. You can hyperlink to the view from the IPIMW, IPIMR, and IPIMU isolation menus and from the EZIFAST Easy Menu.

```

22MAR2002 10:51:53 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =IPISTAT===== (ALL=====*)=====)22MAR2002==10:51:53====MVIMS====D====3

----- DYNAMIC POOL -----                ----- DYNAMIC QCBs -----
Current Pool Size.....          65536 Current QCBs Allocated.....          2730
Increment Value.....           65536 Increment Value.....           2730
Maximum Pool Size.....         1048576 Maximum QCBs.....           43690
% of Current vs Max.....         6.25 % of Current vs Max.....         6.25
Free Space.....                65208 Free QCBs.....           2717
% of Freespace.....            99.50 % of Freespace.....           99.52

----- INTERNAL POOL -----                ----- INTERNAL QCBs -----
Current Pool Size.....          1584 Current QCBs Allocated.....          66
Free Space.....                1584 Free QCBs.....           66
% of Freespace.....            100.00 % of Freespace.....          100.00

                                     --- PI ENQUEUE SUMMARY ---
                                     Regions in PI Wait.....          3
                                     Regions Holding Locks.....       4

```

Figure 98. PI Detail Statistics View (IPISTAT)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IPISTAT view.

Hyperlink from	To see
Current Pool Size	PI Statistics Menu (IPIMS), where you can link to information about waiting regions, ultimate holders, and resource contention
Regions in PI Wait	PI Region Lock Wait List view (IPIRGWT), which shows the regions that are waiting for a resource

## PI Region Waiter Menu

The PI Region Waiter Menu (IPIMW) is an Object Easy Menu for a selected waiting region. You can use the menu to access detailed information about waiting regions, holding regions, and region and resource contention.

You can hyperlink to the menu from the waiters region ID field in the IPIRGLST view or the Rgn ID field in the IPIRGWT view.

```
22MAR2002 08:40:23 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =IPIMW===== (ALL=====*)22MAR2002==10:51:53====MVIMS====D====1
                                PI Region Waiter Menu
                                Timeframe - Realtime

Waiting Region ID ->                               3
Jobname ->                                           IM8MP2
Resource Database ->                                CUSTHDAM
DCB ->                                              01
RBA ->                                              00001A6C

Region Information  +-----+      Tools and Menu
. Region Detail    | Place cursor on | > IMS Easy Menu
. DL/I Call in Progress | menu item and | > IMS Fast Menu
. All Regions in PI Wait | press ENTER  | > MVIMS Main Menu
                    +-----+      . Return...

Resource Information
. Holding Regions
. Resource Contention
. Database Contention
. PI Statistics
```

Figure 99. PI Region Waiter Menu (IPIMW)

To use the menu, position the cursor on any field and press Enter.

## PI Resource Waiter Menu

The PI Resource Waiter Menu (IPIMR) is an Object Easy Menu for a selected waiting region. You can use the menu to access detailed information about holding and waiting regions and about resource and database contention.

You can hyperlink to the menu from the Database Name field in the IPIRSWT view.

```
22MAR2002 08:40:23 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =IPIMR===== (ALL=====*)=====)22MAR2002==10:51:53====MVIMS====D====1
          PI Resource Waiter Menu
          Timeframe - Realtime

          Resource Database ->          CUSTHDAM
                   DCB ->          01
                   RBA ->          00001A6C
          Waiting Region ID ->          3
                   Jobname ->          IM8MP2

          Resource Information  +-----+          Tools and Menus
. Holding Regions              | Place cursor on | > IMS Easy Menu
. Resource Contention          | menu item and  | > IMS Fast Menu
. Database Contention          | press ENTER  | > MVIMS Main Menu
. PI Statistics                 +-----+          . Return...

          Region Information
. Region Detail
. DL/I Call in Progress
. All Regions in PI Wait
```

Figure 100. PI Resource Waiter Menu (IPIMR)

To use the menu, position the cursor on any field and press Enter.

## PI Ultimate Holder Menu

The PI Ultimate Holder Menu (IPIMU) is an Object Easy Menu for a selected ultimate holder region. You can use the menu to access detailed information about ultimate holder regions and waiting regions.

You can hyperlink to the menu from the ultimate region ID field in the IPIRGLST view.

```
22MAR2002 08:40:23 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =IPIMU===== (ALL=====*)=====)22MAR2002==10:51:53====MVIMS====D====1
                                     PI Ultimate Holder Menu
                                     Timeframe - Realtime

Ultimate Region ID ->                          10K
      Jobname ->                                IM8MP2
Waiting Region ID ->                             3
      Jobname ->                                IM8MP2
Resource Database ->                             CUSTHDAM
      DCB ->                                    01
      RBA ->                                    00001A6C

Ultimate Holder Info  +-----+  Tools and Menu
. Region Detail      | Place cursor on | > IMS Easy Menu
. DL/I Call in Progress | menu item and | > IMS Fast Menu
                    | press ENTER   | > MVIMS Main Menu
Waiter Information   +-----+  . Return...
. Region Detail
. DL/I Call in Progress
. All Regions in PI Wait

Resource Information
. Resource Contention
. Database Contention
. PI Statistics
```

Figure 101. PI Ultimate Holder Menu (IPIMU)

To use the menu, position the cursor on any field and press Enter.

## PI Statistics Menu

The PI Statistics Menu (IPIMS) provides access to detailed information about waiting regions, ultimate holders, and resource contention.

You can access the IPIMS menu by entering the view name on any IPSM command line. You can hyperlink to the menu from the Current Pool Size field in the IPISTAT view.

```
22MAR2002 08:40:23 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =IPIMS===== (ALL=====*)22MAR2002==10:51:53====MVIMS====D====1
                PI Statistics Menu
                Timeframe - Realtime

    PI Activity          +-----+          Tools and Menus
. Regions in PI Wait    | Place cursor on | > IMS Easy Menu
. Resource Contention  | menu item and  | > IMS Fast Menu
. Holding Regions      | press ENTER   | > MVIMS Main Menu
. Database Contention  +-----+          . Return...
```

Figure 102. PI Statistics Menu (IPIMS)

To use the menu, position the cursor on any field and press Enter.



---

## Chapter 11. Recognizing and Resolving N-Way Data Sharing Resource Contention

This chapter discusses the IRLM lock views, which make the task of recognizing and resolving N-way data sharing resource contention much easier. These views make it easy to answer the following questions:

- Is there a problem?
- How severe or widespread is it?
- Which resources are most contended for?
- How do I resolve the problem?

With views like the IRLM Resource Lock Summary view, you can quickly see which database resources are most contended for. The degree of contention is quantified in fields showing the number of threads waiting, longest wait times, and average wait times.

All views can be filtered on your most important criteria. Built in the MAINVIEW window environment, the IRLM lock views give you powerful usability enhancements. You can filter, sort, and customize to produce views that focus on exactly what you need to see and to display information the way you need to see it.

The following IRLM lock views are provided:

<b>View name</b>	<b>Description</b>
<b>ILKRGSUM</b>	IRLM Region Lock Summary
<b>ILKRGLST</b>	IRLM Region Lock List
<b>ILKRGWT</b>	IRLM Region Lock Wait List
<b>ILKRSSUM</b>	IRLM Resource Lock Summary
<b>ILKRSLST</b>	IRLM Resource Lock List
<b>ILKR SWT</b>	IRLM Resource Lock Wait List

---

## Accessing the IRLM Lock Views

You can display any of the IRLM lock views described in this chapter by typing the view name on the command line, or by typing VIEWS and then selecting the view from the list displayed.

You can also hyperlink to the IRLM lock views from the following Easy Menus:

- DBCTL Easy Menus (EZIMS and EZIMSR)
- DBCTL Fast Menu Utility popup (EZIFAST and EZIFASTR)
- IMS Sysplex Easy Menu (EZISSI and EZISSIR)
- DBCTL Operations Menu (EZDOPSR)
- DBCTL DBA Easy Menu (EZDDBA and EZDDBAR)

---

## Analyzing Lock Problems

A good way to begin analyzing lock problems is by looking at the Wait Time field in the ILKRGWT view. This field shows you the extent of any problems that may exist (for example, how long the waiters for a resource have been waiting).

To investigate a long wait time, you can hyperlink from the Wait Time field. This takes you to the IRLM Resource Lock List view (ILKRSLST). The IRLM Resource Lock List view shows you who holds the resource that is being waited for and who else may be waiting for it.

The cause of a problem may be that the holder of the resource is also waiting for another resource. To see what the holder is waiting for, hyperlink from the holder's Hold Time field. That will take you to a list of all locks held or waited for by that particular holder.

If you want to investigate further, hyperlink from the holder's Wait Time field. You now see who holds the resource that the holder is waiting for. If desired, this process can be repeated until you find the original cause of the problem.

## IRLM Region Lock Summary View

The IRLM Region Lock Summary view (ILKRGSUM), shown in Figure 103 and Figure 104, displays a list of all threads that are waiting for or holding database locks. Threads with the longest wait times are shown first. This view shows

- Every thread that
  - holds a resource lock
  - is waiting for a resource lock
- How long a thread has been
  - holding a lock
  - waiting for a lock
- How many resource locks the thread holds
- How long the longest currently held lock has been held

You can use this view to see all threads currently using IRLM resources. To display this high-level view, type ILKRGSUM on any IPSM command line.

```

22MAR2002 10:51:53 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =ILKRGSUM=====IMSxxx====*=====22MAR2002==10:51:53====MVIMS====D====3
CMD Rgn IMS  Rgn      Rgn Rgn      MVS      PSB      Wait Num Longest Highest
--- Id  Id  Jobname  Typ Status  Name      Name      Time Held Held      State
    5 X19H IM81BMP1 BMP WT-IRLM SYSD      PTEST01   5.7    1    5.7 W-UPD
    4 X19H IM81BMP2 BMP ACTV-USR SYSD      PTEST02           1   51.1 H-UPD
SYS X19H DLI  -TCB SYS          SYSD                        3   184.2 H-SHR
  
```

Figure 103. IRLM Region Lock Summary View (ILKRGSUM)

```

22MAR2002 10:52:31 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
<W1 =ILKRGSUM=====IMSxxx====*=====22MAR2002==10:51:53====MVIMS====D====3
CMD Rgn XCF      IRLM  Tran
--- Id  Name      Id      Name
    5 NONE      IR21
    4 NONE      IR21
SYS NONE      IR21
  
```

Figure 104. IRLM Region Lock Summary View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the ILKRGSUM view.

<b>Hyperlink from</b>	<b>To see</b>
Rgn Jobname	Detailed threads information
Num Held	All resources held by a thread
Wait Time	Which resource is waited for
Wait Time, then Wait Time in the ILKRSWT view	All holders of a resource

## IRLM Region Lock List View

The IRLM Region Lock List view (ILKRGLST), shown in Figure 105 and Figure 106, shows all locks held or waited for by all regions. Locks held or waited for are shown by region. The view shows

- Every resource lock
  - held by any thread
  - waited for by any thread
- How long the thread has been
  - waiting for the lock
  - holding the lock

To display the IRLM Region Lock List view, you can type the view name (ILKRGLST) on any IPSM command line. If you hyperlink to this view from another view, the information is filtered according to certain criteria.

```

22MAR2002 10:53:24 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =ILKRGLST=====IMSxxx====*=====22MAR2002==10:53:24====MVIMS====D====6
CMD Rgn IMS  Rgn      Rgn Rgn      Database              Cur Wait HoId
--- Id  Id   Jobname  Typ Status   Name        DCB/Area  RBA/Type F G Sta Time Time
   5 X19H IM81BMP1 BMP  WT-IRLM CUSTHDAM 1      00000D38 P G UPD 7.2
   4 X19H IM81BMP2 BMP  ACTV-USR CUSTHDAM 1      00000D38 P G UPD 52.6
   5 X19H IM81BMP1 BMP  WT-IRLM CUSTHDAM 1      000006A6 P G UPD 7.2
SYS X19H DLI  -TCB SYS              COMMAND  B G RO 185.
SYS X19H DLI  -TCB SYS              COMMAND  F G RO 185.
SYS X19H DLI  -TCB SYS              CUSTHDAM 1      DATASET  B G RO 92.6
  
```

Figure 105. IRLM Region Lock List View (ILKRGLST)

```

22MAR2002 10:54:08 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
<W1 =ILKRGLST=====IMSxxx====*=====22MAR2002==10:53:24====MVIMS====D====6
CMD Rgn HoId PSB      MVS      XCF      IMS      IRLM Tran
--- Id  Time Name     Name     Name     Jobname  Id   Name
   5      PTEST01 SYSD     NONE     IMSxxx   IR21
   4 52.6 PTEST02 SYSD     NONE     IMSxxx   IR21
   5 7.2 PTEST01 SYSD     NONE     IMSxxx   IR21
SYS 185.      SYSD     NONE     IMSxxx   IR21
SYS 185.      SYSD     NONE     IMSxxx   IR21
SYS 92.6      SYSD     NONE     IMSxxx   IR21
  
```

Figure 106. IRLM Region Lock List View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the ILKRGLST view.

<b>Hyperlink from</b>	<b>To see</b>
Wait Time	IRLM Resource Lock List view (ILKRSLST), where you can see all waiters and holders of a given resource
Hold Time	A filtered version of the IRLM Resource Lock List view (ILKRSLST), where you can see just the waiters of a given resource
Rgn Jobname	Region Activity Detail view (DRGNDTLR), where you can see what processing the region has done up until now

## IRLM Region Lock Wait List View

The IRLM Region Lock Wait List view (ILKRGWT), shown in Figure 107 and Figure 108, displays a list of all threads waiting for database resource locks. Threads with the longest waits are shown at the top. The view shows

- Every resource lock waited for by any thread
- How long any thread has been waiting for any lock

This view is a good starting point for analyzing lock problems. It highlights problems and allows you to see their extent. By hyperlinking, you can find their cause.

To display the IRLM Region Lock Wait List view, you can type the view name (ILKRGWT) on any IPSM command line, or you can hyperlink from the Number Waiters field of the IRLM Resource Lock Summary view (ILKRSSUM).

```

22MAR2002 10:54:56 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =ILKRGWT=====IMSxxx====*=====22MAR2002==10:54:55====MVIMS====D====1
CMD Rgn IMS  Rgn      Rgn Rgn      Database          Cur Wait IRLM
--- Id  Id  Jobname  Typ Status   Name      DCB/Area  RBA/Type F G Sta Time ID
      5 X19H IM81BMP1 BMP WT-IRLM CUSTHDAM 1          00000D38 P G UPD  8.7 IR21
  
```

Figure 107. IRLM Region Lock Wait List View (ILKRGWT)

```

22MAR2002 10:55:32 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
<W1 =ILKRGWT=====IMSxxx====*=====22MAR2002==10:54:55====MVIMS====D====1
CMD Rgn MVS      XCF      IMS      PSB      Tran
--- Id  Name      Name      Jobname  Name      Name
      5 SYSD      NONE      IMSxxx   PTEST01
  
```

Figure 108. IRLM Region Lock Wait List View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the ILKRGWT view.

Hyperlink from	To see
Rgn Jobname	Region Activity Detail view (DRGNDTLR), where you can see what processing the thread has done up until now
Wait Time	IRLM Resource Lock List view (ILKRSLST), where you can see all waiters and holders of a given resource

## IRLM Resource Lock Summary View

The IRLM Resource Lock Summary view (ILKRSSUM), shown in Figure 109 and Figure 110, shows you which database resources are most contended for. Degree of contention for a given resource is measured by number of threads waiting (Number Waiters field), longest wait times (Oldest Waiter field), and average wait times (Avg Wait field).

With this view, you can see

- Every resource held by any participant in an N-way data sharing group
- Every resource waited for by any participant
- How many waiters there are
- How many holders there are

You can also see

- The longest wait time
- The average wait time
- The longest hold time

To display the IRLM Resource Lock Summary view, type the view name (ILKRSSUM) on any IPSM command line.

```

22MAR2002 10:46:24 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ILKRSSUM=====IMSxxx====*=====22MAR2002==10:46:24====MVIMS====D====2
CMD Database              Highest Number Oldest Avg Number Oldest
--- Name   DCB/Area  RBA/Type F G State  Waiters Waiter Wait Holders Holder
CUSTHDAM 1          00000D38 P G H-UPD      1   0.2 0.2      1  45.6
CUSTHDAM 1          000006A6 P G H-UPD      1   0.2 0.2      1   0.2
  
```

Figure 109. IRLM Resource Lock Summary View (ILKRSSUM)

```

22MAR2002 08:31:51 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =ILKRSSUM=====IMSx1XGG=*=====22MAR2002==08:28:00====MVIMS====D====2
CMD Database XCF      MVS      IRLM
--- Name   Group   Name   Id
CUSTHDAM IMSNWAY SYS*   IR2*
CUSTHDAM IMSNWAY SYS*   IR2*
  
```

Figure 110. IRLM Resource Lock Summary View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the ILKRSSUM view.

<b>Hyperlink from</b>	<b>To see</b>
Number Waiter	Which threads are waiting for a resource
Number Holders	Which threads are holding a resource

## IRLM Resource Lock List View

The IRLM Resource Lock List view (ILKRSLST), shown in Figure 111 and Figure 112, shows all waiters for and holders of any database resource. With this view, you can see

- Every resource lock held by any participant in an N-way data sharing group
- Every resource lock waited for by any participant
- How long a thread has been waiting for a lock
- How long a thread has been holding a lock

If you display this view without specifying any parameters (by typing ILKRSLST on any IPDM command line), you see a list of all resources contended for and their respective holders and waiters.

If you are interested in a specific resource, you can hyperlink from the Wait Time field to see waiters and holders for the given resource only. (Hyperlinking *to* this view also filters it to show waiters and holders for a selected resource only.)

```

22MAR2002 10:48:23 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =ILKRSLST=====IMSxxx====*=====22MAR2002==10:48:23====MVIMS====D====6
CMD Database                               Cur Wait Hold Rgn IMS  Rgn      Rgn Rgn
--- Name   DCB/Area  RBA/Type F G Sta Time Time Id  Id  Jobname  Typ Status
CUSTHDAM 1      00000D38 P G UPD  2.2      5 X19H IM81BMP1 BMP WT-IRLM
CUSTHDAM 1      000006A6 P G UPD      2.2  5 X19H IM81BMP1 BMP WT-IRLM
CUSTHDAM 1      00000D38 P G UPD      47.6  4 X19H IM81BMP2 BMP ACTV-USR
CUSTHDAM 1      DATASET  B G R0      87.6 SYS X19H DLI -TCB SYS
                COMMAND B G R0      180. SYS X19H DLI -TCB SYS
                COMMAND F G R0      180. SYS X19H DLI -TCB SYS

```

Figure 111. IRLM Resource Lock List View (ILKRSLST)

```

22MAR2002 10:48:59 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
<W1 =ILKRSLST=====IMSxxx====*=====22MAR2002==10:48:23====MVIMS====D====6
CMD Database Rgn  MVS    PSB    XCF    IMS    IRLM Tran
--- Name     Status Name    Name    Name    Jobname Id    Name
CUSTHDAM WT-IRLM SYSD    PTEST01 NONE    IMSxxx IR21
CUSTHDAM WT-IRLM SYSD    PTEST01 NONE    IMSxxx IR21
CUSTHDAM ACTV-USR SYSD    PTEST02 NONE    IMSxxx IR21
CUSTHDAM      SYSD    NONE    IMSxxx IR21
                SYSD    NONE    IMSxxx IR21
                SYSD    NONE    IMSxxx IR21

```

Figure 112. IRLM Resource Lock List View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the ILKRSLST view.

<b>Hyperlink from</b>	<b>To see</b>
Rgn Jobname	Region Activity Detail view (DRGNDTLR), where you can see detailed information about the thread
Wait Time	Another version of the IRLM Resource Lock List view (ILKRSLST), where you can see all waiters and holders of a given resource
Hold Time	IRLM Region Lock List view (ILKRGLST), where you can see all the resources held or waited for by the thread. This information is especially helpful for analyzing lock problems where a region holding requested resources is itself waiting for another resource.

To display the unfiltered IRLM Resource Lock List view, enter the view name (ILKRSLST) on any IPSM command line and press Enter. To display a filtered IRLM Resource Lock List view, hyperlink from the Wait Time field in the IRLM Region Wait List view (ILKRGWT).

## IRLM Resource Lock Wait List View

The IRLM Resource Lock Wait List view (ILKRSWT), shown in Figure 113 and Figure 114, provides a complete list of resources against which threads are waiting to get locks. With this view, you can see

- Every resource lock waited for by any participant in an N-way data sharing group
- How long any thread has been waiting

If you display this view without specifying any parameters (by typing ILKRSWT on any IPSM command line), you see all resources that have threads waiting for them.

If you want to see waiters and holders for a specific resource only, hyperlink from the Wait Time field within this view. (Hyperlinking to this view from the Wait Time field of the ILKRGWT view also shows waiters and holders for a selected resource only.)

```

22MAR2002 10:50:27 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =ILKRSWT=====IMSxxx====*=====22MAR2002==10:50:27====MVIMS====D====1
CMD Database                               Cur Wait Rgn IMS  Rgn      Rgn Rgn      MVS
--- Name      DCB/Area  RBA/Type F G Sta Time Id  Id   Jobname  Typ Status  Name
      CUSTHDAM 1          00000D38 P G UPD  4.3  5 X19H IM81BMP1 BMP WT-IRLM SYSD

```

Figure 113. IRLM Resource Lock Wait List View (ILKRSWT)

```

22MAR2002 10:51:05 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
<W1 =ILKRSWT=====IMSxxx====*=====22MAR2002==10:50:27====MVIMS====D====1
CMD Database MVS      PSB      XCF      IRLM Tran
--- Name      Name     Name     Name     Id     Name
      CUSTHDAM SYSD     PTEST01 NONE     IR21

```

Figure 114. IRLM Resource Lock Wait List View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the ILKRSWT view.

Hyperlink from	To see
Rgn Jobname	Region Activity Detail view (DRGNDTLR), where you can see what processing the thread has done up until now
Wait Time	IRLM Resource Lock List view (ILKRSLST), where you can see all waiters and holders of a given resource.

---

## Part 4. Managing IMS Operations

This part describes how you can use the IPSM views to manage IMS operations. For general information about views, see the *Using MAINVIEW* manual.

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---

## Chapter 12. Managing Fast Path DEDB Areas

This chapter describes the Fast Path DEDB area views. You can use the views to manage and control your IMS DEDB (data entry database) areas. These interactive views allow you to issue commands and see their results immediately.

With the Fast Path Area views, you can immediately access pertinent information about each of your DEDB areas so that you can

- Understand the impact of changing the status of a particular area
- Manage the programs and transactions that are sensitive to that DEDB area

The Fast Path Area views show you

- DEDB area structure and status
- Amount of space available
- EQE information
- Extensive CI statistics, broken down by category

After accessing the information you need, you can use line commands within the same view to control the Fast Path areas (if you have a license for MAINVIEW AutoOPERATOR for IMS).

The following Fast Path area views are provided:

<b>View name</b>	<b>Description</b>
<b>IFPSUMR</b>	Fast Path DEDB Area Overview
<b>IFPDTLR</b>	Fast Path DEDB Area Detail
<b>IFPORGR</b>	Fast Path DEDB Area Statistics
<b>IFPSTAR</b>	Fast Path DEDB Area Status
<b>IFPMR</b>	Fast Path Area Object Easy Menu

---

## Accessing the Fast Path DEDB Area Views

You can display Fast Path area views by typing the view name on the command line or by typing `VIEWS` and then selecting the view from a list of views.

You can also hyperlink to the Fast Path area views from the following menus:

- IMS Easy Menu (EZIMS)
- IMS Fast Menu (EZIFAST)
- IMS Resource Menu (EZIMSRS)
- IMS Sysplex Easy Menu (EZISSI)

## Fast Path DEDB Area Overview View

This section describes the Fast Path DEDB Area Overview view (IFPSUMR), which is shown in Figures 115 and 116. You can use this view to manage and control your IMS DEDB areas.

For each area, the IFPSUMR view shows the area name, current status, authorization state, access level, number of EQEs (error queue elements) used, DBD name, IMS ID, MVS name, IMS name, local and global DMB numbers, whether the area is defined as nonrecoverable, area type, and organization type.

You can use line commands in the IFPSUMR view to control your Fast Path DEDB areas (if you have a license for MAINVIEW AutoOPERATOR for IMS). To display the Fast Path DEDB Area Overview view, you can enter the view name (IFPSUMR) on any IPSP command line.

```

22MAR2002 14:09:18 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx) MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =IFPSUMR=====IMSxxx====*=====22MAR2002==14:05:42====MVIMS====D====2
CM Area          Auth      Access EQE  DBD      IMS  MVS  IMS
-- Name      Status 1 Status 2 State   Level  Cnt  Name     ID   ID   Name
CUSA01A     NOT-OPEN          NOT-AUTH EXCL      BBFDDB11 X17H SJSC IMSxxx
CUSA010     NOT-OPEN          NOT-AUTH EXCL      BBFDDB01 X17H SJSC IMSxxx

```

Figure 115. Fast Path DEDB Area Overview View (IFPSUMR)

```

22MAR2002 14:05:46 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx) MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
<W1 =IFPSUMR=====IMSxxx====*=====22MAR2002==14:05:42====MVIMS====D====2
CM Area      IMS      Loca Glob Non-
-- Name      Name     DMB# DMB# Recov Type Org
CUSA01A     IMSxxx    11   N   DEDB VSAM
CUSA010     IMSxxx    1    N   DEDB VSAM

```

Figure 116. Fast Path DEDB Area Overview View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IFPSUMR view.

Hyperlink from	To see
Area Name	IFPMR menu, where you can access additional information about the Fast Path DEDB area

## Fast Path DEDB Area Detail View

This section describes the Fast Path DEDB Area Detail view (IFPDTLR), which is shown in Figure 117. With this view, you can analyze a specific IMS DEDB area.

The IFPDTLR view shows the area name, current status, authorization state, access level, local and global DMB numbers, number of EQEs (error queue elements) used, whether the area is defined as nonrecoverable, DBD name, area type, organization type, IMS ID, and IMS name. The view also shows

- Size of VSAM control intervals (CIs)
- Number of root segment CIs
- Number of independent overflow (IOVF) CIs defined
- Number of independent overflow (IOVF) CIs available
- Percent of independent overflow (IOVF) CIs available
- Number of sequential dependent space (SDEP) CIs defined
- Number of sequential dependent space (SDEP) CIs available
- Percent of sequential dependent space (SDEP) CIs available
- Number of root segment CIs per unit of work
- Number of overflow CIs per unit of work

To display the Fast Path DEDB Area Detail view, you can type the view name (IFPDTLR) on any IPSP command line. You can also hyperlink to the view from the Area Object Easy Menu (IFPMR) or the Database Object Easy Menu (IDBMR).

```
22MAR2002 14:17:17 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ====>                                SCROLL ====> PAGE
CURR WIN ====> 1          ALT WIN ====>
W1 =IFPDTLR=====IMSxxx====*=====22MAR2002==14:17:17====MVIMS====D====1
Area Name.... CUSA010 DBD Name.... BFDDB01 C/I Size..... 1024
Status 1.... NOT-OPEN TYPE..... DEDB Root CIs..... 77
Status 2.... Organization. VSAM IOVF CIs.....
Auth State... NOT-AUTH IMS ID..... X17H IOVF CIs Available..
Access level. EXCL IMS Job Name. IMSxxx IOVD CIs % Available
Local DMB#.. 1 SDEP CIs.....
Global DMB#.. SDEP CIs Available..
EEQE Count... SDEP CIs % Available
NonRecoverable N Root CIs per UOW... 5
Overflow CIs per UOW 10
```

Figure 117. Fast Path DEDB Area Detail View (IFPDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

## Fast Path DEDB Area Statistics View

This section describes the Fast Path DEDB Area Statistics view (IFPORGR), which is shown in Figures 118 and 119. You can access this view when you want to examine structure and space availability information for multiple DEDB areas.

For each area, the IFPORGR view shows the area name, the DBD name, IMS ID, MVS ID, IMS name, current status, area type, organization type, authorization state, and access level. The view also shows

- Size of VSAM control intervals (CIs)
- Number of root segment CIs
- Number of independent overflow (IOVF) CIs defined
- Number of independent overflow (IOVF) CIs available
- Percent of independent overflow (IOVF) CIs available
- Number of sequential dependent space (SDEP) CIs defined
- Number of sequential dependent space (SDEP) CIs available
- Percent of sequential dependent space (SDEP) CIs available
- Number of root segment CIs per unit of work
- Number of overflow CIs per unit of work

You can use line commands in the IFPORGR view to control your Fast Path DEDB areas (if you have a license for MAINVIEW AutoOPERATOR for IMS). To display the Fast Path DEDB Area Statistics view, you can type the view name (IFPORGR) on any IPSM command line. You can also hyperlink to this view from the Area Object Easy Menu (IFPMR).

```

22MAR2002 14:13:51 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IFPORGR=====IMSxxx====*=====22MAR2002==14:13:51====MVIMS====D====2
CM Area   C/I  Root +--- IOVF --+ +--- SDEP --+ R-CI 0-CI DBD  IMS MVS
-- Name   Size C/Is C/Is Ava1 %Av C/Is Ava1 %Av /UOW /UOW Name  ID  ID
   CUSA01A 1024 77
   CUSA010 1024 77
           5  10 BBFDDDB11 X17H SJSC
           5  10 BBFDDDB01 X17H SJSC
  
```

Figure 118. Fast Path DEDB Area Statistics View (IFPORGR)

```

22MAR2002 14:14:08 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
<W1 =IFPORGR=====IMSxxx====*=====22MAR2002==14:13:51====MVIMS====D====2
CM Area   MVS  IMS                               Auth  Access
-- Name   ID   Name      Status 1 Status 2 Type Org  State  Level
   CUSA01A SJSC  IMSxxx   NOT-OPEN          DEDB VSAM NOT-AUTH EXCL
   CUSA010 SJSC  IMSxxx   NOT-OPEN          DEDB VSAM NOT-AUTH EXCL
  
```

Figure 119. Fast Path DEDB Area Statistics View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IFPORGR view.

<b>Hyperlink from</b>	<b>To see</b>
Area Name	IFPMR menu, where you can access additional information about the selected area

## Fast Path DEDB Area Status View

This section describes the Fast Path DEDB Area Status view (IFPSTAR), shown in Figure 120. You can access this view when you want to examine or modify the status of Fast Path DEDB areas.

The Fast Path DEDB Area Status view summarizes status information for all DEDB areas in the IMS by Level 1 and Level 2 status. Level 1 status indicates whether an area is open, not open, stopped, or locked. Level 2 status indicates error or failure conditions for the area. The view provides a count of all areas with the same status, and it shows IMS ID and IMS name.

You can use line commands in the IFPSTAR view to control Fast Path DEDB areas (if you have a license for MAINVIEW AutoOPERATOR for IMS). To display the Fast Path DEDB Area Status view, you can type the view name (IFPSTAR) on any IPSM command line. You can also hyperlink to the view from the Area Object Easy Menu (IFPMR).

```

22MAR2002 14:16:38 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx) MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =IFPSTAR=====IMSxxx====*=====22MAR2002==14:16:38====MVIMS====D====1
CM          Area IMS IMS
-- Status 1 Status 2 Count ID Name
NOT-OPEN          1 X17H IMSxxx
STOPPED           2 X17H IMSxxx

```

Figure 120. Fast Path DEDB Area Status View (IFPSTAR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IFPSTAR view.

Hyperlink from	To see
Area Count	IFPSUMR view, which provides additional information about the selected areas

---

## Fast Path DEDB Area Object Easy Menu

This section describes the Fast Path DEDB Area Object Easy Menu (IFPMR), which is shown in Figure 121. This menu gives you quick access to Fast Path DEDB Area information.

You can use this menu to

- Hyperlink to Fast Path Area Detail, Organization, or Status views
- Hyperlink to the IMS Easy Menu (EZIMS) or IMS Fast Menu (EZIFAST)
- Filter Fast Path Area information on
  - EQE count
  - read or write error
  - locked or stopped status

```
22MAR2002 14:12:09 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
W1 =IFPMR=====IMSxxx====*=====22MAR2002==14:12:09====MVIMS====D====1
                                Area Object Menu
                                Timeframe - Realtime
      FP Area Name -> CUSA010
      IMS ID -> X17H
      IMS Name -> IMSxxx
Related View      Filtering      Tools and Menus
. Detail          . EQE > 0      > IMS Easy Menu
. Areas Organization . Read Error    > IMS Fast Menu
                  . Write Error  . Return...
Categories       . Locked
. Summarized by Status . Stopped
```

Figure 121. Fast Path DEDB Area Object Easy Menu (IFPMR)

To use the Fast Path DEDB Area Object Easy Menu, position the cursor on any option that interests you and press Enter.

You can hyperlink to the Fast Path DEDB Area Object Easy Menu from the Area Name field in the IFPSUMR and IFPORGR views. You can also display the menu by typing IFPMR on any command line.

---

## Chapter 13. Managing Databases

This chapter describes the database views, which you can use to manage and control IMS databases by issuing commands and seeing immediate results.

With the views, you can

- See detailed database information
- Summarize information by database access type or status
- Filter on EEQE (extended error queue element) count, read or write error, locked or stopped status
- Hyperlink to associated area and program information

Statistics include access and organization type, authorization state, access level, local and global DMB numbers, current status, and whether the database is defined as nonrecoverable.

With the database views, you can immediately access pertinent information about each of your IMS databases, which can help you better manage the databases and the programs and transactions that are sensitive to them.

The following database views and Easy Menu are provided:

<b>View name</b>	<b>Description</b>
<b>IDBSUMR</b>	Database Overview
<b>IDBDTLR</b>	Database Detail
<b>IDBTYPR</b>	Database Type Summary
<b>IDBSTAR</b>	Database Status Summary
<b>IDBSUMZ</b>	Summarized Database Overview
<b>IDBEXCP</b>	Databases with Exceptions
<b>IDBMR</b>	Database Object Easy Menu

---

## Accessing the Database Views

You can display the database views by entering the view name on the command line or by entering VIEWS and then selecting the view from a list of views.

You can also hyperlink to database views from the following menus:

- IMS Easy Menu (EZIMS)
- IMS Fast Menu (EZIFAST)
- IMS Sysplex Easy Menu (EZISSI)
- DBCTL Operations Menu (EZDOPSR)
- DBCTL DBA Easy Menus (EZDDBA and EZDDBAR)

## Database Overview View

This section describes the Database Overview view (IDBSUMR), which is shown in Figures 122 and 123. You can use this view to manage and control your IMS databases.

This tabular view displays a scrollable list of all databases in the IMS systems and provides database-level statistics for each of the databases.

The view shows the DBD name or the High Availability Large Database (HALDB) partition name, IMS ID, database and organization type, current status, authorization state, access level, local and global DMB numbers, EEQE count, whether the database is defined as nonrecoverable, and IMS name.

After accessing the information you need, you can use line commands to control the databases in the view (if you have a license for MAINVIEW AutoOPERATOR for IMS).

To display the Database Overview view, you can enter IDBSUMR on any IPSM command line.

```

22MAR2002 13:48:26 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDBSUMR=====IMSxxx====*=====22MAR2002==11:54:32====MVIMS====D====94
CM DBD/PART IMS Database                      Auth Access Loca Glob EEQE
-- Name ID Type Org Status 1 Status 2 State Level DMB# DMB# Cnt
BE2PCUST H81H                NOT-OPEN      NOT-AUTH EXCL 108
BE3ORDER H81H                NOT-OPEN      NOT-AUTH EXCL 109
BE3ORDRX H81H                NOT-OPEN      NOT-AUTH EXCL 110
BE3PARTS H81H                NOT-OPEN      NOT-AUTH EXCL 111
BE3PSID1 H81H                NOT-OPEN      NOT-AUTH EXCL 112
CSQ4CA   H81H                NOT-OPEN      NOT-AUTH EXCL 115
CUSTHDAM H81H HDAM OSAM OPENED      UPDT-SHR UPDT 116 11
CUSTHIDM H81H                NOT-OPEN      NOT-AUTH UPDT 117
CUSTHISM H81H                NOT-OPEN      NOT-AUTH UPDT 118
CUSTINDX H81H                NOT-OPEN      NOT-AUTH UPDT 119
CUSTVSAM H81H                NOT-OPEN      NOT-AUTH UPDT 120
DBFSAMD1 H81H MSDB          OPENED      NOT-AUTH EXCL 121
DBFSAMD2 H81H MSDB          OPENED      NOT-AUTH EXCL 122
DBFSAMD3 H81H DEDB VSAM NOT-OPEN      N/A UPDT 123
DBFSAMD4 H81H                NOT-OPEN      NOT-AUTH UPDT 124
DB1      H81H                NOT-OPEN      NOT-AUTH UPDT 125
DB1H     H81H PHIDAM        STOPPED NOT-OPEN N/A UPDT 126
DB1HSX   H81H PSINDEX       STOPPED NOT-OPEN N/A UPDT 127

```

Figure 122. Database Overview View (IDBSUMR)

```

22MAR2002 13:52:51 ----- MAINVIEW WINDOW INTERFACE (R.x.x.x)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IDBSUMR=====IMSxxx====*=====22MAR2002==11:54:32====MVIMS====D====94
CM DBD/PART EEQE Non  IMS
-- Name      Cnt  Recov Name
BE2PCUST     N/A  IMSxxx
BE3ORDER     N/A  IMSxxx
BE3ORDRX     N/A  IMSxxx
BE3PARTS     N/A  IMSxxx
BE3PSID1     N/A  IMSxxx
CSQ4CA      N/A  IMSxxx
CUSTHDAM     N    IMSxxx
CUSTHIDM     N/A  IMSxxx
CUSTHISM     N/A  IMSxxx
CUSTINDX     N/A  IMSxxx
CUSTVSAM     N/A  IMSxxx
DBFSAMD1     N/A  IMSxxx
DBFSAMD2     N/A  IMSxxx
DBFSAMD3     N/A  IMSxxx
DBFSAMD4     N/A  IMSxxx
DB1          N/A  IMSxxx
DB1H         N/A  IMSxxx
DB1HSX      N/A  IMSxxx

```

Figure 123. Database Overview View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDBSUMR view.

Hyperlink from	To see
DBD/PART Name	IDBMR menu, where you can access more information about the database you selected
Status 1	IDBSUMR view, filtered to show all databases with the same status as the selected status
Status 2	IDBSUMR view, filtered to show all databases with the same status as the selected status
Auth State	IDBSUMR view, filtered to show all databases with the same authorization state as the selected authorization state
Access Level	IDBSUMR view, filtered to show all databases with the same access level as the selected access level

---

## Database Detail View

The Database Detail view (IDBDTLR), shown in Figure 124, provides detailed statistics about a selected IMS database.

This view shows database name, IMS ID and name, access and organization type, local and global DMB numbers, current status, authorization state, access level, whether the database is defined as nonrecoverable, and the EEQE count against the database.

To display the Database Detail view, you can enter IDBDTLR on any IPSM command line. You can also hyperlink to this view from the Database Object Easy Menu (IDBMR).

```
22MAR2002 13:57:58 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =IDBDTLR=====IMSxxx====*=====22MAR2002==13:57:58====MVIMS====D====1
Database name. DBFSAMD3 Status 1..... NOT-OPEN EEQE Countn..
IMS ID.....      H81H Status 2.....
IMS Job Name..   IMSxxx Auth state....   N/A
Type.....       DEDB Access Level..     UPDT
Organization..  VSAM NonRecoverable     N/A
Local DMB #...  123
Global DMB #..
```

Figure 124. Database Detail View (IDBDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

## Database Type Summary View

This section describes the Database Type Summary view (IDBTYPR), which is shown in Figure 125. You can use this view to examine database access type information in a tabular format. You can use line commands in the view to control your IMS databases (if you have a license for MAINVIEW AutoOPERATOR for IMS).

This view summarizes databases by type of DBD access method and by IMS ID. It provides a count of the DBDs in each access method category. (When there is no value in the Type field, the associated database has been generated but does not have a member in ACBLIB, and it has a Status 2 of NOT-INIT.)

The view provides two levels of information about current status. The value in the Status 1 field indicates whether a database is open, not open, stopped, or locked. The value in the Status 2 field indicates error or failure conditions for the database. The view also shows organization type and associated IMS.

To display the Database Type Summary view, you can enter IDBTYPR on the command line.

```

22MAR2002 11:59:44 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =IDBTYPR=====IMSxxx====*=====22MAR2002==11:59:44====MVIMS====D====6
CM
-- Type      Org  Count Status 1 Status 2 Name      ID
      DEDB    VSAM   61 STOPPED  NOT-INIT IMSxxx   H81H
      MSDB    VSAM   2 NOT-OPEN          IMSxxx   H81H
      PART    OSAM   3 OPENED          IMSxxx   H81H
      PHDAM   OSAM   2 OPENED          IMSxxx   H81H
      PHIDAM  OSAM   5 STOPPED  NOT-OPEN IMSxxx   H81H
      PHIDAM  OSAM   1 OPENED          IMSxxx   H81H
  
```

Figure 125. Database Type Summary View (IDBTYPR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDBTYPR view.

Hyperlink from	To see
Count	IDBSUMR view, which shows all the databases that have the type of access method you selected

## Database Status Summary View

This section describes the Database Status Summary view (IDBSTAR), which is shown in Figure 126. You can use this view to examine database status information in a tabular format. You can use line commands in the view to control your IMS databases (if you have a license for MAINVIEW AutoOPERATOR for IMS).

The Database Status Summary view summarizes all databases in the IMS systems by status and by IMS ID. It also provides a count of the databases in each status category. Summarization is by Status 1. (Status 1 indicates whether a database is open, not open, stopped, or locked. Status 2 indicates error or failure conditions for the database.)

To display the Database Status Summary view, you can enter IDBSTAR on the command line.

```

22MAR2002 12:02:26 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =IDBSTAR=====IMSxxx==*=====22MAR2002==12:01:15====MVIMS====D====4
CM          Number IMS      IMS
-- Status 1 Status 2 of DB  Name  ID
  NOT-OPEN          22 IMSxxx H81H
   OPENED           6  IMSxxx H81H
  STOPPED NOT-OPEN  5  IMSxxx H81H
  STOPPED NOT-INIT 61  IMSxxx H81H
  
```

Figure 126. Database Status Summary View (IDBSTAR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDBSTAR view.

Hyperlink from	To see
Number of DB	IDBSUMR view, which shows all the databases with the status you selected

## Summarized Database Overview View

The Summarized Database Overview view (IDBSUMZ), shown in Figures 127 and 128, displays a scrollable list of all databases in the IMS systems and provides database-level statistics for each of the databases.

The view shows the DBD name or the High Availability Large Database (HALDB) partition name, IMS ID, database and organization type, current status, authorization state, access level, local and global DMB numbers, EEQE count, whether the database is defined as nonrecoverable, and IMS name.

You can use this view to manage and control IMS databases that are defined on a single IMS system or on multiple IMS systems. You can also use the view to issue commands and see immediate results (if you have a license for MAINVIEW AutoOPERATOR for IMS).

A database that is present in multiple IMS systems is displayed in one row of the view, and the information about the database is aggregated. Commands that are issued against the database are issued in all the IMS systems.

To display the IDBSUMZ view, you can enter the view name on any IPSM command line. You can also hyperlink to this view from the Databases option in the DBCTL Operations Menu (EZDOPSR).

```

22MAR2002 13:41:21 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDBSUMZ=====IMSxxx====*=====22MAR2002==13:40:50====MVIMS====D==200
CM DBD/PART IMS Database Auth Access Loca Glob EEQE
-- Name ID Type Org Status 1 Status 2 State Level DMB# DMB# Cnt
BE2PARTS IM8 STOPPED NOT-INIT NOT-AUTH EXCL 107
BE2PCUST IM8 HISAM VSAM NOT-OPEN ALLOC-F NOT-REG EXCL 108
BE3ORDRX IM8 INDX VSAM NOT-OPEN ALLOC-F NOT-AUTH EXCL 110
B00OUT01 IM8 STOPPED NOT-INIT NOT-AUTH EXCL 114
CSQ4CA IM8 NOT-OPEN NOT-AUTH EXCL 115
CUSTHDAM IM8 HDAM OSAM OPENED UPDT-EXC UPDT 116 11
CUSTHIDM IM8 HIDAM OSAM NOT-OPEN UPDT-EXC UPDT 117 12
CUSTINDX IM8 INDX VSAM NOT-OPEN UPDT-EXC UPDT 119 13
CUSTVSAM IM8 NOT-OPEN NOT-AUTH UPDT 120
DBFSAMD1 IM8 MSDB OPENED NOT-AUTH EXCL 121
DBFSAMD3 IM8 DEDB VSAM NOT-OPEN N/A UPDT 123
DB1H IM8 PHIDAM OSAM STOPPED N/A UPDT 127
DB1HSX IM8 PSINDEX VSAM STOPPED N/A UPDT 128
DDLTDDB IM8 HISAM VSAM NOT-OPEN NOT-AUTH UPDT 130
DI21PART IM8 HISAM VSAM OPENED UPDT-EXC UPDT 131 7

```

Figure 127. Summarized Database Overview View (IDBSUMZ)

```

22MAR2002 13:41:21 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDBSUMZ=====IMSxxx====*=====22MAR2002==13:40:50====MVIMS====D==200
CM DBD/PART EEQE Non- IMS
-- Name      Cnt  Recov Name
  BE2PARTS   N    IM8332CT
  BE2PCUST   N    IM8332CT
  BE3ORDRX   N    IM8332CT
  B00OUT01   N    IM8332CT
  CSQ4CA     N    IM8332CT
  CUSTHDAM   N    IM8332CT
  CUSTHIDM   N    IM8332CT
  CUSTINDX   N    IM8332CT
  CUSTVSAM   N    IM8332CT
  DBFSAMD1   N    IM8332CT
  DBFSAMD3   N    IM8332CT
  DB1H       N    IM8332CT
  DB1HSX     N    IM8332CT
  DDLTDBD   N    IM8332CT
  DI21PART   N    IM8332CT

```

Figure 128. Summarized Database Overview View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDBSUMZ view.

Hyperlink from	To see
DBD/PART Name	IDBSUMR view, filtered to show only the selected database
Status 1	IDBSUMR view, filtered to show all databases with the same status as the selected status
Status 2	IDBSUMR view, filtered to show all databases with the same status as the selected status
Auth State	IDBSUMR view, filtered to show all databases with the same authorization state as the selected authorization state
Access Level	IDBSUMR view, filtered to show all databases with the same access level as the selected access level

## Databases with Exceptions View

The Databases with Exceptions view (IDBEXCP), shown in Figures 129 and 130, shows operational IMS databases that have an exception status. For a database to be operational, the following criteria must be met:

- The database must be defined in the IMS gen.
- A DBDGEN must be run.
- The database must be added to the DBDLIB.
- A database DD must be added to the IMS control region (with the DFSMDA macro for dynamic allocation).
- The DBD/ACB entry must be available in the active ACBLIB.

The IDBEXCP view shows the DBD name or the High Availability Large Database (HALDB) partition name, IMS ID, database and organization type, current status, authorization state, access level, local and global DMB numbers, EEQE count, whether the database is defined as nonrecoverable, and IMS name.

You can use the view to manage and control the databases by issuing commands and seeing immediate results (if you have a license for MAINVIEW AutoOPERATOR for IMS).

To display the Databases with Exception view, you can enter IDBEXCP on any IPSM command line. You can also hyperlink to this view from the DBCTL Operations Menu (EZDOPSR) and from the DBCTL DBA Easy Menus (EZDDBA and EZDDBAR).

```

22MAR2002 12:02:26 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDBEXCP=====IMSxxx====*=====22MAR2002==12:01:15====MVIMS====D====4
CM DBD/PART IMS Database Auth Access Loca Glob EEQE
-- Name ID Type Org Status 1 Status 2 State Level DMB# DMB# Cnt
BE2PCUST IM8 HISAM VSAM NOT-OPEN ALLOC-F NOT-REG EXCL 108
BE3ORDER IM8 HIDAM VSAM STOPPED ALLOC-F NOT-AUTH EXCL 109
IN01A01 IM8 HIDAM OSAM STOPPED ALLOC-F NOT-AUTH EXCL 347
IN01A02 IM8 INDX VSAM STOPPED ALLOC-F NOT-AUTH EXCL 348

```

Figure 129. Database with Exceptions View (IDBEXCP)

```

22MAR2002 12:02:26 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IDBEXCP=====IMSxxx====*=====22MAR2002==12:01:15====MVIMS====D====4
CM DBD/PART EEQE Non- IMS
-- Name Cnt Recov Name
BE2PCUST N/A IM8332CT
BE3ORDER N/A IM8332CT
IN01A01 N/A IM8332CT
IN01A02 N/A IM8332CT

```

Figure 130. Database with Exceptions View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDBEXCP view.

<b>Hyperlink from</b>	<b>To see</b>
DBD/PART Name	IDBMR menu, where you can access more information about the selected database
Status 1	IDBSUMR view, filtered to show all databases with the same status as the selected status
Status 2	IDBSUMR view, filtered to show all databases with the same status as the selected status
Auth State	IDBSUMR view, filtered to show all databases with the same authorization state as the selected authorization state
Access Level	IDBSUMR view, filtered to show all databases with the same access level as the selected access level

---

## Database Object Easy Menu

This section describes the Database Object Easy Menu (IDBMR), which is shown in Figure 131. This menu gives you quick access to information about a specific database in your IMS.

You can use this menu to

- Hyperlink to Database Detail, Status, or Type Summary views
- Hyperlink to related area, program, or transaction information
- Hyperlink to the IMS Easy Menu (EZIMS) or IMS Fast Menu (EZIFAST)
- Filter database information on
  - EEQE count (extended error queue element)
  - read or write error
  - locked or stopped status

```
22MAR2002 13:55:04 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =IDBMR=====IMSxxx====*=====22MAR2002==13:54:59====MVIMS====D====1
      Database Object Menu
      Timeframe - Realtime
      Database Name -> DBUFSAMD3
      IMS ID -> H81H
      IMS Name -> IMSxxx
      Related Resources      Filtering      Tools and Menus
      . Detail                . EEQE > 0      > IMS Easy Menu
      . Associated areas      . Read Error    > IMS Fast Menu
      . Associated Program    . Write Error   . Return...
      . Associated Trans     . Locked
      .                      . Stopped
      Categories
      . Type
      . Status
```

Figure 131. Database Object Easy Menu (IDBMR)

To use the Database Object Easy Menu, position the cursor on any option that interests you and press Enter.

To display the Database Object Easy Menu, you can enter IDBMR on any IPSM command line. You can hyperlink to the IDBMR menu from the DBD/PART Name field in the IDBSUMR view.

---

## Chapter 14. Managing Application Programs

This chapter describes the program views, which you can use to find out

- How well application programs are running
- What the impact will be if you change the status of a particular program

With the program views, you can find out the transactions and databases associated with any program—and you can see their status, which helps you understand what the impact will be if you change the status of a particular program.

The program views show you

- All programs (with counts) of any given type or status
- Transactions affected if you change a program's status
- Regions currently running a program
- Programs in exception status

After identifying the information you need, you can use line commands within the same view to control the programs defined for your IMS (if you have a license for MAINVIEW AutoOPERATOR for IMS).

The following program views and Easy Menu are provided:

<b>View name</b>	<b>Description</b>
<b>IPGSUMR</b>	Program Overview
<b>IPGTYPR</b>	Program Count by Type
<b>IPGSTAR</b>	Program Count by Type and Status
<b>IPGSUMZ</b>	Summarized Program Overview
<b>IPGEXCP</b>	Programs with Exceptions
<b>IPGMR</b>	Program Object Menu

---

## Accessing the Program Views

You can display any of the program views described in this chapter by entering the view name on the command line, or by entering `VIEWS` and then selecting the view from the list displayed.

You can also hyperlink to program views from the following menus:

- IMS Easy Menu (EZIMS)
- IMS Fast Menu (EZIFAST)
- IMS Sysplex Easy Menu (EZISSI)
- DBCTL Operations Menu (EZDOPSR)
- DBCTL DBA Easy Menus (EZDDBA and EZDDBAR)

## Program Overview View

The Program Overview view (IPGSUMR), shown in Figure 132, lists all IMS application programs by name. It identifies their type, status, and scheduling type. It also provides the related IMS ID and OS/390 name.

You can use line commands in the IPGSUMR view to control the programs defined for your IMS (if you have a license for MAINVIEW AutoOPERATOR for IMS).

To display this high-level view, you can enter the view name (IPGSUMR) on any IPSM command line. You can also hyperlink to this view from the Programs option in the IMS Easy Menu (EZIMS).

```

22MAR2002 13:41:21 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IPGSUMR=====IMSxxx====*=====22MAR2002==13:40:50====MVIMS====D==200
CMD Program  Type Status          IMS      MVS      Sched
--- Name
  APPC02  TP  Started          X17H    SYSC    Serial
  APPC03  TP  Started          X17H    SYSC    Serial
  APPC04  TP  Started          X17H    SYSC    Serial
  APPC05  TP  Started          X17H    SYSC    Serial
  APPC06  TP  Started          X17H    SYSC    Serial
  BBFPGM01 FP N Started          X17H    SYSC    Serial
  BBFPGM02 FP N Started          X17H    SYSC    Serial

```

Figure 132. Program Overview View (IPGSUMR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IPGSUMR view.

Hyperlink from	To see
Program Name	IPGMR menu, where you can get quick access to views for examining and managing the selected program

## Program Count by Type View

The Program Count by Type view (IPGTYPR), shown in Figure 133, provides a quick way to see all programs of a specific type.

This view summarizes all IMS application programs by type. The view also identifies the count of all programs in each type and shows the associated IMS name, IMS ID, and OS/390 name.

You can use line commands in the IPGTYPR view (and the other program views) to control the programs defined for your IMS (if you have a license for MAINVIEW AutoOPERATOR for IMS.)

To display this summarized view, enter the view name (IPGTYPR) on any IPSM command line.

```
22MAR2002 10:18:54 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IPGTYPR=====IMSxxx====*=====22MAR2002==10:18:53====MVIMS====D====4
CMD Type      IMS      IMS  MVS
---          Count Name   Id   Name
   BMP         74 IMSxxx X18H SYSC
   FP N         66 IMSxxx X18H SYSC
   FP U          1 IMSxxx X18H SYSC
   TP          61 IMSxxx X18H SYSC
```

Figure 133. Program Count by Type View (IPGTYPR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IPGTYPR view.

Hyperlink from	To see
Count	IPGSUMR view, filtered on all programs of the same type

## Program Count by Type and Status View

The Program Count by Type and Status view (IPGSTAR), shown in Figure 134, provides a quick way to see all programs of a specific type and status.

This view summarizes all IMS application programs by type and status. The view also shows the count of all programs having both the same type and status.

You can use line commands in the IPGTYPR view (and the other program views) to control the programs defined for your IMS (if you have a license for MAINVIEW AutoOPERATOR for IMS.)

To display the Program Count by Type and Status view, enter the view name (IPGSTAR) on any IPSM command line.

```

22MAR2002 12:34:12 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =IPGSTAR=====IMSxxx====*=====22MAR2002==12:34:11====MVIMS====D====14
CMD
--- Status          Type Count Id   Name
Not initialized    BMP    41 I8A  I8A332CT
Not initialized    BMP    41 I8B  I8B332CT
Not initialized    TP     32 I8B  I8B332CT
Not initialized    FP N   10 I8A  I8A332CT
Not initialized    FP N   10 I8B  I8B332CT
Not initialized    TP     32 I8A  I8A332CT
Started            FP N    4 I8B  I8B332CT
Started            TP     49 I8B  I8B332CT
Started            FP U    1 I8A  I8A332CT
Started            FP U    1 I8B  I8B332CT
Started            BMP    47 I8B  I8B332CT
Started            FP N    4 I8A  I8A332CT
Started            BMP    47 I8A  I8A332CT
Started            TP     49 I8A  I8A332CT
  
```

Figure 134. Program Count by Type and Status View (IPGSTAR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlink is provided in the IPGSTAR view.

Hyperlink from	To see
Type	IPGSUMR view, filtered on all programs of the same type and status

## Summarized Program Overview View

The Summarized Program Overview view (IPGSUMZ), shown in Figure 135, lists all IMS application programs by name. It identifies their type, status, and scheduling type.

You can use this view to manage and control IMS programs that are defined on a single IMS system or on multiple IMS systems. You can also use the view to issue commands and see immediate results (if you have a license for MAINVIEW AutoOPERATOR for IMS).

A program that is present in multiple IMS systems is displayed in one row of the view, and the information about the program is aggregated. Commands that are issued against the program are issued in all the IMS systems.

To display the IPGSUMZ view, you can enter the view name on any IPSM command line. You can also hyperlink to this view from the Programs option in the DBCTL Operations Menu (EZDOPSR).

```

22MAR2002 13:41:21 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IPGSUMZ=====IMSxxx====*=====22MAR2002==13:40:50====MVIMS====D==200
CMD Program  IMS      Type Status          MVS      Sched
--- Name     Id         Type          Name      Type
  ALLPSBF1 X71H    TP   Started      SJSC     Parallel
  APPC0UT X71H    TP   Started      SJSC     Parallel
  APPC02  X71H    TP   Started      SJSC     Parallel
  APPC03  X71H    TP   Started      SJSC     Parallel
  APPC04  X71H    TP   Started      SJSC     Parallel
  APPC05  X71H    TP   Started      SJSC     Parallel
  APPC06  X71H    TP   Started      SJSC     Parallel
  BARPSBB1 X71H    BMP Not initialized SJSC     Parallel
  BARPSBB2 X71H    BMP Not initialized SJSC     Parallel
  BARPSBB3 X71H    BMP Not initialized SJSC     Parallel
  BARPSBF1 X71H    FP M Not initialized SJSC     Parallel
  BARPSBM1 X71H    TP   Not initialized SJSC     Parallel
  BARPSBM2 X71H    TP   Not initialized SJSC     Parallel
  
```

Figure 135. Summarized Program Overview View (IPGSUMZ)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IPGSUMZ view.

Hyperlink from	To see
Program Name	IPGSUMR view, filtered on all programs of the same type

## Programs with Exceptions View

The Programs with Exceptions view (IPGEXCP), shown in Figure 136, lists by program name the operational IMS programs that have an exception status. For a program to be operational, the following criteria must be met:

- The program must be defined in the IMS gen.
- The PSB must be defined and have the same name as the program.
- A PSBGEN must be run.
- An ACBGEN must be run (for the PSB/ACB entry, which is run after the DBD/ACB entry has been created).
- The PSB/ACB entry must be available in the active ACBLIB.

You can use the IPGEXCP view to manage and control the programs by issuing commands and seeing immediate results (if you have a license for MAINVIEW AutoOPERATOR for IMS).

To display the IPGEXCP view, you can enter the view name on any IPSM command line. You can also hyperlink to this view from the Program Exceptions option (in the Resource Exceptions category) in the DBCTL Operations Menu (EZDOPSR).

```

22MAR2002 13:41:21 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =IPGEXCP=====IMSxxx====*=====22MAR2002==13:40:50====MVIMS====D==200
CMD Program  Type Status          IMS      MVS      Sched
--- Name     Type                Id       Name     Type
   DFSIVP1  TP   Stopped          IM8     SJSC     Serial
  
```

Figure 136. Programs with Exceptions View (IPGEXCP)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IPGEXCP view.

Hyperlink from	To see
Program Name	IPGMR menu, where you can get quick access to views for examining and managing the selected program

## Program Object Easy Menu

The Program Object Easy Menu (IPGMR), shown in Figure 137, provides a good starting point for examining how application programs are running.

By hyperlinking from the menu, you can go straight to the statistics you need to better manage the programs running in your IMS sysplex environment. The Program Object Easy Menu allows you to select options that take you to views showing

- Program information filtered by type or by started/not started status
- Program summarization by type or by type and status
- Transactions affected if you change a program's status
- Regions currently running a specific program

You can also hyperlink to the IMS Easy and Fast Menus (EZIMS and EZIFAST).

```
22MAR2002 13:43:12 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IPGMR=====IMSxxx====*=====22MAR2002==13:43:06====MVIMS====D====1
                                Program Object Menu
                                Timeframe - Realtime

      Program Name -> APPC02
            IMS ID -> X17H
            MVS Name -> SJSC

      Related Resources      +-----+      System Wide Analysis
      . Regions running...  | Place cursor on | . Program/Tran
      . Associated databases | menu item and  | . Region/Program
      . Associated Trans    | press ENTER    |
                          +-----+

      Selection/Filtering   Summarization      Tools and Menu
      . TP Only             . By Type and Status > IMS Easy Menu
      . BMP Only            . By Type         > IMS Fast Menu
      . FP N Only
      . FP U Only
      . Started Programs
      . Not started Programs
```

Figure 137. Program Object Easy Menu

To use the Program Object Easy Menu, position the cursor on any option that interests you and press Enter.

To display the Program Object Easy Menu, you can hyperlink to it from the program name field in the IPGSUMR view. You can also enter IPGMR on the command line, or enter VIEWS and then select IPGMR from the list displayed.

---

## Chapter 15. Cross-Referencing IMS Resources

This chapter discusses the cross-reference views. System programmers, DBAs, and application programmers can pick their point of entry into these views. Using their preferred point of entry (database or program), they can conveniently cross-reference resources to

- Investigate issues like data unavailability
- Assess beforehand the impact of actions against IMS resources

The cross-reference views allow you to discover the association between programs and databases. For example, if a database is unavailable, you can easily discover the cause—the problem may be with the database or a program that uses the database.

With cross-reference views, you can manage programs as they relate to a database, and you can conveniently hyperlink to manage the database itself. Before stopping a program or taking a database offline, you can use these views to see

- All programs affected by a specific database
- All databases used by a program

The following cross-reference views are provided:

<b>View name</b>	<b>Description</b>
<b>IXRSUMR</b>	Cross-Reference All Records
<b>IXPSUMR</b>	Program Cross-Reference Summary
<b>IXPDSUMR</b>	Program-to-Database Cross-Reference
<b>IXPDEXCP</b>	Program-to-Databases in Exception Cross-Reference
<b>IXDSUMR</b>	Database Cross-Reference Summary
<b>IXDPSUMR</b>	Database-to-Program Cross-Reference

## Accessing the Cross-Reference Views

You can display any of the cross-reference views described in this chapter by typing the view name on the command line, or by typing VIEWS, and then selecting the view from the list displayed.

The cross-reference views allow you to pick your preferred point of entry for cross-reference information. If you prefer to view information from a database standpoint, choose a view whose third letter in the name begins with *D* (for database). If you prefer seeing information from a program standpoint, choose a view where the third letter in the name is *P* (for program).

The easiest way to access the cross-reference views is by hyperlinking from one of the DBCTL Easy or Fast Menus to the IMS Cross-Reference Menu (EZIMSX), shown in Figure 138. From the IMS Cross-Reference Menu, simply select the option showing the mode of cross-referencing you want to use.

```

22MAR2002 12:01:09 ----- INFORMATION DISPLAY (MAX)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =EZIMSX===== (ALL=====IMSxxx==)22MAR2002==12:01:09====MVIMS====D====1
                                IMS Cross Reference Menu
                                IMS ID ---> IMSxxx
Transaction to                  +-----+          Database to
* Database and Program          | Place cursor on |          . Tran and Program
* Database with Status          | menu item and  |          * Tran with Status
* Program with Status           | press ENTER   |          . Program with Status
                                +-----+
Transaction Selection           Program to          Database Selection
* Database and Program          . Database and Tran > Tran and Program
* Database with Status          . Database with Status * Tran with Status
* Program with Status           * Tran with Status   > Program with Status
                                Program Selection
                                > Database and Tran > Utilities
                                > Database with Status > IMS Easy Menu
                                * Tran with Status   > MVIMS Main Menu
                                                > IMS SSI Menu
                                                . Return...

```

Figure 138. IMS Cross-Reference Menu (EZIMSX)

---

## Assessing the Impact of Actions against IMS Resources

The cross-reference views are an exceptional tool for managing IMS resources. You can assess beforehand the impact of actions you might take against programs or databases.

**Note:** Issuing line commands in the cross-reference views requires a license for MAINVIEW AutoOPERATOR for IMS.

### Taking a Database Offline

If you have a database in error, you can assess the impact of taking it offline before you take any action. You can identify the programs that use the database. Then you can issue line commands to modify their state (if appropriate) before you take action against the database in error.

For example, you can begin at the IXDPSUMR view. It shows you information about all programs using the database. You can then hyperlink from the Program Name field to the IPGSUMR view, where you can modify the state of associated programs. After returning to the IXDPSUMR view, you can hyperlink from the Database field to the IDBSUMR view, where you can go ahead and take the database offline.

### Solving Failure to Take Database Offline

When you set out to take a database offline, the most common reason for failure is that you have a BMP or JBP currently running against that database (DFS565I message). That causes the DBR command to fail. With the cross-reference views, you can identify any BMP or JBP programs that are sensitive to that database and you can take actions against them.

You can start at the IXDPSUMR view. Given the database, you can see all programs that are sensitive to that database. You can also see the program type. If you select a program in the Program field, you can hyperlink to the IPGSUMR view, where you can change the state of the BMP or JBP program. After returning to the IXDPSUMR view, you can hyperlink from the Database field to the IDBSUMR view, where you can go ahead and issue a line command to take the database offline.

### Solving Program Failure at Startup

When a program fails at startup due to unavailable resources (abend U3303, for example), you have an easy way to identify the unavailable resource and take action against it.

You can begin at the IXPDSUMR view. It shows you whether all needed databases are available and if not, the reason why. You can then hyperlink from the Database field to the IDBSUMR view, where you can issue line commands to modify the state of the database in question. After returning to the IXPDSUMR, you can hyperlink from the Program Name field to IPGSUMR view, where you can go ahead and start the program.

---

## Cross-Reference All Records View

The Cross-Reference All Records view (IXRSUMR), shown in Figure 139, shows you a complete cross-reference of all programs and databases in the IMS.

The Cross-Reference All Records view is unsummarized. It contains a line entry for each database/program association. Each line entry is a separate record. The records are unsorted.

To display the IXRSUMR view, enter the view name on any IPSM command line.

```
22MAR2002 13:30:40 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IXRSUMR=====X19H=====*=====22MAR2002==13:30:39====MVIMS====D==200
CMD Program  Tran      Database IMS      Execute  MVS      IMS
--- Name     Code          Id       IMS Id   Name     Name
  APPC02     APPC02      unavail X19H     X19H     SYSC     IMSxxx
  DBFSAMP2   no tran    DBFSAMD4 X19H     X19H     SYSC     IMSxxx
  DBFSAMP3   FPSAMP1    DBFSAMD1 X19H     X19H     SYSC     IMSxxx
  DBFSAMP3   FPSAMP1    DBFSAMD2 X19H     X19H     SYSC     IMSxxx
  DBFSAMP3   FPSAMP1    DBFSAMD3 X19H     X19H     SYSC     IMSxxx
  DBFSAMP3   FPSAMP1    DBFSAMD4 X19H     X19H     SYSC     IMSxxx
  DBFSAMP4   FPSAMP2    DBFSAMD1 X19H     X19H     SYSC     IMSxxx
  DBFSAMP4   FPSAMP2    DBFSAMD2 X19H     X19H     SYSC     IMSxxx
  DBFSAMP4   FPSAMP2    DBFSAMD3 X19H     X19H     SYSC     IMSxxx
  DBFSAMP4   FPSAMP2    DBFSAMD4 X19H     X19H     SYSC     IMSxxx
  DFHSAM15   no tran    DI21PART X19H     X19H     SYSC     IMSxxx
  DFHSAM24   no tran    DI21PART X19H     X19H     SYSC     IMSxxx
```

Figure 139. Cross-Reference All Records View (IXRSUMR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

Because all records are displayed, this view contains no summarization or hyperlinks.

## Program Cross-Reference Summary View

The Program Cross-Reference Summary view (IXPSUMR), shown in Figure 140, allows you to cross-reference programs and their associated databases.

The Program Cross-Reference Summary view lists all databases associated with all programs. With this view, you can

- Assess the impact of any actions you might take against a program
- Hyperlink to a view where you can perform actions against the program

To display the IXPSUMR view, enter the view name on any IPSM command line.

```
22MAR2002 14:25:09 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IXPSUMR=====IMSxxx====*=====22MAR2002==14:25:09====MVIMS====D==200
CMD Program  Tran      Database IMS      Execute  MVS      IMS
--- Name     Code       Id        Id      Name     Name
APP02 APP02    unavail X17H    X17H    SYSC    IMSxxx
APP03 APP03    unavail X17H    X17H    SYSC    IMSxxx
APP04 APP04    unavail X17H    X17H    SYSC    IMSxxx
APP05 APP05    unavail X17H    X17H    SYSC    IMSxxx
APP06 APP06    unavail X17H    X17H    SYSC    IMSxxx
BBFPGM01 BBFTRN01 unavail X17H    X17H    SYSC    IMSxxx
BBFPGM02 no tran  unavail X17H    X17H    SYSC    IMSxxx
BBFPGM03 BBFTRN03 unavail X17H    X17H    SYSC    IMSxxx
BBFPGM04 no tran  unavail X17H    X17H    SYSC    IMSxxx
BBFPGM05 BBFTRN05 unavail X17H    X17H    SYSC    IMSxxx
BBFPGM06 no tran  unavail X17H    X17H    SYSC    IMSxxx
BBFPGM07 BBFTRN07 unavail X17H    X17H    SYSC    IMSxxx
BBFPGM08 no tran  unavail X17H    X17H    SYSC    IMSxxx
BBFPGM09 BBFTRN09 unavail X17H    X17H    SYSC    IMSxxx
BBFPGM10 no tran  unavail X17H    X17H    SYSC    IMSxxx
BBFPGM11 BBFTRN11 unavail X17H    X17H    SYSC    IMSxxx
```

Figure 140. Program Cross-Reference Summary View (IXPSUMR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

## Program-to-Database Cross-Reference View

The Program-to-Database Cross-Reference view (IXPDSUMR), shown in Figures 141 and 142, provides useful program-to-database cross-reference information.

This view lists all programs, the databases they are sensitive to, and the status of those databases. You can use this summary view to

- See whether needed database and program resources are available before starting a program
- Hyperlink to issue line commands against a database
- Hyperlink to issue line commands against a program

(Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.)

If you want to check on resource availability for a particular program, simply hyperlink from the Database field. A filtered view of IDBSUMR appears, showing the status of all databases the program is sensitive to.

This view lists all programs, with their status, OS/390 name, and IMS ID. It also lists every database that each program needs to run. It provides the following information about each database: Level 1 and Level 2 status, authorization state, access method, organization type, access limit, EEQE count, local and global DMB numbers, and whether the database has been defined as nonrecoverable.

To display the IXPDSUMR view, enter the view name on any IPSM command line.

```

22MAR2002 14:30:31 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IXPDSUMR=====X19H=====*=====22MAR2002==14:30:31====MVIMS====D==115
CMD Program  IMS Program      Database TYPE ORG  STATUS 1 STATUS 2 AUTH
--- Name     Id   Status        -----
DBFSAMP1 X19H Started      DBFSAMD3 DEDB VSAM NOT-OPEN      N/A
DBFSAMP2 X19H Started      DBFSAMD4          NOT-OPEN      NOT-AUTH
DBFSAMP3 X19H Started      DBFSAMD4          NOT-OPEN      NOT-AUTH
DBFSAMP3 X19H Started      DBFSAMD2 MSDB     OPENED        NOT-AUTH
DBFSAMP3 X19H Started      DBFSAMD1 MSDB     OPENED        NOT-AUTH
DBFSAMP3 X19H Started      DBFSAMD3 DEDB VSAM NOT-OPEN      N/A
DBFSAMP4 X19H Started      DBFSAMD1 MSDB     OPENED        NOT-AUTH
DBFSAMP4 X19H Started      DBFSAMD3 DEDB VSAM NOT-OPEN      N/A
DBFSAMP4 X19H Started      DBFSAMD2 MSDB     OPENED        NOT-AUTH
DBFSAMP4 X19H Started      DBFSAMD4          NOT-OPEN      NOT-AUTH
DBFSAMP5 X19H Started      DBFSAMD4          NOT-OPEN      NOT-AUTH
DBFSAMP6 X19H Started      DBFSAMD3 DEDB VSAM NOT-OPEN      N/A
DFHSAM04 X19H Started      DI21PART          NOT-OPEN      NOT-AUTH
DFHSAM05 X19H Started      DI21PART          NOT-OPEN      NOT-AUTH
DFHSAM14 X19H Started      DI21PART          NOT-OPEN      NOT-AUTH
DFHSAM15 X19H Started      DI21PART          NOT-OPEN      NOT-AUTH

```

Figure 141. Program-to-Database Cross-Reference View (IXPDSUMR)

```

22MAR2002 14:31:31 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<w1 =IXPDSUMR=====X19H=====*=====22MAR2002==14:30:31====MVIMS====D==115
CMD Program AUTH ACCESS LDMB GDMB EEQE Non- MVS
--- Name State--- LEVEL- ---- Cnt- Recov Name
DBFSAMP1 N/A UPDT 122 N SYSC
DBFSAMP2 NOT-AUTH UPDT 123 N SYSC
DBFSAMP3 NOT-AUTH UPDT 123 N SYSC
DBFSAMP3 NOT-AUTH EXCL 121 N SYSC
DBFSAMP3 NOT-AUTH EXCL 120 N SYSC
DBFSAMP3 N/A UPDT 122 N SYSC
DBFSAMP4 NOT-AUTH EXCL 120 N SYSC
DBFSAMP4 N/A UPDT 122 N SYSC
DBFSAMP4 NOT-AUTH EXCL 121 N SYSC
DBFSAMP4 NOT-AUTH UPDT 123 N SYSC
DBFSAMP5 NOT-AUTH UPDT 123 N SYSC
DBFSAMP6 N/A UPDT 122 N SYSC
DFHSAM04 NOT-AUTH UPDT 124 N SYSC
DFHSAM05 NOT-AUTH UPDT 124 N SYSC
DFHSAM14 NOT-AUTH UPDT 124 N SYSC
DFHSAM15 NOT-AUTH UPDT 124 N SYSC

```

Figure 142. Program-to-Database Cross-Reference View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the IXPDSUMR view.

Hyperlink from	To see
Database	IDBSUMR view, where you can see the status of all databases the program is sensitive to and issue line commands against databases
Program Name	IPGSUMR view, where you can see more program information and modify programs

## Program-to-Databases with Exceptions Cross-Reference View

This section describes the Program-to-Databases with Exceptions Cross-Reference view (IXPDEXCP), shown in Figures 143 and 144. The view provides useful program-to-database cross-reference information for operational databases that have an exception status. For a database to be operational, the following criteria must be met:

- The database must be defined in the IMS gen.
- A DBDGEN must be run.
- The database must be added to the DBDLIB.
- A database DD must be added to the IMS control region (with the DFSMDA macro for dynamic allocation).
- The DBD/ACB entry must be available in the active ACBLIB.

From this view, you can hyperlink to issue line commands against a program or a database (if you have a license for MAINVIEW AutoOPERATOR for IMS).

To display the IXPDEXCP view, enter the view name on any IPSM command line. You can also hyperlink to the view from the DBCTL DBA Easy Menus (EZDDBA and EZDDBAR).

```

22MAR2002 14:30:31 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>> SCROLL ==>> PAGE
CURR WIN ==>> 1 ALT WIN ==>>
>W1 =IXPDEXCP=====X19H=====*=====22MAR2002==14:30:31====MVIMS====D==115
CMD Program IMS Program Database TYPE ORG STATUS 1 STATUS 2 AUTH
--- Name Id Status ----- State---
DDLTPSB IM8 Started DDLTDBD HISM VSAM STOPPED NOT-OPEN NOT-AUTH
DDLTPSBL IM8 Started DDLTDBD HISM VSAM STOPPED NOT-OPEN NOT-AUTH
IVP1H IM8 Started DB1H PHID OSAM STOPPED N/A
IVP1H IM8 Started DB1HSX PSIX VSAM STOPPED N/A
IVP1HB IM8 Started DB1H PHID OSAM STOPPED N/A
IVP1HB IM8 Started DB1HSX PSIX VSAM STOPPED N/A
MVIPSBB1 IM8 Started DDLTDBD HISM VSAM STOPPED NOT-OPEN NOT-AUTH
PE4CNINQ IM8 Started BE2PCUST HISM VSAM NOT-OPEN ALLOC-F NOT-REG
PE4CODEL IM8 Started BE2PCUST HISM VSAM NOT-OPEN ALLOC-F NOT-REG
PE4CODEL IM8 Started BE3ORDER HIDM VSAM NOT-OPEN ALLOC-F NOT-AUTH

```

Figure 143. Program-to-Databases in Exception Cross-Reference View (IXPDEXCP)

```

22MAR2002 14:31:31 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>> SCROLL ==>> PAGE
CURR WIN ==>> 1 ALT WIN ==>>
<W1 =IXPDSUMR=====X19H=====*=====22MAR2002==14:30:31====MVIMS====D==115
CMD Program AUTH ACCESS LDMB GDMB EEQE Non- MVS
--- Name State--- LEVEL- ---- Cnt- Recov Name
DDLTPSB NOT-AUTH UPDT 130 N/A SJSC
DDLTPSBL NOT-AUTH UPDT 130 N/A SJSC
IVP1H N/A UPDT 127 N/A SJSC
IVP1H N/A UPDT 128 N/A SJSC
IVP1HB N/A UPDT 127 N/A SJSC
IVP1HB N/A UPDT 128 N/A SJSC
MVIPSBB1 NOT-AUTH UPDT 130 N/A SJSC
PE4CNINQ NOT-REG EXCL 108 N/A SJSC
PE4CODEL NOT-REG EXCL 108 N/A SJSC
PE4CODEL NOT-AUTH EXCL 109 N/A SJSC

```

Figure 144. Program-to-Databases in Exception Cross-Reference View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IXPDEXCP view.

<b>Hyperlink from</b>	<b>To see</b>
Program Name	IPGSUMR view, where you can see more program information and modify programs
Database	IDBSUMR view, where you can see the status of all databases that the program is sensitive to and issue line commands against databases

## Database Cross-Reference Summary View

The Database Cross-Reference Summary view (IXDSUMR), shown in Figure 145, allows you to cross-reference databases with the programs that use them or are associated with them.

The Database Cross-Reference Summary view lists all databases and all programs that are sensitive to each database. It also shows the IMS ID, the ID of the IMS where the transaction is executing, OS/390 name, and IMS name.

With this view, you can

- Assess the impact of any actions you might take against a database
- Hyperlink to a view where you can perform an action against a database

(Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.)

To display the IXDSUMR view, enter the view name on any IPSM command line.

```

22MAR2002 14:20:35 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =IXDSUMR=====X19H=====*=====22MAR2002==14:20:35====MVIMS====D===25
CMD Database Program Tran   IMS   Execute MVS   IMS
---      Name   Code   Id     IMS Id  Name  Name
unavail ***** ***** X19H   X19H   SYSC  IMSxxx
BE2PCUST PTESTO** TTESTO** X19H   X19H   SYSC  IMSxxx
BE3ORDER PTESTO** TTESTO** X19H   X19H   SYSC  IMSxxx
BE3ORDRX PTESTO** TTESTO** X19H   X19H   SYSC  IMSxxx
BE3PARTS PTESTO** TTESTO** X19H   X19H   SYSC  IMSxxx
BE3PSID1 PTESTO** TTESTO** X19H   X19H   SYSC  IMSxxx
CUSTHDAM ***** ***** X19H   X19H   SYSC  IMSxxx
CUSTHIDM ***** ***** X19H   X19H   SYSC  IMSxxx
CUSTHISM ***** ***** X19H   X19H   SYSC  IMSxxx
CUSTINDX ***** ***** X19H   X19H   SYSC  IMSxxx
DBFSAMD1 DBFSAMP*  FPSAMP** X19H   X19H   SYSC  IMSxxx
DBFSAMD2 DBFSAMP*  FPSAMP** X19H   X19H   SYSC  IMSxxx
DBFSAMD3 DBFSAMP*  ***** X19H   X19H   SYSC  IMSxxx
DBFSAMD4 DBFSAMP*  ***** X19H   X19H   SYSC  IMSxxx
DI21PART DF***** ***** X19H   X19H   SYSC  IMSxxx
IN01A01  PTESTO2  TTESTO2  X19H   X19H   SYSC  IMSxxx

```

Figure 145. Database Cross-Reference Summary View (IXDSUMR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

## Database-to-Program Cross-Reference View

The Database-to-Program Cross-Reference view (IXDPSUMR), shown in Figure 146 and Figure 147, shows you useful database-to-program cross-reference information.

This view lists all databases and the programs that use them. You can use this summary view to

- Assess beforehand the impact of any actions you might take against a database
- See whether needed database and program resources are available before starting a program
- Hyperlink to issue line commands against a database
- Hyperlink to issue line commands against a program

(Issuing line commands requires a license for MAINVIEW AutoOPERATOR for IMS.)

This view is especially useful for assessing the impact of taking a database offline. It provides extensive information about each program associated with a database: status, type, scheduling type, associated transaction, IMS ID and jobname, and OS/390 name.

To display the IXDPSUMR view, enter the view name on any IPSM command line.

```

22MAR2002 14:22:48 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IXDPSUMR=====X19H=====*=====22MAR2002==14:22:42====MVIMS====D==115
CMD Database IMS DB      DB      Program  Type Status      Sched  MVS
---      Id   Status 1 Status 2 Name      Type  Name
BE2PCUST X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE2PCUST X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
BE3ORDER X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE3ORDER X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
BE3ORDRX X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
BE3ORDRX X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE3PARTS X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE3PARTS X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
BE3PSID1 X19H NOT-OPEN      PTEST02 BMP Started Parallel SYSC
BE3PSID1 X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBM1 TP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBB3 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      PTEST01 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBB1 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBB2 BMP Started Parallel SYSC
CUSTHDAM X19H NOT-OPEN      GBGPSBB4 BMP Started Parallel SYSC

```

Figure 146. Database-to-Program Cross-Reference View (IXDPSUMR)

```

22MAR2002 14:23:59 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IXDPSUMR=====X19H=====*=====22MAR2002==14:22:42====MVIMS====D==115
CMD Database MVS  IMS
---          Name Name
   BE2PCUST SYSC IMSxxx
   BE2PCUST SYSC IMSxxx
   BE3ORDER SYSC IMSxxx
   BE3ORDER SYSC IMSxxx
   BE3ORDRX SYSC IMSxxx
   BE3ORDRX SYSC IMSxxx
   BE3PARTS SYSC IMSxxx
   BE3PARTS SYSC IMSxxx
   BE3PSID1 SYSC IMSxxx
   BE3PSID1 SYSC IMSxxx
   CUSTHDAM SYSC IMSxxx

```

Figure 147. Database-to-Program Cross-Reference View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

The following hyperlinks are provided in the IXDPSUMR view.

Hyperlink from	To see
Database	IDBSUMR view, where you can issue line commands against the selected database
Program Name	IPGSUMR view, where you can modify the selected program

---

## Chapter 16. Managing IMS Database Activity

This chapter describes the IMS database activity views, which provide a powerful tool for database analysis. They make problem recognition in an N-way data sharing environment much easier. Database administrators can use the views to recognize and solve problems stemming from

- Badly organized databases
- I/O contention
- Buffer pool sizes and assignments
- Buffer cross-invalidation

While views like IRGNLIR and STRAC identify I/O at a transaction level, the database activity views provide a database perspective. They are a system-wide resource, showing

- All DL/I calls against a database (except for MSDB and GSAM databases)
- All I/O activity for a database (except for MSDB and GSAM databases and I/O due to background write)

**Note:** DL/I calls and I/O activity are collected for DEDB databases on IMS 7.1 and later if the Event Collector parameter DBFPLVL is set to collect DEDB activity.

These views allow you to analyze I/O information as it relates to logical and physical databases. Realtime, interval, and history statistics are provided. Counts, rate, and elapsed time are reported for both DL/I calls and database I/O events.

Information is summarized in different ways, so you can solve database problems occurring at different levels. Summarization is by

- Data sharing group
- System
- Logical PCB (program control block)
- Physical database
- Volume
- Buffer pool

With the database activity views, you can examine DL/I call and I/O event information at the level of the problem that is occurring. Simply pick the view that corresponds to the type of information you need and the level at which you need to see it.

The database activity views are listed in Table 21 and Table 22 on page 204. This chapter describes and illustrates only realtime views. (The views described in this chapter are shaded in the tables). Where corresponding views from the two tables are nearly identical, only the Table 22 view is shown.

For information grouped by data sharing group, use the views listed in Table 21.

Table 21. Views that Group Information by Data Sharing Group

<b>View name</b>	<b>Description</b>	<b>Refer to</b>
<b>IDAGDTLR</b>	Database Activity Detail, Data Sharing Group Level (realtime)	Page 207
<b>IDAGDTL</b>	Database Activity Detail, Data Sharing Group Level (interval)	
<b>IDAGSUMR</b>	Database Activity, Data Sharing Group Level (realtime)	
<b>IDAGSUM</b>	Database Activity, Data Sharing Group Level (interval)	
<b>IDALGSMR</b>	Database Activity, Logical (PCB) Level (realtime)	Page 214
<b>IDALGSM</b>	Database Activity, Logical (PCB) Level (interval)	
<b>IDAPGSMR</b>	Database I/O Activity, Physical Database Level (realtime)	Page 216
<b>IDAPGSM</b>	Database I/O Activity, Physical Database Level (interval)	
<b>IDAXGSMR</b>	Database I/O Activity, Database/Volume Level (realtime)	Page 218
<b>IDAXGSM</b>	Database I/O Activity, Database/Volume Level (interval)	
<b>IDAVGSMR</b>	Database I/O Activity, Volume Level (realtime)	Page 220
<b>IDAVGSM</b>	Database I/O Activity, Volume Level (interval)	

For information grouped by IMS name, use the views listed in Table 22.

Table 22. Views that Group Information by IMS

<b>View name</b>	<b>Description</b>	<b>Refer to</b>
<b>IDASSUMR</b>	Database Activity, IMS System Level (realtime)	Page 209
<b>IDASSUM</b>	Database Activity, IMS System Level (interval)	
<b>IDASDTLR</b>	Database Activity Detail (realtime)	Page 211
<b>IDASDTL</b>	Database Activity Detail (interval)	
<b>IDALSUMR</b>	Database Activity, Logical (PCB) Level (realtime)	Page 214
<b>IDALSUM</b>	Database Activity, Logical (PCB) Level (interval)	
<b>IDAPSUMR</b>	Database I/O Activity, Physical Database Level (realtime)	Page 216
<b>IDAPSUM</b>	Database I/O Activity, Physical Database Level (interval)	
<b>IDAXSUMR</b>	Database I/O Activity, Database/Volume Level (realtime)	Page 218
<b>IDAXSUM</b>	Database I/O Activity, Database/Volume Level (interval)	
<b>IDAVSUMR</b>	Database I/O Activity, Volume Level (realtime)	Page 220
<b>IDAVSUM</b>	Database I/O Activity, Volume Level (interval)	
<b>IDABVDTR</b>	Database Activity Detail, VSAM Buffer Pool Level (realtime)	Page 222
<b>IDABVDTL</b>	Database Activity Detail, VSAM Buffer Pool Level (interval)	

Table 22. Views that Group Information by IMS (continued)

View name	Description	Refer to
<b>IDABODTR</b>	Database Activity, Detail OSAM Buffer Pool Level (realtime)	Page 224
<b>IDABODTL</b>	Database Activity, Detail OSAM Buffer Pool Level (interval)	
<b>IDABVSMR</b>	Database Activity, VSAM Buffer Pool Level (realtime)	Page 226
<b>IDABVSM</b>	Database Activity, VSAM Buffer Pool Level (interval)	
<b>IDABOSMR</b>	Database Activity, OSAM Buffer Pool Level (realtime)	Page 228
<b>IDABOSM</b>	Database Activity, OSAM Buffer Pool Level (interval)	

---

## Accessing the IMS Database Activity Views

The easiest way to access the IMS database activity views is by hyperlinking from one of the Database Activity options in an Easy Menu (EZIMS, EZISSI, or EZIFAST).

You can also display any of the views described in this chapter by entering the view name on the command line, or by entering VIEWS and then selecting the view from the list displayed.

---

## Analyzing a Data Sharing Group

To analyze a data sharing group, begin with IDAGDTLR (for realtime) or IDAGDTL (for interval). You can easily hyperlink to these views from the EZISSI Easy Menu.

To look at multiple data sharing groups, begin with IDAGSUMR (for realtime) or IDAGSUM (for interval).

Hyperlinking from highlighted fields in the IDAGDTLR or IDAGDTL view is an easy way to go to other views showing related information.

**Note:** To get accurate information for a data sharing group, be sure to set your context to include all IMS systems defined in that share group. To set context, use the CONtext command within one of the Easy Menus, such as EZIMS or EZISSI, before you access a specific view.

If you do not know which context name to use, you can try using CONtext ALL. That command will display information from every accessible IMS system, which may include IMS systems that are not part of your data sharing group.

---

## Analyzing an Individual IMS

To analyze one or more specific IMS systems, choose the IMS system with the CONtext command. Then begin with IDASSUMR (for realtime) or IDASSUM (for interval). You can easily hyperlink to those views from the Database Activity option in the EZIMS, EZISSI, or EZIFAST Easy Menu.

From the IDASSUMR or IDASSUM view, hyperlink from any row in the IMS Name column to go to the Database Activity Detail view, IDASDTLR (for realtime) or IDASDTL (for interval). This view provides detailed information for the selected IMS system, including information that is not available in other views:

- Number of I/Os per DL/I call
- Number of databases with DL/I calls
- Number of databases with I/O in the sample period
- Number of volumes with I/O in the sample period

This additional information helps you interpret the averages, rates, and totals reported in the other fields.

Another way to analyze an individual IMS is to bypass the IDASDTLR or IDASDTL view. You can hyperlink from various highlighted fields within the IDASSUMR or IDASSUM view to go directly to the related information shown in other database activity views.

## Database Activity Detail View – Data Sharing Group Level

This section describes the Database Activity Detail View – Data Sharing Group Level (IDAGDTLR), which is shown in Figure 148. The view provides information about database I/O activity and DL/I calls for a data sharing group.

You can use this view to analyze I/O information as it relates to logical and physical databases. This view helps you recognize and solve N-way data sharing problems stemming from I/O contention or buffer cross-invalidation. The view shows DL/I call and I/O event totals, rates, and average times.

The IDAGDTLR view will report DEDB activity on IMS 7.1 and later if the Event Collector parameter DBFPLVL is set to collect DEDB activity. The view does not report MSDB or GSAM database activity or activity caused by background write.

Statistics are summarized by data sharing group. To display the Database Activity Detail View – Data Sharing Group Level, enter IDAGDTLR on any IPSM command line.

**Note:** Only IMS systems in your context are included in the count in the Num IMS field. If any of the IMSs in your data sharing group are not included in your context, the data you receive will be incomplete.

```

22MAR2002 12:11:22 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IDAGDTLR===== (ALL=====*)=====)22MAR2002==16:09:16====MVIMS====D====1
Data Sharing Group.....      NONE  Sample seconds.....          5.0
IMS Name(s).....             I8A332CT
Number of IMS Systems...      1

--FULL FUNCTION DB I/O--          --- DATABASE CALLS -----
Total      I/O Seconds      0.05  DL/I Call Total Seconds..      0.061
Average    I/O Time...     0.002  DL/I Call AVG Time.....      0.0014
Read       I/O AVG...       0.002  DL/I Call Rate.....          8.76
Write      I/O AVG...       0.003  DL/I Call Percent I/O....     72.18
Read       I/O Rate...      2.99  DL/I Call AVG NBR I/O...     0.523
Write      I/O Rate...      1.20  DB GU   Rate.....           2.59
Sync Write I/O Rate...      1.20  DB GHU  Rate.....           1.59
Read OSAM XI I/O Rate...    0.00  DB GN   Rate.....           0.00
                                         DB GNP  Rate.....           1.99
                                         DB GHN  Rate.....           0.00
                                         DB GHNP Rate.....           0.00
Average    I/O Time...     0.003  DB ISRT Rate.....           1.00
Read       I/O AVG...       0.002  DB REPL Rate.....           0.60
OTTHREAD   I/O AVG...       0.003  DB DLET Rate.....           1.00
Read       I/O Rate...      1.59  DB OTHER Rate.....           0.00
OTTHREAD   I/O Rate...      1.59  Databases with calls.....     4

--ALL DATABASE I/O -----          --- BUFFER POOLS -----
Databases  with I/O...      5  Worst VSAM Pool Hit Ratio     73.9
Volumes    with I/O...      8  Worst OSAM Pool Hit Ratio     92.3

```

Figure 148. Database Activity Detail View – Data Sharing Group Level (IDAGDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDAGDTLR view.

<b>Hyperlink from</b>	<b>To see</b>
Number of IMS Systems	IDASSUMR view, which shows statistics for each IMS in the data sharing group
Databases with I/O	IDAPGSMR view, which shows I/O statistics at the physical database level for the data sharing group
Volumes with I/O	IDAVGSMR view, which shows statistics for all DASD volumes incurring I/O in the data sharing group
Databases with calls	IDALGSMR view, where you can see the DL/I call and I/O statistics at the logical database level for the data sharing group
Worst VSAM Pool Hit Ratio	IDABVSMR view, where you can see activity for the VSAM buffer pools used by the data sharing group
Worst OSAM Pool Hit Ratio	IDABOSMR view, where you can see activity for the OSAM buffer pools used by the data sharing group

## Database Activity View – IMS System Level

This section describes the Database Activity View – IMS System Level (IDASSUMR), which is shown in Figures 149, 150, and 151. This view provides information about database I/O activity and DL/I calls for one or more IMS systems.

You can use this view to analyze I/O information as it relates to the logical databases. The view helps you recognize and solve N-way data sharing problems stemming from I/O contention or buffer cross-invalidation.

This view shows DL/I call and I/O event totals, rates, and average times for one or more IMS systems. Statistics are summarized by IMS system.

The IDASSUMR view will report DEDB activity on IMS 7.1 and later if the Event Collector parameter DBFPLVL is set to collect DEDB activity. The view does not report MSDB or GSAM database activity or activity caused by background write.

To display the Database Activity View – IMS System Level, enter IDASSUMR on any IPISM command line.

```

22MAR2002 12:12:42 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDASSUMR===== (ALL=====*)=====)22MAR2002==12:12:42====MVIMS====D====1
IMS      Data      Call Call   Call   I/O   I/O   Read Read  Write Write OSAM XI
Name     ShrGrp   Rate AVG   %I/O   Rate AVG   Rate AVG   Rate AVG   Rate AVG   RdRate
IMSxxx   IMSWAY   46.1 0.0012  90.7 48.8 0.001 48.8 0.001  0.0 0.001  0
  
```

Figure 149. Database Activity View – IMS System Level (IDASSUMR)

```

22MAR2002 12:12:42 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDASSUMR===== (ALL=====*)=====)22MAR2002==12:12:42====MVIMS====D====1
IMS      OSAM XI VSAMPool OSAMPool BufferSteal VSAMBckgrd OSAMPurge  GU  GHU
Name     RdRate HitRatio HitRatio WriteRate  WriteRate WriteRate Rate Rate
IMSxxx   0.0 63.99 36.93 0.00 0.00 0.00 3.8 26.
  
```

Figure 150. Database Activity View – IMS System Level, Scrolled Right

```

22MAR2002 12:14:34 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDASSUMR===== (ALL=====*)=====)22MAR2002==12:12:42====MVIMS====D====1
IMS      GHU  GHN  GHNP  GN  GNP  ISRT  DLET  REPL  Other  IMS  MVS
Name     Rate ID Name
IMSxxx   3.8 26.7 3.8 3.8 3.8 3.8 0.2 0.2 0.2 IM8 SJSC
  
```

Figure 151. Database Activity View – IMS System Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDASSUMR view.

<b>Hyperlink from</b>	<b>To see</b>
IMS Name	IDASDTLR view, which provides detailed information for the selected IMS system
Data ShrGrp	IDAGSUMR view, which provides the statistics for the data sharing group that the selected IMS belongs to
Call Rate	IDALSUMR view, which shows the DL/I call and I/O statistics at the logical database level for each IMS
I/O Rate	IDAPSUMR view, where you can see the I/O statistics at the physical database level for each IMS
VSAMPoolHitRatio	IDABVSMR view, which provides database I/O activity information for each IMS system, summarized at the VSAM buffer pool level
OSAMPoolHitRatio	IDABOSMR view, which provides database I/O activity information for each IMS system, summarized at the OSAM buffer pool level

---

## Database Activity Detail View

This section describes the Database Activity Detail View (IDASDTLR), which is shown in Figure 152 on page 212. This view provides detailed information about database I/O activity and DL/I calls for a selected IMS system. Statistics are summarized for the selected system.

This view can help you recognize and solve N-way data sharing problems stemming from I/O contention or buffer cross-invalidation. The view shows DL/I call and I/O event totals, rates, and average times. It also provides information that is not included in other database activity views:

- Number of I/Os per DL/I call
- Number of seconds (or minutes, if interval) during which the data has been collected
- Number of databases with DL/I calls
- Number of databases with I/O in the sample period
- Number of volumes with I/O in the sample period

This additional information helps you interpret the averages, rates, and totals reported in the other fields.

The IDASDTLR view will report DEDB database activity on IMS 7.1 and later if the Event Collector parameter DBFPLVL is set to collect DEDB activity. The view does not report MSDB and GSAM database activity or activity caused by background write.

You can display the Database Activity Detail View in any of the following ways:

- Enter IDASDTLR on any IPSM command line.
- Hyperlink from the Database Activity option in the EZIMS, EZISSI, or EZIFAST Easy Menu.
- Hyperlink from any row in the IMS Name column in the IDASSUMR view.
- Hyperlink from the IMS Name field of the IDAGSUMR view, and then hyperlink from any row in the IMS Name column of the IDASSUMR view.

```

22MAR2002 15:06:14 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
W1 =IDASDTLR===== (ALL=====*)=====)22MAR2002==15:06:14====MVIMS====D====1
IMS Name..... I8A332CT Sample seconds..... 5.0
IMS ID..... IM8
Data Sharing Group..... NONE

--FULL FUNCTION DB I/O--          --- DATABASE CALLS ---
Total      I/O Seconds      0.05 DL/I Call Total Seconds.      0.068
Average    I/O Time...      0.001 DL/I Call AVG Time..... 0.0017
Read       I/O AVG...        0.002 DL/I Call Rate..... 7.75
Write      I/O AVG...        0.001 DL/I Call Percent I/O... 71.63
Read       I/O Rate...       4.17 DL/I Call AVG NBR I/O... 0.744
Write      I/O Rate...       2.78 DB GU Rate..... 2.58
Sync Write I/O Rate...       2.19 DB GHU Rate..... 1.19
Read OSAM XI I/O Rate...     0.00 DB GN Rate..... 0.00
                                         DB GNP Rate..... 0.00
                                         DB GHN Rate..... 0.00
--DEDB DATABASE I/O ---          DB GHNP Rate..... 0.00
Total      I/O Seconds      0.03 DB ISRT Rate..... 2.78
Average    I/O Time...      0.002 DB REPL Rate..... 0.20
Read       I/O AVG...        0.002 DB DLET Rate..... 0.99
OTHREAD    I/O AVG...        0.001 DB OTHER Rate..... 0.00
Read       I/O Rate...       1.59 Databases with calls... 4
OTHREAD    I/O Rate...       1.59

--ALL DATABASE I/O ---          --- BUFFER POOLS ---
Databases  with I/O...       5 VSAM Bufr Pool Hit Ratio 67.4
Volumes    with I/O...       8 OSAM Bufr Pool Hit Ratio 90.8

```

Figure 152. Database Activity Detail View (IDASDTLR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDASDTLR view.

Hyperlink from	To see
Data Sharing Group	IDAGSUMR view, where you can see the statistics for the data sharing group that the IMS belongs to
Databases with I/O	IDAPSUMR view, where you can see these I/O statistics at the physical database level for each IMS
Volumes with I/O	IDAVSUMR view, where you can see all the DASD volumes that have I/O occurring against them within the current time frame
Databases with calls	IDALSUMR view, where you can see these DL/I call and I/O statistics at the logical database level for each IMS
VSAM Bufr Pool Hit Ratio	IDABVSMR view, which provides database I/O activity information for each IMS system summarized at the VSAM buffer pool level
OSAM Bufr Pool Hit Ratio	IDABOSMR view, which provides database I/O activity information for each IMS system summarized at the OSAM buffer pool level

**Tuning Tip:** If a database has excessive I/O, a buffer pool may be too small. Use the [VSAM Bufr Pool Hit Ratio](#) and the [OSAM Bufr Pool Hit Ratio](#) hyperlinks to see information that can help you determine whether you need to increase the size of the buffer pool.

## Database Activity View – Logical (PCB) Level

This section describes the Database Activity View – Logical (PCB) Level (IDALSUMR or IDALGSMR), shown in Figures 153, 154, and 155. This view provides statistics about the activity of logical databases.

You can use this view to analyze database I/O and DL/I call information as it relates to the logical databases. It can help you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, or buffer cross-invalidation.

This view shows totals, rates, and averages for DL/I calls and I/O events. Statistics are for each open database associated with a PCB (program control block) against which DL/I calls have been made.

The database named in a PCB can be either a physical database or a logical database. Rows in this view that report on logical databases may include I/O statistics for one or more physical databases.

The IDALSUMR view will report DEDB database activity on IMS 7.1 and later if the Event Collector parameter DBFPLVL is set to collect DEDB activity. The view does not report MSDB and GSAM database activity or activity caused by background write.

To display the Database Activity View – Logical (PCB) Level, enter IDALSUMR on any IPISM command line.

```

22MAR2002 12:19:09 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDALSUMR===== (ALL===== *=====) 22MAR2002==12:19:09====MVIMS====D====1
PCB      Physical Call Call      Call      Call      I/O      I/O      Read Read  Write Write
DBNAME   DBNAME   Rate AVG      %I/O      I/Os Rate AVG      Rate AVG      Rate AVG      Rate AVG
DB1H     DB1H     125. 0.00064 20.3      0.10 13.7 0.001 11.9 0.001  1.8 0.001
  
```

Figure 153. Database Activity View – Logical (PCB) Level (IDALSUMR)

```

22MAR2002 12:19:37 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
+W1 =IDALSUMR===== (ALL===== *=====) 22MAR2002==12:19:09====MVIMS====D====1
PCB      Write OSAM XI      GU  GHU  GHN  GHNP  GN  GNP  ISRT  DLET  REPL
DBNAME   AVG  ReadRate  Rate Rate Rate Rate Rate Rate Rate Rate Rate
DB1H     0.001  0.0      2.0 53.6  2.0  2.0  2.0  2.0 19.8 19.8 19.8
  
```

Figure 154. Database Activity View – Logical (PCB) Level, Scrolled Right

```

22MAR2002 12:19:54 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
<W1 =IDALSUMR===== (ALL===== *=====) 22MAR2002==12:19:09====MVIMS====D====1
PCB      REPL Other IMS  IMS      Data      MVS
DBNAME   Rate Rate ID   Name      ShrGrp    Name
DB1H     19.8  2.2 H71H IMSxxx  NONE      SJSD
  
```

Figure 155. Database Activity View – Logical (PCB) Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDALSUMR view.

<b>Hyperlink from</b>	<b>To see</b>
Physical DBNAME	IDAPSUMR view, where you can see statistics for I/O incurred against the physical databases that were accessed by DL/I calls from this PCB, whatever the PSBs it may be associated with

## Database I/O Activity View – Physical Database Level

This section describes the Database I/O Activity View – Physical Database Level (IDAPSUMR or IDAPGSMR), shown in Figures 156, 157, and 158. This view provides information about database I/O activity at the physical database level.

You can use this view to analyze I/O information as it relates to physical databases. The view can help you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation. The view shows I/O event totals, rates, and average times for open databases. Buffer pool information is also provided.

The IDAPSUMR view reports DEDB database activity on IMS 7.1 and later if the Event Collector parameter DBFPLVL is set to collect DEDB activity. The view does not report MSDB and GSAM database activity or activity caused by background write.

**Note:** For VSAM databases, the Num Vols field in some cases may not reflect the actual number of volumes occupied by a specific database. This can occur (the number of volumes shown can be less than the actual number of volumes) if the database has been extended into more than one new volume and has not subsequently been closed and reopened.

If a database is extended into only one new volume, the value shown in the Num Vols field will be accurate, even if that database has not been subsequently closed and reopened.

To display the Database I/O Activity View – Physical Database Level, enter IDAPSUMR on any IPSM command line.

```

22MAR2002 12:20:46 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
>W1 =IDAPSUMR===== (ALL=====*)=====)22MAR2002==12:20:46====MVIMS====D====4
Physical Database Area/          Num  Read Read  Write Write Pool Pool
DBNAME  Type  Partition DDNAME  Vols  Rate AVG  Rate AVG  ID  Type
DB1H    PHIDAM DB1H1    DB1H1A    1  6.3 0.001  0.0 0.000 OSM4 OSAM
DB1H    PHIDAM DB1H2    DB1H2A    1  4.7 0.001  0.0 0.000 OSM4 OSAM
DB1H    PINDEX  DB1H2    DB1H2X    1  4.7 0.001  0.0 0.000 XXXX VSM-D
DB1H    PINDEX  DB1H1    DB1H1X    1  4.7 0.001  0.0 0.000 XXXX VSM-D

```

Figure 156. Database I/O Activity View – Physical Database Level (IDAPSUMR)

```

22MAR2002 12:20:46 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
+W1 =IDAPSUMR===== (ALL=====*)=====)22MAR2002==12:20:46====MVIMS====D====4
Physical Pool  Buffer  PCB  Average  Average  Average  Average
DBNAME  Type  Size  DBNAME  NonKeyRead  KeyRead  NonKeyWrite  KeyWrite
DB1H    OSAM  4096 DB1H    0.001  0.000  0.000  0.000
DB1H    OSAM  4096 DB1H    0.001  0.000  0.000  0.000
DB1H    VSM-D 2048 DB1H    0.000  0.001  0.000  0.000
DB1H    VSM-D 2048 DB1H    0.000  0.001  0.000  0.000

```

Figure 157. Database I/O Activity View – Physical Database Level, Scrolled Right

```

22MAR2002 12:22:02 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
<W1 =IDAPSUMR===== (ALL===== *=====) 22MAR2002==12:20:46====MVIMS====D====4
Physical Average Average OSAM XI IMS IMS Data MVS
DBNAME KeyWrite SyncWrite Read Rate ID Name ShrGrp Name
DB1H 0.000 0.000 0.0 H71H IMSxxx IMSNWAY SJSC

```

Figure 158. Database I/O Activity View – Physical Database Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDAPSUMR view.

Hyperlink from	To see
Physical DBNAME	IDBSUMR view, which shows database status and provides commands for database management.
Num Vols	IDAXSUMR view, where you can see the statistics broken down by VSAM component and volume. You can use the IDAXSUMR view to see more specifically where the I/O is occurring within a specific volume or VSAM component.
Pool ID	IDABVDTR view (for VSAM databases) or IDABODTR view (for OSAM databases). The IDABVDTR and IDABODTR views show buffer pool activity for the selected buffer pool.

## Database I/O Activity View – Database/Volume Level

This section describes the Database I/O Activity View – Database/Volume Level (IDAXSUMR or IDAXGSMR), shown in Figures 159, 160, 161, and 162. This view provides information about database I/O activity at the VSAM component and database volume level.

You can use this view to analyze I/O statistics as they relate to the physical database volumes, and in the case of VSAM, as they relate to specific VSAM database components. The view can help you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view summarizes information by database, with one row for each volume that the database occupies. If a database occupies more than one volume, there will be more than one line per database. The view shows I/O totals, rates, and average times. Buffer pool information is also provided.

The IDAXSUMR view reports DEDB database activity on IMS 7.1 and later if the Event Collector parameter DBFPLVL is set to collect DEDB activity. The view does not report MSDB and GSAM database activity or activity caused by background write.

**Note:** For VSAM databases, I/O against new extents will not be attributed to a specific volume until the extended database has been closed and reopened. Until the database has been closed and reopened, the I/O will be reported as OTHER in the VolSer field.

To display the Database I/O Activity View – Database/Volume Level, enter IDAXSUMR on any IPSM command line.

```

22MAR2002 12:22:33 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDAXSUMR===== (ALL=====*)=====)22MAR2002==12:22:33====MVIMS====D====4
Physical Database Area/
DBNAME  Type      Partition DDNAME  Type  VOLSER  Rate  Read  Read  Write  Write  Pool
          ID      ID         ID      ID      ID      Rate  Rate  Rate  Rate  ID
DB1H    PHIDAM  DB1H1     DB1H1A  OSAM  BAB321  4.9  0.001  0.0  0.000  OSM4
DB1H    PHIDAM  DB1H2     DB1H2A  OSAM  BAB321  3.7  0.001  0.0  0.000  OSM4
DB1H    PINDEX  DB1H2     DB1H2X  VSM-D BAB305  3.7  0.001  0.0  0.000  XXXX
DB1H    PINDEX  DB1H1     DB1H1X  VSM-D BAB305  3.7  0.001  0.0  0.000  XXXX

```

Figure 159. Database I/O Activity View – Database/Volume Level (IDAXSUMR)

```

22MAR2002 12:23:08 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDAXSUMR===== (ALL=====*)=====)22MAR2002==12:22:33====MVIMS====D====4
Physical Pool Pool  Number  Buffer          Nonkey  Key      NonKey  Key
DBNAME  ID      Type  Buffers  Size  Fixed  ReadAVG  ReadAVG  WriteAVG  WriteAVG
DB1H    OSM4  OSAM      5  4096  BFR, BLK  0.001  0.000  0.000  0.000
DB1H    OSM4  OSAM      5  4096  BFR, BLK  0.001  0.000  0.000  0.000
DB1H    XXXX  VSM-D     5  2048  BFR, BLK  0.000  0.001  0.000  0.000
DB1H    XXXX  VSM-D     5  2048  BFR, BLK  0.000  0.001  0.000  0.000

```

Figure 160. Database I/O Activity View – Database/Volume Level, Scrolled Right

```

22MAR2002 12:23:35 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
+W1 =IDAXSUMR===== (ALL=====*)=====)22MAR2002==12:22:33====MVIMS====D====4
Physical Key Sync OSAM XI Low High IMS IMS Data
DBNAME WriteAVG WriteAVG Read Rate RBA/RBN RBA/RBN ID Name ShrGrp
DB1H 0.000 0.000 0.0 0 18 H71H IMSxxx IMSNWAY
DB1H 0.000 0.000 0.0 0 18 H71H IMSxxx IMSNWAY
DB1H 0.000 0.000 0.0 0 347FF H71H IMSxxx IMSNWAY
DB1H 0.000 0.000 0.0 0 347FF H71H IMSxxx IMSNWAY

```

Figure 161. Database I/O Activity View – Database/Volume Level, Scrolled Right Again

```

22MAR2002 12:23:56 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
<W1 =IDAXSUMR===== (ALL=====*)=====)22MAR2002==12:22:33====MVIMS====D====4
Physical Data MVS
DBNAME ShrGrp Name
DB1H IMSNWAY SJSC
DB1H IMSNWAY SJSC
DB1H IMSNWAY SJSC
DB1H IMSNWAY SJSC

```

Figure 162. Database I/O Activity View – Database/Volume Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDAXSUMR view.

Hyperlink from	To see
Physical DBNAME	IDBSUMR view, which shows database status and provides commands for database management.
VOLSER	IDAVSUMR view, where you can see statistics for all I/O to this volume, not just to this database. In the IDAVSUMR view you can see how much of the I/O total is occurring to the volume
Pool ID	IDABVDTR view (for VSAM databases) or IDABODTR view (for OSAM databases), which show buffer pool activity for the selected buffer pool.

## Database I/O Activity View – Volume Level

This section describes the Database I/O Activity View – Volume Level (IDAVSUMR or IDAVGSMR), shown in Figures 163 and 164. This view provides database I/O activity information at the volume level.

You can use this view to analyze I/O information as it relates to the volumes. The view can help you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view shows information about the database I/O activity that occurs to each volume. For each volume, it identifies I/O totals, rates, and average times for open databases.

The IDAVSUMR view will report DEDB database activity on IMS 7.1 and later if the Event Collector parameter DBFPLVL is set to collect DEDB activity. The view does not report MSDB and GSAM database activity or activity caused by background write.

**Note:** For VSAM databases, I/O against new extents will not be attributed to a specific volume until the extended database has been closed and reopened. Until the database has been closed and reopened, the I/O will be reported as OTHER in the VolSer field.

To display the Database I/O Activity View – Volume Level, enter IDAVSUMR on any IPSM command line.

```

22MAR2002 12:26:01 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =IDAVSUMR===== (ALL=====*)=====)22MAR2002==12:26:00====MVIMS====D====2
      Physical      Read Read      Write Write      NonKey Key      NonKey
VOLSER DBNAME      DDNAME Rate AVG      Rate AVG      ReadAVG ReadAVG WriteAVG
BAB321 DB1H        DB1H1*** 7.7 0.003 1.7 0.002 0.003 0.000 0.002
BAB305 DB1H        DB1H1X  3.9 0.002 0.0 0.000 0.000 0.002 0.000
  
```

Figure 163. Database I/O Activity View – Volume Level (IDAVSUMR)

```

22MAR2002 14:09:18 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
<W1 =IDAVSUMR===== (ALL=====*)=====)22MAR2002==14:05:42====MVIMS====D====2
      NonKey Key      Syncpt OSAM XI  IMS  IMS      Data  MVS
VOLSER WriteAVG WriteAVG WriteAVG Read Rate ID  Name  ShrGrp Name
BAB321 0.000 0.000 0.000 0.0 X17H IMSxxx NONE SJSC
BAB305 0.000 0.000 0.000 0.0 X17H IMSxxx NONE SJSC
  
```

Figure 164. Database I/O Activity View – Volume Level, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDAVSUMR view.

Hyperlink from	To see
Physical DBNAME	IDAXSUMR view, where you can see the statistics broken down by VSAM component and volume. With the IDAXSUMR view, you can see more specifically where the I/O is occurring within a specific volume or VSAM component.

## Database Activity Detail View – VSAM Buffer Pool Level

This section describes the Database Activity Detail View – VSAM Buffer Pool Level (IDABVDTR), which is shown in Figure 165. This view provides information about a selected VSAM buffer pool, including definitions, specifications, utilization, and database I/O activity.

The view shows buffer pool activity levels, hit ratios, the average life of a block in a buffer pool, hiperspace space utilization, and I/O statistics. The I/O statistics are for all open databases using the specified buffer pool.

The view identifies the databases that have had activity against the buffer pool and the relative I/O expense for database blocks being read, reread, or written.

You can use this view to optimize a buffer pool definition by checking to see if a pool needs more buffers. The view shows you the current relationships of databases to the buffer pool and their current performance, and you can use that information to decide which databases need to be assigned to a separate pool.

After you make buffer pool changes, you can use the time command to compare your results with the results from a prior time.

To display the Database Activity Detail View – VSAM Buffer Pool Level, enter IDABVDTR on any IPSM command line.

```

22MAR2002 12:26:01 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
<W1 =IDABVDTR===== (ALL=====*)=====)22MAR2002==16:43:54====MVIMS====D====1
  BUFFER POOL DEFINITION....      Sample Seconds.....      5
  VSAM Pool ID.....              XXXX  IMS ID.....              H71H
  VSAM Pool Number.....           4    IMS Name.....            IMSxxx
  Pool Type.....                  DATA MVS Name.....            SJSC
  Buffer Fix Options.....          BFR,BLK Data Sharing Group.... NONE
  Buffer Size.....                 4096 Databases with I/O.....  DB1H
  Number Buffers.....             5    DD Names.....            DB1H****
  Number Hiperspace Buffers.....  5    VOLSERS.....             BAB3**

  BUFFER POOL STATISTICS....      RELATED I/O STATISTICS.
  Hit Ratio.....                  100.00 Read I/O Rate.....      0.00
  Hiperspace Hit Ratio.....        0.00 Write I/O Rate.....     0.00
  Average Time In Pool.....        ?    Sync Write Rate.....    0.00
  CI Search Rate.....              409.05 Background Write Rate..  0.00
  Successful Hprs Read Rate.....    0.00 Buffer Steal Write Rate  0.00
  Failed Hprs Read Rate.....        0.00
  Successful Hprs Write Rate.....    0.00
  Failed Hprs Write Rate.....       0.00

```

Figure 165. Database Activity Detail View – VSAM Buffer Pool Level (IDABVDTR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDABVDTR view.

<b>Hyperlink from</b>	<b>To see</b>
Database with I/O	IDAXSUMR view, where you can see the statistics broken down by VSAM component and volume. You can use the IDAXSUMR view to see more specifically where the I/O is occurring within a specific volume or VSAM component.

## Database Activity Detail View – OSAM Buffer Pool Level

This section describes the Database Activity Detail View – OSAM Buffer Pool Level (IDABODTR), which is shown in Figure 166. This view provides information about a selected OSAM buffer pool, including definitions, specifications, utilization, and database I/O activity.

The view shows buffer pool activity levels, hit ratios, the average life of a block in a buffer pool, OSAM cache utilization, sequential buffering utilization, and I/O statistics. The I/O statistics are for all open databases using the specified buffer pool.

The view identifies the databases that have had activity against the buffer pool and the relative I/O expense for database blocks being read, reread, or written.

You can use this view to optimize a buffer pool definition by checking to see if a pool needs more buffers. The view shows you the current relationships of databases to the buffer pool and their current performance, and you can use that information to decide which databases need to be assigned to a separate pool.

After you make buffer pool changes, you can use the time command to compare your results with the results from a prior time.

To display the Database Activity Detail View – OSAM Buffer Pool Level, enter IDABODTR on any IPSM command line.

```

22MAR2002 12:26:01 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
<W1 =IDABODTR===== (ALL=====*)=====)22MAR2002==16:43:54====MVIMS====D====1
  BUFFER POOL DEFINITION                               Sample Seconds..... 5
  OSAM Pool ID..... OSM4 IMS ID..... H71H
  Buffer Fix Options.... BFR,BLK IMS Name..... IMSxxx
  OSAM Cache Option.... NoCache MVS Name..... SJSC
  Buffer Size..... 4096 Data Sharing Group.... NONE
  Number Buffers..... 5 Databases with I/O.... DB1H
  DD Names..... DB1H****
  VOLSERS..... BAB321

  BUFFER POOL STATISTICS                               RELATED I/O STATISTICS.
  Hit Ratio..... 30.06 Read I/O Rate..... 72.46
  OSAM Cache Hit Ratio.. N/A Write I/O Rate..... 0.00
  OSAM Cache Search Rate N/A Sync Write Rate..... 0.00
  Average Time In Pool.. 0.02 Buffer Steal Write Rate 0.00
  OSAM Block Search Rate 310.78 Purge Write Rate..... 0.00
  OSAM XI IO Rate..... 0.00 SB Async Seq Read Rate. 0.00
  SB Sync Seq Read Rate.. 0.00
  
```

Figure 166. Database Activity Detail View – OSAM Buffer Pool Level (IDABODTR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IDABODTR view.

<b>Hyperlink from</b>	<b>To see</b>
Database with I/O	IDAXSUMR view, where you can see the statistics broken down by OSAM component and volume. You can use the IDAXSUMR view to see more specifically where the I/O is occurring within a specific volume or VSAM component.

## Database Activity View – VSAM Buffer Pool Level

This section describes the Database Activity View – VSAM Buffer Pool Level (IDABVSMR), which is shown in Figures 167, 168, and 169. This view provides database I/O activity information for VSAM databases summarized at the buffer pool level.

You can use this view to analyze I/O information as it relates to buffer pools. The view helps you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view shows I/O totals, rates, and average times for all open VSAM databases.

To display the Database Activity View – VSAM Buffer Pool Level, enter IDABVSMR on any IPSC command line.

```

22MAR2002 12:36:15 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDABVSMR===== (ALL=====*)=====)22MAR2002==12:36:15====MVIMS====D====5
VSAM   Pool Bufr  Num  Srch Hit   Hprsp HprHit AVGTime Databases Read Write
Pool ID Type Size  Bufr Rate Ratio Bufr  Ratio InPool with I/O Rate Rate
XXXX  DATA  2048   5 1.89 25.4   0  0.00   3.55 DB1H   0.5 0.00
XXXX  DATA   512   5 0.00  0.0   0  0.00   ?      ? DB1H   0.0 0.00
XXXX  DATA  1024   5 0.00  0.0   0  0.00   ?      ? DB1H   0.0 0.00
XXXX  DATA  4096   5 1.89 100.0  5  0.00   ?      ? DB1H   0.0 0.00
XXXX  DATA  8192   5 0.00  0.0   5  0.00   ?      ?      0.0 0.00

```

Figure 167. Database Activity View – VSAM Buffer Pool Level (IDABVSMR)

```

22MAR2002 12:36:41 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDABVSMR===== (ALL=====*)=====)22MAR2002==12:36:15====MVIMS====D====5
VSAM   Write Read  Write Syncpt   BufrSteal  Background  SuccHpr  FailHpr
Pool ID Rate  AVG  AVG  WriteRate  WriteRate  WriteRate  ReadRate  ReadRate
XXXX   0.00 0.001 0.000   0.000   0.00   0.00   0.00   0.00   0.00
XXXX   0.00 0.000 0.000   0.000   0.00   0.00   0.00   0.00   0.00
XXXX   0.00 0.000 0.000   0.000   0.00   0.00   0.00   0.00   0.00
XXXX   0.00 0.000 0.000   0.000   0.00   0.00   0.00   0.00   0.00
XXXX   0.00 0.000 0.000   0.000   0.00   0.00   0.00   0.00   0.00

```

Figure 168. Database Activity View – VSAM Buffer Pool Level, Scrolled Right

```

22MAR2002 12:37:12 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDABVSMR===== (ALL=====*)=====)22MAR2002==12:36:15====MVIMS====D====5
VSAM   FailHpr SuccHpr  FailHpr      Data  IMS  IMS  MVS
Pool ID ReadRate WriteRate WriteRate Fixed ShrGrp ID  Name  Name
XXXX   0.00   0.00   0.00  BFR,BLK IMSNWAY H71H IMSxxx SJSC
XXXX   0.00   0.00   0.00  BFR,BLK IMSNWAY H71H IMSxxx SJSC
XXXX   0.00   0.00   0.00  BFR,BLK IMSNWAY H71H IMSxxx SJSC
XXXX   0.00   0.00   0.00  BFR,BLK IMSNWAY H71H IMSxxx SJSC
XXXX   0.00   0.00   0.00  BFR,BLK IMSNWAY H71H IMSxxx SJSC

```

Figure 169. Database Activity View – VSAM Buffer Pool Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDABVSMR view.

<b>Hyperlink from</b>	<b>To see</b>
VSAM Pool ID	IDABVDTR view, where you can see a detailed view of the same buffer pool.
Databases with I/O	IDAXSUMR view, where you can see the statistics broken down by VSAM component and volume. With the IDAXSUMR view, you can see more specifically where the I/O is occurring within a specific volume or VSAM component.

## Database Activity View – OSAM Buffer Pool Level

This section describes the Database Activity View – OSAM Buffer Pool Level (IDABOSMR), which is shown in Figures 170, 171, and 172. This view provides database I/O activity information for OSAM databases, summarized at the buffer pool level.

You can use this view to analyze I/O information as it relates to buffer pools. The view helps you recognize and solve N-way data sharing problems stemming from badly organized databases, I/O contention, buffer pool sizes and assignments, or buffer cross-invalidation.

This view shows I/O totals, rates, and average times for all open OSAM databases.

To display the Database Activity View – OSAM Buffer Pool Level, enter IDABOSMR on any IPISM command line.

```

22MAR2002 12:37:12 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =IDABOSMR===== (ALL=====*)=====)22MAR2002==12:36:15====MVIMS====D====4
OSAM  Bufr  Num  Srch Hit  OSAMCach OSAMCach AvgTime Databases Read Write
Pool ID Size  Bufrs Rate Ratio HitRatio Option  In Pool With I/O Rate Rate
OSM4   4096   5 84.2 39.84   0.00 All       0.10 DB1H   16.90 0.00
(none) 1024   5 0.00 0.00    N/A NoCache      0.00 0.00
(none) 2048   5 0.00 0.00    N/A NoCache      0.00 0.00
(none) 8192   5 0.00 0.00    N/A NoCache      0.00 0.00

```

Figure 170. Database Activity View – OSAM Buffer Pool Level (IDABOSMR)

```

22MAR2002 12:36:41 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDABOSMR===== (ALL=====*)=====)22MAR2002==12:36:15====MVIMS====D====4
OSAM  Write Read Write Synct  BufrSteal Purge  SBASyncSeq SBSyncSeq
Pool ID Rate  AVG  AVG  WriteRate WriteRate WriteRate ReadRate  ReadRate
OSM4   0.00 0.001 0.000   0.00   0.00   0.02   0.00   0.00
(none) 0.00 0.000 0.000   0.00   0.00   0.00   0.00   0.00
(none) 0.00 0.000 0.000   0.00   0.00   0.00   0.00   0.00
(none) 0.00 0.000 0.000   0.00   0.00   0.00   0.00   0.00

```

Figure 171. Database Activity View – OSAM Buffer Pool Level, Scrolled Right

```

22MAR2002 12:37:12 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
+W1 =IDABOSMR===== (ALL=====*)=====)22MAR2002==12:36:15====MVIMS====D====4
OSAM  SBSyncSeq Buffer Fix  Data  IMS  IMS  MVS
Pool ID ReadRate Settings  ShrGrp ID  Name  Name
OSM4   0.00 BFR,BLK  IMSNWAY H71H IMSxxx SJSC
(none) 0.00 BFR,BLK  IMSNWAY H71H IMSxxx SJSC
(none) 0.00 BFR,BLK  IMSNWAY H71H IMSxxx SJSC
(none) 0.00 BFR,BLK  IMSNWAY H71H IMSxxx SJSC

```

Figure 172. Database Activity View – OSAM Buffer Pool Level, Scrolled Right Again

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IDABOSMR view.

<b>Hyperlink from</b>	<b>To see</b>
OSAM Pool ID	IDABODTR view, where you can see a detailed view of the same buffer pool.
Databases with I/O	IDAXSUMR view, where you can see the statistics broken down by OSAM component and volume. With the IDAXSUMR view, you can see more specifically where the I/O is occurring within a specific volume or OSAM component.



---

## Chapter 17. Analyzing Data Sets

This chapter describes the data set views, which you can use to analyze IMS log data sets. These views support both history and realtime data. With these views, you can

- Identify the data sets currently in use
- See the rate of block writes, both current and in history
- Discover volume information, making key IMS data sets easier to locate and manage
- Hyperlink to MAINVIEW for OS/390 to analyze volume usage information
- See the number of buffers defined and the amount of wait for buffers—across an entire sysplex

With the data set views, you can investigate the performance and status of key IMS data sets used for logging. Information is provided across multiple systems. Data set views also provide hyperlinks to the JUDEV view, where you can analyze volume usage information if you have the MAINVIEW for OS/390 product installed. (See “Hyperlinks in Data Set Views” on page 232.)

The following data set views are provided:

<b>View name</b>	<b>Description</b>
<b>DSVSUMR</b>	Data Set Summary (realtime)
<b>DSVSUM</b>	Data Set Summary (interval)
<b>DSVDTLR</b>	Data Set Detail (realtime)
<b>DSVDTL</b>	Data Set Detail (interval)

---

### Accessing the Data Set Views

You can display any of the data set views described in this chapter by typing the view name on the command line, or by typing VIEWS, and then selecting the view from the list displayed.

You can also hyperlink to the data set views from the Resources section of the DBCTL Easy Menu (EZIMS).



<b>View</b>	<b>Hyperlink from field</b>	<b>To see</b>
DSVDTL (Data Set Detail Realtime)	PRIME OLDS (volume serial number)  PRIME WADS (volume serial number)	JUDEV view
DSVDTLR (Data Set Detail Interval)	PRIME OLDS (volume serial number)  PRIME WADS (volume serial number)	JUDEV view

When you hyperlink to the JUDEV view, you can see the resources that are in competition with your key IMS data sets for the same volumes. You see

- A list of jobs contending for devices during the same time interval
- The percentage of time each job used a particular device

**Note:** You cannot hyperlink to the JUDEV view from data set interval views when they are displaying historical data.

---

## Data Set Summary Views

The data set summary views provide data across multiple systems. These tabular views allow you to examine IMS log data set information for all the IMS systems in your sysplex.

Data set summary views show IMS name, the amount of wait for buffers, primary and secondary OLDS and WADS volumes, volume status (in use or not in use), rate of block writes to each data set per second, and the data set name.

### Data Set Summary Realtime View (DSVSUMR)

The Data Set Summary Realtime view (DSVSUMR), shown in Figure 174 and Figure 175, helps you to manage your IMS log data sets. You can view information across the entire sysplex at the moment of inquiry.

To display the Data Set Summary Realtime view, enter the view name (DSVSUMR) on any IPSP command line.

```
22MAR2002 17:28:21 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =DSVSUMR=====D19H=====*=====22MAR2002==17:28:21====MVIMS====D====1
      Buff Prime      Prime      Second Second Primary OLDS
IMS Name Wait OLDS   Rate WADS   Rate OLDS   WADS   Data set name
IMSxxx   0 BAB314   40 BAB314   10 UNUSED  UNUSED IMS.V610D.OLP00
IMSxxx   1 BAB316   73 BAB311   18 UNUSED  UNUSED IMS.V610X.OLP00
IMSxxx   0 BAB321   22 BAB312   3  UNUSED  UNUSED IMS.V610Y.OLP00
```

Figure 174. Data Set Summary Realtime View (DSVSUMR)

```
22MAR2002 16:36:16 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
+W1 =DSVSUMR=====D19H=====*=====22MAR2002==16:36:11====MVIMS====D====1
      Primary OLDS      Secondary OLDS
IMS Name Data set name      Data set name
IMSxxx   IMS.V610D.OLP00  UNUSED
IMSxxx   IMS.V610X.OLP00  UNUSED
IMSxxx   IMS.V610Y.OLP00  UNUSED
```

Figure 175. Data Set Summary Realtime View, Scrolled Right.

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

If you have the MAINVIEW for OS/390 product installed, you can hyperlink from the volume serial numbers shown in the PRIME OLDS and PRIME WADS fields of the Data Set Summary view. This takes you to the JUDEV view, where you can analyze volume usage information.

## Data Set Summary Interval View (DSVSUM)

The Data Set Summary Interval view (DSVSUM), shown in Figure 176 and Figure 177, allows you to examine IMS log data set information across a sysplex. With this view, you can obtain interval information or history data. You can also specify the length of the reporting interval.

**Note:** To specify the length of the reporting interval, enter TIME on the command line. For a detailed description of how to use the TIME command, see the *Using MAINVIEW* manual.

To display the Data Set Summary Interval view, enter the view name (DSVSUM) on any IPSM command line.

```

22MAR2002 17:11:52 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
>W1 =DSVSUM=====D19H=====*=====22MAR2002==17:11:52====MVIMS====D====1
      Buff Prime          Prime          Second Second Primary OLDS
IMS Name Wait OLDS   Rate WADS   Rate OLDS   WADS   Data set name
IMSxxx   4 BAB314   72 BAB314   12 UNUSED UNUSED IMS.V610D.OLP00
IMSxxx   3 BAB314   81 BAB315   17 UNUSED UNUSED IMS.V610D.OLP00
IMSxxx   0 BAB314   49 BAB311   7  UNUSED UNUSED IMS.V610D.OLP00
  
```

Figure 176. Data Set Summary Interval View (DSVSUM)

```

22MAR2002 16:44:16 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
+W1 =DSVSUM=====D19H=====*=====22MAR2002==16:44:12====MVIMS====D====1
      Primary OLDS          Secondary OLDS
IMS Name Data set name      Data set name
IMSxxx   IMS.V610D.OLP00    UNUSED
IMSxxx   IMS.V610D.OLP00    UNUSED
IMSxxx   IMS.V610D.OLP00    UNUSED
  
```

Figure 177. Data Set Summary Interval View, Scrolled Right

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

If you have the MAINVIEW for OS/390 product installed, you can hyperlink from the volume serial numbers shown in the PRIME OLDS and PRIME WADS fields of the Data Set Summary Interval view. This takes you to the JUDEV view, where you can analyze volume usage information.

**Note:** You cannot hyperlink to the JUDEV view from the Data Set Summary Interval view (DSVSUM) when it is displaying historical data.

---

## Data Set Detail Views

The data set detail views provide detailed IMS log data set information for a single IMS. Although data set detail views show all the information provided by summary views, they do not require scrolling to see all the data.

Data set detail views show the IMS name, interval date and time, amount of wait for buffers, primary and secondary OLDS and WADS volumes, volume status (in use or not in use), and rate of block writes to each per second. Also provided is an OLDS buffers defined field, which shows the number of buffers statically defined for use in logging.

### Data Set Detail Realtime View (DSVDTLR)

The Data Set Detail Realtime view (DSVDTLR), shown in Figure 178, allows you to see detailed statistics about the log data sets for a selected IMS at the moment of inquiry.

To display the Data Set Detail Realtime view, enter the view name (DSVDTLR) on any IPSM command line.

```
22MAR2002 19:12:19 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>>
CURR WIN ==>> 1          ALT WIN ==>>
W1 =DSVDTLR=====D19H=====*=====22MAR2002==19:12:18====MVIMS====D====1
IMS Name..... IMSxxx
Interval Date..... 22MAR2002
Interval Time..... 19:12

Wait for buffer..... 0
OLDS rate per second. 4
WADS rate per second. 1
OLDS buffers defined. 2

Primary OLDS volume.. BAB315      IMS.V610D.OLP01
Secondary OLDS volume UNUSED
Primary WADS volume.. BAB314      IMS.V610D.WADS0
Secondary WADS volume UNUSED
```

Figure 178. Data Set Detail Realtime View (DSVDTLR)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

If you have the MAINVIEW for OS/390 product installed, you can hyperlink from the volume serial numbers shown in the PRIME OLDS and PRIME WADS fields of the Data Set Detail Realtime view. This takes you to the JUDEV view, where you can analyze volume usage information.

## Data Set Detail Interval View (DSVDTL)

The Data Set Detail Interval view (DSVDTL), shown in Figure 179, allows you to see detailed statistics about the log data sets for a selected IMS. With this view, you can obtain interval information or history data. You can also specify the length of the reporting interval.

To display the Data Set Detail Interval view, enter the view name (DSVDTL) on any IPISM command line.

```
22MAR2002 19:35:05 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>                                SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =DSVDTL=====D19H=====*=====22MAR2002==19:35:04====MVIMS====D====1
IMS Name..... IMSxxx
Interval Date..... 22MAR2002
Interval Time..... 19:35

Wait for buffer.....      4
OLDS rate per second.    76
WADS rate per second.    17
OLDS buffers defined.    2

Primary OLDS volume.. BAB315      IMS.V610D.0LP01
Secondary OLDS volume UNUSED
Primary WADS volume.. BAB314      IMS.V610D.WADS0
Secondary WADS volume UNUSED
```

Figure 179. Data Set Detail Interval View (DSVDTL)

For descriptions of the fields in this view, see online help. To display online field help, position the cursor on any field, and then press your help key.

If you have the MAINVIEW for OS/390 product installed, you can hyperlink from the volume serial numbers shown in the PRIME OLDS and PRIME WADS fields of the Data Set Detail Realtime view to access the JUDEV view, where you can analyze volume usage information.

**Note:** You cannot hyperlink to the JUDEV view from the Data Set Detail Interval view (DSVDTL) when it is displaying historical data.



---

## Part 5. Managing IPSM

This part describes system administration and operations views used to define an IMS workload and set and control the sampling of a target system.

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---

## Chapter 18. Managing an IMSplex

An IMSplex is a group of IMS address spaces that can share databases, message queues, and other resources. An IMSplex runs in an OS/390 Sysplex environment and uses an IMS Common Service Layer (CSL).

This chapter describes the IMSplex management views, which you can use to

- analyze IMSplex group members and their status (IPXSUMR view)
- analyze IMSplex connection and utilization information for a specific IMS system (IMSSPLXR view)

The following IMSplex views are provided:

<b>View name</b>	<b>Description</b>
IPXSUMR	IMSplex Member Status view
IMSSPLXR	IMSplex Information view

---

## Accessing the IMSplex Views

You can display the IMSplex views by entering the view name on the command line, or by entering `VIEWS` and then selecting from the list of views.

You can also hyperlink to the IMSplex views from the IMS Easy Menu (EZIMS), the IMS Sysplex Easy Menu (EZISSI), the IMS Fast Menu (EZIFAST), or the IMS Menu (IMSMPR).

## IMSpIex Member Status View

This section describes the IMSpIex Member Status view (IPXSUMR), which is shown in Figures 180 and 181.

The IPXSUMR view is a realtime or past interval tabular view that shows the structure and status of IMSpIex group members, including both IMS control region members and SCI component members.

The IPXSUMR view is summarized by IMSpIex name. Each row includes the member name, status, type, subtype, job name, version, and operating system name. For IMS control regions, the view shows the MVDBC PAS ID, version number, and PUT level.

To display the IMSpIex Member Status view, enter IPXSUMR on any command line in IPSM. You can hyperlink to IPXSUMR from the IMSpIex option in the EZISSI and IMSMPR menus and from the IMSpIex Name option in the IMS Activity views (DBCCTL\*) and the IMS Sysplex Activity views (DBCPL\*).

```

22MAR2002 12:20:36 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
>W1 =IPXSUMR=====IMSxxx====*=====22MAR2002==12:20:36====MVIMS====D====2
IMSpIex  Member                               Job              OS
Name     Name      Status      Type      Subtype  Name              Version  Name
CSLPLX81 I8ASCQS  ACTIVE     CQS              I8ACQS         1.3.0    SJSC
CSLPLX81 I8CSL0M  ACTIVE,READY OM              I8CSL0M         1.1.0    SJSC
CSLPLX81 I8CSLRM  ACTIVE,READY RM              I8CSLRM         1.1.0    SJSC
CSLPLX81 I8CSLSC  ACTIVE,READY SCI             I8CSLCSI        1.1.0    SJSC
CSLPLX81 I8A      ACTIVE,READY IMS      DBDC    I8A331CT         8.1.0    SJSC
CSLPLX81 X81H   ACTIVE,READY IMS      DBDC    IMS81X           8.1.0    SJSC
CSLPLX81 I8BSCQS  ACTIVE     CQS              I8BCQS         1.3.0    SJSD
CSLPLX81 I8DSLSC  ACTIVE,READY SCI             I8DSLCSI        1.1.0    SJSD
CSLPLX81 I8B      ACTIVE,READY IMS      DBDC    I8B331CT         8.1.0    SJSD

```

Figure 180. IMSpIex Member Status View (IPXSUMR)

```

22MAR2002 12:20:36 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
<W1 =IPXSUMR=====IMSxxx====*=====22MAR2002==12:20:36====MVIMS====D====2
IMSpIex  OS      MVIMS      MVIMS      MVIMS
Name     Name      PAS      Version  PUT Level
CSLPLX81 SJSC     ----     -----     -----
CSLPLX81 SJSC     GG33     3.3.20    0202A
CSLPLX81 SJSD     ----     -----     -----
CSLPLX81 SJSD     ----     -----     -----
CSLPLX81 SJSD     ----     -----     -----

```

Figure 181. IMSpIex Member Status View, Scrolled Right

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlink is provided in the IPXSUMR view.

<b>Hyperlink from</b>	<b>To see</b>
Member Name (of an IMS control region member)	IMSSPLXR view, which provides connectivity and utilization information about the selected IMS system

# IMSplex Information View

This section describes the IMSplex Information view (IMSSPLXR), which is shown in Figure 182.

The IMSSPLXR view is a realtime or past interval detail view that shows information about the IMSplex connectivity and utilization of a specific IMS system.

The view includes information such as:

- whether the IMS has registered to the SCI, OM, and RM Common Service Layer components
- command security and LE options for the IMS
- online change options for the IMS

To display the IMSplex Information view, enter IMSSPLXR on any command line in IPSM. You can also hyperlink from the IMSplex Connection option in the EZIMS and EZIFAST menus.

```

22MAR2002 13:55:01 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
>W1 =IMSSPLXR=====IMSxxx===*=====22MAR2002==13:55:01====MVIMS====D====2
IMS Name.....                IMS81X   Msg Share Group..  DFSXCFGP
IMSID.....                   X81H    DB Share Group...  IMSNWAY
IMSplex Name.....            CSLPLX81

-IMSplex-----
SCI Jobname.....            I8CSLCSI   -Options-----
SCI Version.....           1.1.0    Command Security. RACF/EXT
Registered to SCI.....      Y        LEOPT.....      N
Registered to OM.....       Y        -Online Change---
Registered to RM.....       Y        Scope.....      LOCAL
Using Resource Structure    N        Global OLC Active N
                                      Check ACBLIB.... N
                                      Check FORMAT.... N
                                      Check MODBLKS... N
  
```

Figure 182. IMSplex Information View (IMSSPLXR)

For descriptions of the fields in this view, see the online help. To display online field help, position the cursor on any field and press your help key.

The following hyperlinks are provided in the IMSSPLXR view.

Hyperlink from	To see
IMS Name	IMSMPR menu, where you can access additional information about the selected IMS system
IMSplex Name	IPXSUMR view, which shows IMSplex group members and their status



---

## Chapter 19. Setting Target Samplers

A sampler makes periodic observations of the state of one or more target IMS systems. These observations are accumulated and displayed as performance information in the workflow and components of response time (CORT) views. The rate of sampling and the types of information collected can be controlled by using sampler definition parameters. Administrative views let you add or change sampler definitions for targets.

Sampler parameter definitions are shown by the ISAMP and ISAMPD system administration views.

---

### ISAMP – Sampler Administration

```
22MAR2002 08:47:09 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
>W1 =ISAMP=====IMSxxx====*===== (00 BROWSE          )====MVIMS====D====2
CMD Target  Status  UpdSyste UpdUser  UpdTime  UpdDate  Description
-----
  IMSxxx   Install  SYSD     BOLDISK3 14:38    22MAR2002 IMS 6.1 'X' testing
  IMSxxx   Install  SYSD     BOLDISK3 06:49    22MAR2002 Production IMS
```

Figure 183. ISAMP View

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

- COMMAND ===> ISAMP
- COMMAND ===> ADMIN

ADMIN groups views by system and operations administration functions and is available from the MAIN menu when IPSM starts. Select ISAMP from the list of ADMIN views.

- COMMAND ===> VIEWS

Select ISAMP from the list of views.

To add a new target sampler definition or change an existing one, you must first type the following on the command line:

```
COMMAND ===> EDIT
```

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 redisplay 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

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

## ISAMPD – Sampler Administration Detail

```

22MAR2002 09:24:50 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =ISAMPD=====IMSxxx==*===== (00 BROWSE          )====MVIMS====D====1
Target.... IMSxxx          Time1  Time2  Time3  Time4  Time5
Status.... Install  Start Time.... 09:21 09:22 09:24 09:25 09:29
Update Info      End Time..... 09:22 09:23 09:25 09:29 24:00
System.... SYSD          ---Samplers---
User..... BOLDISK3  Workflow data.. N      Y      Y      Y      Y
Time..... 09:13      CORT data..... Y      Y      Y      Y      Y
Date..... 22MAR2002  Sample Rate... 1      2      3      4      5
Deleted.... N          Extended I/O.. N      Y      Y      Y      Y
                          Extended Latch N      N      Y      Y      Y
                          Extended Lock. N      N      N      Y      Y
                          Workload..... N      N      N      Y      N

```

Figure 184. ISAMPD View

ISAMPD shows detailed information about the status and parameters in effect for a target selected from the ISAMP view. It shows the current values of the parameters. 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 sampler definition is Install. The installed parameters are in effect.
- Changed sampler parameters were SAVED, but not INStalled  
The status of the sampler 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 ADD primary command from this view to add parameters for another target using this definition as a model. To add a new target sampler definition, you must first enter the following on the command line:

```
COMMAND ==> EDIT
```

The window information line changes from BROWSE to EDIT.

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

## Controlling Sampler Defaults

If you do not define a sampling for a target, default sampler parameters are used. These parameters specify a sampling period of 24 hours a day at 2 times a second to collect all information for workflow and CORT views. You can change this by adding a sampler definition named DEFAULT. When this definition exists, the parameters specified for it are used instead of the distributed sampler defaults.

To create the sampler DEFAULT target definition, you ADD the definition from the ISAMP or ISAMPD view as follows:

1. COMMAND ==> ISAMP
2. ADD a definition for a target and name it DEFAULT

You can use either the primary command as shown below or the ADD line command if you want to use previously defined target sampler parameters as a model. Enter the following:

- a. COMMAND ==> EDIT

You must be in an EDIT session before you can use either a primary or line command.

- b. COMMAND ==> ADD

The ADD command displays the following ISAMP dialog box.

```
22MAR2002 09:24:50 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ISAMP=====IMSxxx====*===== (00 EDIT          )====MVIMS====D====4
-----
| ----- ADD PLEXUS SAMPLER DEFINITION ----- |
| COMMAND ==> |
| Target      ==> DEFAULT |
| Description ==> SITE SAMPLER DEFAULTS |
| |
| Start End   WFlow CORT Samp ---Extended--- |
| Time Time   Data  Data Rate I/O Latch Lock Wkld |
| 1 00:00 24:00 YES  YES  2  YES  YES  YES  YES |
| 2 |
| 3 |
| 4 |
| 5 |
| hh:mm hh:mm -YES/NO-- 1-5 -----YES/NO----- |
| |
| Press End to add the definition. Enter CANCEL to leave without adding. |
| ----- |
```

Figure 185. ISAMP View Dialog Box

Specify a target name of DEFAULT as shown above and change the parameters to those that you want to use as the defaults for all targets. That allows you to change the sampler defaults for all your targets at once and create unique sampler definitions for specific targets. To do this, the BBPARM data set must be shared by all PASSES.

---

## Chapter 20. Controlling Samplers

The state of target IMSs is sampled periodically 24 hours a day, 2 times a second by default or as defined by a sets (or sets) of user-specified sampler parameters, as described in Chapter 19, “Setting Target Samplers” on page 247. The samplings are accumulated and used by the workflow and components of response time (CORT) views.

Using operations views, you can

- See if a target is being sampled
- Control the current state of a sampling with stop, start, or quiesce commands

These views are ISAMPOP and ISAMPOPD.

---

### ISAMPOP – Sampler Operations Administration

```
22MAR2002 15:30:48 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =ISAMPOP=====IMSxxx==*=====22MAR2002==15:30:48====MVIMS====D====4
CMD Target  Sampler  Target  Time  Description
---  -----  Status  Status  Status  -----
IMSxxx  Quiesced  Inactive  Notset
IMSxxx  Quiesced  Inactive  Notset
IMSxxx  Quiesced  Inactive  Notset
IMSxxx  Active    Active    SetTime1  IPSM IMS 6.1 SYSTEM
```

Figure 186. ISAMPOP View

You can select the ISAMPOP view at any time by typing one of the following commands on the command line:

- COMMAND ==> ISAMPOP
- COMMAND ==> ADMIN

ADMIN groups views by system and operations administration functions and is available from the MAIN menu when IPSM starts. Select ISAMPOP from the list of ADMIN views.

- COMMAND ==> VIEWS

Select ISAMPOP from the list of views.

From this view, you can use the following line commands to control target sampling:

STArt            Start sampling the selected IMS target  
STOp            Stop sampling the selected IMS target  
Quiesce         Put the target sampling in a latent state

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

## ISAMPOPD – Sampler Operations Administration Detail

```

22MAR2002 09:29:25 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =ISAMPOPD=====IMSxxx====*=====22MAR2002==09:29:25====MVIMS====D====1
Target.... IMSxxx          Time1  Time2  Time3  Time4  Time5
Smp Status. Quiesced Start Time.... 00:00 08:00 17:30
Tgt Status. Inactive End Time..... 08:00 17:30 24:00
Time Status Notset  ---Samplers---
                          Workflow data.. Y      Y      Y
                          CORT data..... Y      Y      Y
                          Sample Rate... 2      2      2
                          Extended I/O.. N      Y      Y
                          Extended Latch N      N      Y
                          Extended Lock. N      N      Y
                          Workload..... Y      Y      Y

```

Figure 187. ISAMPOPD View

ISAMPOPD shows detailed information about the status and parameters in effect for a target selected from the ISAMPOP view. It can help you determine when data will be collected for that target.

---

## Chapter 21. Viewing a List of BMC Software IMS Products

This chapter explains how to use the IMS product views to display a list of BMC Software performance products that are active in each IMS control region associated with an MVIMS PAS.

The IMS product views

- Provide a list of BMC Software IMS-related products that are active in the same IMS control region as the MVIMS target
- Include online help that describes the products and what each can provide.
- Provide the product release and maintenance level
- Indicate product status

The following IMS product views are provided:

<b>View name</b>	<b>Description</b>
<b>IPRDSUM</b>	BMC Software Products Summary
<b>IPRDDTL</b>	BMC Software Products Detail

---

### Accessing the Product Views

You can access the IMS product views by selecting the Installed Products option in the

- IMS Easy Menus (EZIMS and EZIMSR)
- IMS Fast Menus (EZIFAST and EZIFASTR)
- IMS SSI Menus (EZISSI and EZISSIR)

If you select the Installed Products option on EZIMS, EZIMSR, EZIFAST, or EZIFASTR, you access the IPRDDTL view. If you select the option on EZISSI or EZISSIR, you access the IPRDSUM view.

You can also display the IMS product views by

- Entering the view name on a command line
- Entering VIEWS on the command line and selecting the view from the list of views
- Entering MAIN on the command line, selecting IMSPRODS, and selecting either of the two product views from the IMSPRODS view list

## BMC Software Products Summary View

The BMC Software Products Summary view (IPRDSUM) displays a summary of the BMC Software IMS products that are installed in the IMS control regions in the context set by the user. You can hyperlink from the IPRDSUM Count field to access a view that shows every installation for a specific product.

The view displays one row for each installed product, and the Count field shows how many IMS systems have the associated product installed. For each type of product, IPRDSUM shows

- Status of the product
- The product's version, release, and maintenance level
- The product's IMS and OS/390 systems

```

22MAR2002 14:09:18 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==> SCROLL ==> PAGE
CURR WIN ==> 1 ALT WIN ==>
>W1 =IFPSUMR=====IMSxxx====*=====22MAR2002==14:05:42====MVIMS====D====2
CM Area Auth Access EQE DBD IMS MVS IMS
-- Name Status 1 Status 2 State Level Cnt Name ID ID Name
CUSA01A NOT-OPEN NOT-AUTH EXCL BBFDDB11 X17H SJSC IMSxxx
CUSA010 NOT-OPEN NOT-AUTH EXCL BBFDDB01 X17H SJSC IMSxxx

```

Figure 188. BMC Software Products Summary View (IPRDSUM)

The help for the Product Name field provides brief product descriptions. For information about the fields in the view, position the cursor on any field and press your help key.

The following hyperlink is provided in the IPRDSUM view.

Hyperlink from...	To see...
Count	IPRDDTL view, which shows information about each IMS product installation

---

## BMC Software Products Detail View

The BMC Software Products Detail view (IPRDDTL) displays a list of the BMC Software IMS products that are installed in the IMS control regions in the context set by the user.

The view displays one row for each IMS a product is installed on, and for each product installation it shows

- Status of the product
- The product's version, release, and maintenance level
- The product's IMS and OS/390 systems

If you access this view by hyperlinking from IPRDSUM, the view displays only information about the product you selected on IPRDSUM. If you access the view by its name, it displays information about all installations of BMC Software IMS products.

```
22MAR2002 12:11:22 ----- MAINVIEW WINDOW INTERFACE (Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =IPRDDTL=====IMSxxx====*=====22MAR2002==06:42:36====MVIMS====D====4
Product          Product      Product      IMS      MVS
Name             Status      Level        Name     Name
AutoOPERATOR for IMS    ACTIVE      V6.1.00     IMSxxx  SJSD
MAINVIEW for IMS       ACTIVE      V3.3.00     IMSxxx  SJSD
Q:MANAGER IMS         ACTIVE      V2.3.02     IMSxxx  SJSD
Q:MANAGER IMS EP      ACTIVE      V2.3.02     IMSxxx  SJSD
```

Figure 189. BMC Software Products Detail View (IPRDDTL)

The help for the Product Name field provides brief product descriptions. For information about the fields in the view, position the cursor on any field and press your help key.



---

## Chapter 22. Securing IPSM Resources

External security managers (ESM), such as CA-ACF2, CA-TOP SECRET, or RACF can be used to protect access to a component and its resources, such as views, view actions or commands, and data. Component 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 IPSM 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

```
22MAR2002 14:29:16 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
>W1 =SERDEF=====IMSxxx==*=====22MAR2002==14:29:05====MVIMS====D====5
CMD Description                               Enab Change Comment
-----
Workload Definitions - Alter Data Set         No
App1 Workload- Table Data                     Yes
Balancing Group - Table Data                 Yes
Class Activity - Table Data                  Yes
IMS Overview - Table Data                    Yes
```

Figure 190. SERDEF View

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

- COMMAND ==> SERDEF
- COMMAND ==> VIEWS

Select SERDEF from the list of views displayed.

- COMMAND ==> ADMIN

Select SERDEF from the list of views displayed in ADMIN. (ADMIN groups views by system and operations administration functions and is available from the MAIN menu when IPSM starts.)

You can use the SERDEF view to disable or enable resource definitions, or to select a single resource definition to view and change its attributes.

To see online help for the SERDEF view or any of its fields, position the cursor on the view name on the window information line, or on any field in the view, and then press your help key. See the *Implementing Security for MAINVIEW Products* manual for a detailed description of how to use this view.

## SERDEFE – Security Resource Definition Detail

```
22MAR2002 14:30:29 ----- MAINVIEW WINDOW INTERFACE(Rx.x.xx)MVIMS-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =SERDEFE=====IMSxxx====*=====22MAR2002==14:29:05====MVIMS====D====1
  Res Key.... BBF9PA40PURG Desc.... Transaction - Action - Purge
  Enabled... Yes          Comment.. *Unchanged*
                             Type..... ACTION
  ESM Info---
  Class.... $BBM          Entity... BBM.&PRODUCT.&CONTEXT.&INTTABLE.&INTACTI
  Vo1Ser... *NONE*       Intent... READ
  LogAuth... Allow       LogFail.. Allow
  Substituion Values
  IntTable.. FPA40        ExtTable. Tran
  IntAction. PURGE       ExtAction PURGE
  IntActTab. BBFPA40     Product.. MVIMS
  Parms?... No           Fields?... Yes
  Update Info
  UpdSystem. *NONE*      UpdTime.. 14:29:08
  UpdUser... *NONE*     UpdDate.. &windate.
  Res Version
  Version... 1           Release.. 1
                             ModLevel. 0
```

Figure 191. SERDEFE View

The SERDEFE shows detailed information about a resource definition selected from the SERDEF view. It shows the class and entity names and other attributes for that definition. To change a definition's attributes, you can use the commands described in online action help or in the *Implementing Security for MAINVIEW Products* manual.

---

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